



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmf.org

MEMORANDUM

May 7, 2014

To: ASMFC Commissioners

From: Robert Beal, Executive Director

RE: *Magnuson–Stevens Act Workshop Briefing Materials – Supplemental*

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1. Text: House Natural Resources Committee: “Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act.”
2. Text: Senate Commerce Committee: “To amend the Magnuson-Stevens Fishery Conservation and Management Act to promote sustainable conservation and management for the Nation’s fisheries and the communities that rely on them, and for other purposes.”
3. Complete Stakeholder Comments
 - a) *A Vision for Managing America’s Saltwater Recreational Fisheries, Spring 2014*
 - b) Marine Fisheries Advisory Committee Working Group White Paper on Recreational Fishing and the MSA, 11/20/2013
 - c) Recreational Fishing Alliance, Jeff Deem, House Testimony, 9/11/2013
 - d) Coastal Conservation Association, Website Statement, 11/15/2013
 - e) Center for Sustainable Fisheries, Brian Rothschild, recommendations for MSA Reauthorization and comments on reauthorization bills
 - f) Gulf Seafood Institute, David Krebs, Board Member, House Testimony, 2/4/2014
 - g) Northeast Seafood Coalition, Vito Giacalone, Executive Director, House Testimony, 2/4/2014
 - h) Unites States Seafood/Alaska Seafood Cooperative, Mark Fina, Senior Policy Analyst, House Testimony, 2/4/2014
 - i) Rick Marks, Robertson, Monagle & Eastaugh House Testimony, 2/4/2014
 - j) Institute for Ocean Conservation Science, Stony Brook University, Ellen K. Pikitch, Ph.D, Executive Director, House Testimony, 2/4/2014
 - k) Ocean Conservancy, Chris Dorsett, Ecosystem Conservation Programs Director, House Testimony, 9/11/2013
 - l) Pew Charitable Trusts, Hastings’ Empty Oceans Act, January 2014
 - m) Conservation Law Foundation, Peter Shelley, Vice President, House Testimony, 2/4/2014
 - n) NMFS, Sam Rauch, Acting Assistant Administrator

- o) NEFMC, Tom Nies, Executive Director, DRAFT Comments on House Draft MSA, 1/23/2014
- p) MAFMC, Rick Robins, Chairman, House Testimony, 2/4/2014
- q) MAFMC Comments on MSA Reauthorization Discussion Draft, 4/30/2014
- r) SAFMC, Ben Hartig, Chairman, Senate Testimony, 11/14/2013
- s) PFMC, Donald McIsaac, Executive Director, Senate Testimony, 1/30/2014
- t) ASMFC, GSMFC – Testimony before the Senate Commerce Committee
“Developments and Opportunities in U.S. Fisheries Management,” 3/19/2013
- u) ASMFC, GSMFC, PSFMC – Testimony before the House Fisheries Subcommittee
“Data collection issues in relation to the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act,” 5/21/2013
- v) Managing Our Nation’s Fisheries III, Summary of Findings, May 2013
- w) National Research Council Report: Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States

[DISCUSSION DRAFT]

113TH CONGRESS
1ST SESSION

H. R. _____

To amend the Magnuson-Stevens Fishery Conservation and Management Act to provide flexibility for fishery managers and stability for fishermen, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Magnuson-Stevens Fishery Conservation and Management Act to provide flexibility for fishery managers and stability for fishermen, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Strengthening Fishing
5 Communities and Increasing Flexibility in Fisheries Man-
6 agement Act”.

1 **SEC. 2. REFERENCES.**

2 Except as otherwise specifically provided, whenever in
3 this Act an amendment or repeal is expressed in terms
4 of an amendment to, or repeal of, a provision, the ref-
5 erence shall be considered to be made to a provision of
6 the Magnuson-Stevens Fishery Conservation and Manage-
7 ment Act (16 U.S.C. 1801 et seq.).

8 **SEC. 3. FLEXIBILITY IN REBUILDING FISH STOCKS.**

9 (a) GENERAL REQUIREMENTS.—Section 304(e) (16
10 U.S.C. 1854(e)) is amended—

11 (1) in paragraph (3)(A), by inserting before the
12 semicolon the following: “, except that in the case of
13 a highly dynamic fishery the Council (or the Sec-
14 retary, for fisheries under section 302(a)(3)) may
15 phase-in the rebuilding plan over a 3-year period to
16 lessen economic harm to fishing communities”;

17 (2) in paragraph (4)—

18 (A) in subparagraph (A)(i), by striking
19 “possible” and inserting “practicable”;

20 (B) by amending subparagraph (A)(ii) to
21 read as follows:

22 “(ii) may not exceed the time the
23 stock would be rebuilt without fishing oc-
24 ccurring plus one mean generation, except
25 in a case in which—

1 “(I) the biology of the stock of
2 fish, other environmental conditions,
3 or management measures under an
4 international agreement in which the
5 United States participates dictate oth-
6 erwise;

7 “(II) the Secretary determines
8 that the cause of the stock being de-
9 pleted is outside the jurisdiction of the
10 Council or the rebuilding program
11 cannot be effective only by limiting
12 fishing activities;

13 “(III) the Secretary determines
14 that one or more components of a
15 mixed-stock fishery is depleted but
16 cannot be rebuilt within that time-
17 frame without significant economic
18 harm to the fishery or cannot be re-
19 built without causing another compo-
20 nent of the mixed-stock fishery to ap-
21 proach a depleted status;

22 “(IV) the Secretary determines
23 that recruitment, distribution, or life
24 history of, or fishing activities for, the
25 stock are affected by informal

1 transboundary agreements under
2 which management activities outside
3 the exclusive economic zone by an-
4 other country may hinder conservation
5 efforts by United States fishermen;
6 and

7 “(V) the Secretary determines
8 that the stock has been affected by
9 unusual events that make rebuilding
10 within the specified time period im-
11 probable without significant economic
12 harm to fishing communities;”;

13 (C) by striking “and” after the semicolon
14 at the end of subparagraph (B), by redesign-
15 ating subparagraphs (B) and (C) as subpara-
16 graphs (C) and (D), and by inserting after sub-
17 paragraph (A) the following:

18 “(B) take into account environmental con-
19 dition including predator/prey relationships;”;
20 and

21 (D) by striking the period at the end of
22 subparagraph (D) (as so redesignated) and in-
23 serting “; and”, and by adding at the end the
24 following:

1 “(E) specify a schedule for reviewing the
2 rebuilding targets, evaluating environmental im-
3 pacts on rebuilding progress, and evaluating
4 progress being made toward reaching rebuilding
5 targets.”;

6 (3) by adding at the end the following:

7 “(8) A fishery management plan, plan amend-
8 ment, or proposed regulations may use alternative
9 rebuilding strategies, including harvest control rules
10 and fishing mortality targets.

11 “(9) A Council may terminate the application of
12 paragraph (3) to a fishery if the Council determines
13 that the fishery is not depleted, by the earlier of—

14 “(A) the end of the 2-year period begin-
15 ning on the effective date a fishery management
16 plan, plan amendment, or proposed regulation
17 for a fishery under this subsection takes effect;
18 or

19 “(B) the completion of the next stock as-
20 sessment after such determination.”.

21 (b) EMERGENCY REGULATIONS AND INTERIM MEAS-
22 URES.—Section 305(c)(3)(B) (16 U.S.C. 1855(c)(3)(B))
23 is amended by striking “180 days after” and all that fol-
24 lows through “provided” and inserting “1 year after the
25 date of publication, and may be extended by publication

1 in the Federal Register for one additional period of not
2 more than 1 year, if”.

3 (c) **AUTHORITY TO PHASE-IN REBUILDING.**—Section
4 304(e)(3)(A) (16 U.S.C. 1853(e)(3)(A)) is amended by in-
5 serting before the semicolon the following: “, except that
6 for a fishery for which chronic overfishing has not oc-
7 curred and for which an immediate end to overfishing will
8 result in significant adverse economic impacts to fishing
9 communities, the Secretary may authorize a Council to
10 phase in fishing restrictions over a continuous period of
11 not more than 3 years”.

12 **SEC. 4. MODIFICATIONS TO THE ANNUAL CATCH LIMIT RE-**
13 **QUIREMENT.**

14 (a) **FLEXIBILITY FOR COUNCILS.**—Section 302 (16
15 U.S.C. 1852) is amended by adding at the end the fol-
16 lowing:

17 “(m) **CONSIDERATIONS FOR MODIFICATIONS TO AN-**
18 **NUAL CATCH LIMIT REQUIREMENTS.**—

19 “(1) **CONSIDERATION OF ECOSYSTEM AND ECO-**
20 **NOMIC IMPACTS.**—In establishing annual catch lim-
21 its a Council may consider changes in an ecosystem
22 and the economic needs of the fishing communities.

23 “(2) **LIMITATIONS TO ANNUAL CATCH LIMIT**
24 **REQUIREMENT FOR SPECIAL FISHERIES.**—Notwith-

1 standing subsection (h)(6), a Council is not required
2 to develop an annual catch limit for—

3 “(A) an ecosystem component species;

4 “(B) a fishery for a species that has a life
5 cycle of approximately 1 year, unless the Sec-
6 retary has determined the fishery is subject to
7 overfishing; or

8 “(C) a stock for which—

9 “(i) more than half of a single-year
10 class will complete their life cycle in less
11 than 18 months; and

12 “(ii) fishing mortality will have little
13 impact on the stock.

14 “(3) RELATIONSHIP TO INTERNATIONAL EF-
15 FORTS.—Each annual catch limit shall take into ac-
16 count—

17 “(A) management measures under inter-
18 national agreements in which the United States
19 participates; and

20 “(B) informal transboundary agreements
21 under which management activities by another
22 country outside the exclusive economic zone
23 may hinder conservation efforts by United
24 States fishermen for a species for which any of

1 the recruitment, distribution, life history, or
2 fishing activities are transboundary.

3 “(4) AUTHORIZATION FOR MULTISPECIES COM-
4 PLEXES AND MULTIYEAR ANNUAL CATCH LIMITS.—
5 For purposes of subsection (h)(6), a Council may es-
6 tablish—

7 “(A) an annual catch limit for a stock
8 complex; or

9 “(B) annual catch limits for each year in
10 any continuous period that is not more than
11 three years in duration.

12 “(5) ECOSYSTEM COMPONENT SPECIES DE-
13 FINED.—In this subsection the term ‘ecosystem com-
14 ponent species’ means a stock of fish that is a non-
15 target, incidentally harvested stock of fish in a fish-
16 ery, or a nontarget, incidentally harvested stock of
17 fish that a Council or the Secretary has deter-
18 mined—

19 “(A) is not subject to overfishing, ap-
20 proaching a depleted condition or depleted; and

21 “(B) is not likely to become subject to
22 overfishing or depleted in the absence of con-
23 servation and management measures.”.

1 (b) ANNUAL CATCH LIMIT CAP.—Section 302(h)(6)
2 (16 U.S.C. 1852(h)(6)) is amended by striking “fishing”
3 and inserting “overfishing”.

4 **SEC. 5. DISTINGUISHING BETWEEN OVERFISHED AND DE-**
5 **PLETED.**

6 (a) DEFINITIONS.—Section 3 (16 U.S.C. 1802) is
7 amended—

8 (1) in paragraph (34), by striking “and ‘over-
9 fished’ mean” and inserting “means”; and

10 (2) by inserting after paragraph (8) the fol-
11 lowing:

12 “(8a) The term ‘depleted’ means, with respect
13 to a stock of fish, that the stock is of a size that
14 is below the natural range of fluctuation associated
15 with the production of maximum sustainable yield.”.

16 (b) SUBSTITUTION OF TERM.—The Magnuson-Ste-
17 vens Fishery Conservation and Management Act (16
18 U.S.C. 1801 et seq.) is amended by striking “overfished”
19 each place it appears and inserting “depleted”.

20 (c) CLARITY IN ANNUAL REPORT.—Section
21 304(e)(1) (16 U.S.C. 1854(e)(1)) is amended by adding
22 at the end the following: “The report shall distinguish be-
23 tween fisheries that are depleted (or approaching that con-
24 dition) as a result of fishing and fisheries that are depleted
25 (or approaching that condition) as a result of factors other

1 than fishing. The report shall state, for each fishery iden-
2 tified as depleted or approaching that condition, whether
3 the fishery is the target of directed fishing.”.

4 **SEC. 6. TRANSPARENCY AND PUBLIC PROCESS FOR SCI-**
5 **ENTIFIC AND MANAGEMENT ACTIONS.**

6 (a) **SCIENTIFIC ADVICE.**—Section 302(g)(1)(B) (16
7 U.S.C. 1852(g)(1)(B)) is amended by adding at the end
8 the following: “Each scientific and statistical committee
9 shall develop such scientific advice in a transparent man-
10 ner and allow for public involvement in the process.”.

11 (b) **MEETINGS.**—Section 302(i)(2) (16 U.S.C.
12 1852(i)(2)) is amended by adding at the end the following:

13 “(G) Each Council shall make available on the
14 Internet Web site of the Council—

15 “(i) to the extent practicable, a live broad-
16 cast of each meeting of the Council, and of the
17 Council Coordination Committee established
18 under subsection (l), that is not closed in ac-
19 cordance with paragraph (3); and

20 “(ii) audio, video (if the meeting was in
21 person or by video conference), and a complete
22 transcript of each meeting of the Council and
23 the Scientific and Statistical Committee of the
24 Council by not later than 30 days after the con-
25 clusion of the meeting.

1 “the National Environmental Policy Act of 1969 (42
2 U.S.C. 4321 et seq.),” after “the Regulatory Flexi-
3 bility Act (5 U.S.C. 601 et seq.)”.

4 **SEC. 7. LIMITATION ON FUTURE CATCH SHARE PROGRAMS.**

5 (a) CATCH SHARE DEFINED.—Section 3 (16 U.S.C.
6 1802) is amended by inserting after paragraph (2) the fol-
7 lowing:

8 “(2a) The term ‘catch share’ means any fishery
9 management program that allocates a specific per-
10 centage of the total allowable catch for a fishery, or
11 a specific fishing area, to an individual, cooperative,
12 community, sector, processor, or regional fishery or-
13 ganization established in accordance with section
14 303A(c)(4), or other entity.”.

15 (b) CATCH SHARE REFERENDUM PILOT PRO-
16 GRAM.—

17 (1) IN GENERAL.—Section 303A(c)(6)(D) (16
18 U.S.C. 1853a(c)(6)(D)) is amended to read as fol-
19 lows:

20 “(D) CATCH SHARE REFERENDUM PILOT
21 PROGRAM.—

22 “(i) The New England, Mid-Atlantic,
23 South Atlantic, and Gulf of Mexico Coun-
24 cils may not submit a fishery management
25 plan or amendment that creates a catch

1 share program for a fishery, and the Sec-
2 retary may not approve or implement such
3 a plan or amendment submitted by such a
4 Council or a secretarial plan or amendment
5 under section 304(c) that creates such a
6 program, unless the final program has
7 been approved, in a referendum in accord-
8 ance with this subparagraph, by a majority
9 of the permit holders eligible to participate
10 in the fishery. For multispecies permits in
11 the Gulf of Mexico, any permit holder with
12 landings from the fishery being considered
13 for the catch share program within the 5-
14 year period preceding the date of the ref-
15 erendum and still active in fishing in the
16 fishery shall be eligible to participate in
17 such a referendum. If a catch share pro-
18 gram is not approved by the requisite num-
19 ber of permit holders, it may be revised
20 and submitted for approval in a subse-
21 quent referendum.

22 “(ii) The Secretary shall conduct a
23 referendum under this subparagraph, in-
24 cluding notifying all permit holders eligible

1 to participate in the referendum and mak-
2 ing available to them—

3 “(I) a copy of the proposed pro-
4 gram;

5 “(II) an estimate of the costs of
6 the program, including costs to par-
7 ticipants;

8 “(III) an estimate of the amount
9 of fish or percentage of quota each
10 permit holder would be allocated; and

11 “(IV) information concerning the
12 schedule, procedures, and eligibility
13 requirements for the referendum proc-
14 ess.

15 “(iii) For the purposes of this sub-
16 paragraph, the term ‘permit holder eligible
17 to participate’ does not include the holder
18 of a permit for a fishery under which fish-
19 ing has not occurred in 3 of the 5 years
20 preceding a referendum for the fishery un-
21 less sickness, injury, or other unavoidable
22 hardship prevented the permit holder from
23 engaging in such fishing.

24 “(iv) The Secretary may not imple-
25 ment any catch share program for any

1 fishery managed exclusively by the Sec-
2 retary unless first petitioned by a majority
3 of those eligible to participate in the fish-
4 ery.”.

5 (2) LIMITATION ON APPLICATION.—The amend-
6 ment made by paragraph (1) shall not apply to a
7 catch share program that is submitted to, or pro-
8 posed by, the Secretary of Commerce before the date
9 of enactment of this Act.

10 (3) REGULATIONS.—Before conducting a ref-
11 erendum under the amendment made by paragraph
12 (1), the Secretary of Commerce shall issue regula-
13 tions implementing such amendment after providing
14 an opportunity for submission by the public of com-
15 ments on the regulations.

16 **SEC. 8. DATA COLLECTION AND DATA CONFIDENTIALITY.**

17 (a) USE OF ELECTRONIC MONITORING.—

18 (1) IN GENERAL.—The Secretary of Commerce
19 shall, in conjunction with the Councils and the Pa-
20 cific States Marine Fisheries Commission and by not
21 later than the end of the 6-month period beginning
22 on the date of the enactment of this Act—

23 (A) develop objectives, performance stand-
24 ards, and regulations to govern the use of elec-

1 tronic monitoring for data collection and moni-
2 toring purposes; and

3 (B) provide an opportunity for the fishing
4 industry to comment before the regulations are
5 finalized.

6 (2) LIMITATION ON ENFORCEMENT USE.—Reg-
7 ulations under this subsection shall not include pro-
8 visions authorizing use of electronic monitoring for
9 law enforcement.

10 (3) ACTION BY COUNCILS.—If the Secretary
11 fails to develop such regulations within the period
12 referred to in paragraph (1), each Council may, in
13 compliance with paragraphs (1)(B) and (2)—

14 (A) issue regulations that establish such
15 standards and implement electronic monitoring
16 programs for fisheries under the jurisdiction of
17 such Council that are subject to a fishery man-
18 agement plan; and

19 (B) implement plans to substitute elec-
20 tronic monitoring for human observers, if—

21 (i) electronic monitoring will provide
22 the same level of coverage as a human ob-
23 server; and

24 (ii) standards for electronic moni-
25 toring are in effect.

1 (b) VIDEO AND ACOUSTIC SURVEY TECH-
2 NOLOGIES.—The Secretary shall work with the Regional
3 Fishery Management Councils and nongovernmental enti-
4 ties to develop and implement the use pursuant to the
5 Magnuson-Stevens Fishery Conservation and Manage-
6 ment Act (16 U.S.C. 1801 et seq.) of video survey tech-
7 nologies and expanded use of acoustic survey technologies.

8 (c) CONFIDENTIALITY OF INFORMATION.—

9 (1) IN GENERAL.—Section 402(b) (16 U.S.C.
10 1881a(b)) is amended—

11 (A) by redesignating paragraph (3) as
12 paragraph (6), and resetting it 2 ems from the
13 left margin;

14 (B) by striking so much as precedes para-
15 graph (6), as so redesignated, and inserting the
16 following:

17 “(b) CONFIDENTIALITY OF INFORMATION.—

18 “(1) Any information submitted to the Sec-
19 retary, a State fishery management agency, or a
20 Marine Fisheries Commission by any person in com-
21 pliance with the requirements of this Act, including
22 confidential information, shall be exempt from dis-
23 closure under section 552(b)(3) of title 5, United
24 States Code, except—

1 “(A) to Federal employees and Council em-
2 ployees who are responsible for fishery manage-
3 ment plan development, monitoring, or enforce-
4 ment;

5 “(B) to State or Marine Fisheries Commis-
6 sion employees as necessary for achievement of
7 the purposes of this Act, subject to a confiden-
8 tiality agreement between the State or commis-
9 sion, as appropriate, and the Secretary that
10 prohibits public disclosure of confidential infor-
11 mation relating to any person;

12 “(C) to any State employee who is respon-
13 sible for fishery management plan enforcement,
14 if the State employing that employee has en-
15 tered into a fishery enforcement agreement with
16 the Secretary and the agreement is in effect;

17 “(D) when required by court order;

18 “(E) if such information is used by State,
19 Council, or Marine Fisheries Commission em-
20 ployees to verify catch under a catch share pro-
21 gram, but only to the extent that such use is
22 consistent with subparagraph (B);

23 “(F) to a Council or State, if the Secretary
24 has obtained written authorization from the
25 person submitting such information to release

1 such information to persons for reasons not
2 otherwise provided for in this subsection, and
3 such release does not violate any other require-
4 ment of this Act; or

5 “(G) if such information is required to be
6 submitted to the Secretary for any determina-
7 tion under a catch share program.

8 “(2) Any information submitted to the Sec-
9 retary, a State fisheries management agency, or a
10 Marine Fisheries Commission by any person in com-
11 pliance with the requirements of this Act, including
12 confidential information, may only be used for pur-
13 poses of fisheries management and monitoring and
14 enforcement under this Act.

15 “(3) Any observer information, and information
16 obtained through a vessel monitoring system or
17 other technology used on-board for enforcement or
18 data collection purposes, shall be confidential and
19 shall not be disclosed, except—

20 “(A) in accordance with the requirements
21 of subparagraphs (A) through (G) of paragraph
22 (1);

23 “(B) when such information is necessary
24 in proceedings to adjudicate observer certifi-
25 cations; or

1 “(C) as authorized by any regulations
2 issued under paragraph (6) allowing the collec-
3 tion of observer information, pursuant to a con-
4 fidentiality agreement between the observers,
5 observer employers, and the Secretary prohib-
6 iting disclosure of the information by the ob-
7 servers or observer employers, in order—

8 “(i) to allow the sharing of observer
9 information among observers and between
10 observers and observer employers as nec-
11 essary to train and prepare observers for
12 deployments on specific vessels; or

13 “(ii) to validate the accuracy of the
14 observer information collected.

15 “(4) The Secretary may enter into a memo-
16 randum of understanding with the heads of other
17 Federal agencies for the sharing of confidential in-
18 formation to ensure safety of life at sea or for fish-
19 eries enforcement purposes, including information
20 obtained through a vessel monitoring system or
21 other electronic enforcement and monitoring sys-
22 tems, if—

23 “(A) the Secretary determines there is a
24 compelling need to do so; and

1 “(B) the heads of the other Federal agen-
2 cies agree—

3 “(i) to maintain the confidentiality of
4 the information in accordance with the re-
5 quirements that apply to the Secretary
6 under this section; and

7 “(ii) to use the information only for
8 the purposes for which it was shared with
9 the agencies.

10 “(5) The Secretary may not provide any vessel-
11 specific or aggregate vessel information from a fish-
12 ery that is collected for monitoring and enforcement
13 purposes to any person for the purposes of coastal
14 and marine spatial planning under Executive Order
15 13547.”; and

16 (C) in paragraph (5), as so redesignated,
17 in the second sentence by striking “or the use,”
18 and all that follows through the end of the sen-
19 tence and inserting a period.

20 (2) DEFINITIONS.—Section 3 (16 U.S.C. 1802)
21 is further amended—

22 (A) by inserting after paragraph (4) the
23 following:

24 “(4a) The term ‘confidential information’
25 means—

1 “(A) trade secrets;

2 “(B) proprietary information; or

3 “(C) commercial or financial information
4 the disclosure of which is likely to result in
5 harm to the competitive position of the person
6 that submitted the information to the Sec-
7 retary.”; and

8 (B) by inserting after paragraph (27) the
9 following:

10 “(27a) The term ‘observer information’ means
11 any information collected, observed, retrieved, or cre-
12 ated by an observer or electronic monitoring system
13 pursuant to authorization by the Secretary, or col-
14 lected as part of a cooperative research initiative, in-
15 cluding fish harvest or fish processing observations,
16 fish sampling or weighing data, vessel logbook data,
17 vessel- or fish processor-specific information (includ-
18 ing any safety, location, or operating condition ob-
19 servations), and video, audio, photographic, or writ-
20 ten documents.”.

21 (d) INCREASED DATA COLLECTION AND ACTIONS TO
22 ADDRESS DATA-POOR FISHERIES.—Section 404 (16
23 U.S.C. 1881c) is amended by adding at the end the fol-
24 lowing:

1 “(e) USE OF THE ASSET FORFEITURE FUND FOR
2 FISHERY INDEPENDENT DATA COLLECTION.—

3 “(1) IN GENERAL.—

4 “(A) The Secretary, subject to appropria-
5 tions, may obligate for data collection purposes
6 in accordance with prioritizations under para-
7 graph (3) a portion of amounts received by the
8 United States as fisheries enforcement pen-
9 alties.

10 “(B) Amounts may be obligated under this
11 paragraph only in the fishery management region
12 with respect to which they are collected.

13 “(2) INCLUDED PURPOSES.—The purposes re-
14 ferred to in paragraph (1) include—

15 “(A) the use of State personnel and re-
16 sources, including fishery survey vessels owned
17 and maintained by States to survey or assess
18 data-poor fisheries for which fishery manage-
19 ment plans are in effect under this Act; and

20 “(B) cooperative research activities to im-
21 prove or enhance the fishery independent data
22 used in fishery stock assessments.

23 “(3) DATA-POOR FISHERIES PRIORITY LISTS.—

24 Each Council shall—

1 “(A) identify those fisheries in its region
2 considered to be data-poor fisheries;

3 “(B) prioritize those fisheries based on the
4 need of each fishery for up-to-date information;
5 and

6 “(C) provide those priorities to the Sec-
7 retary.

8 “(4) DEFINITIONS.—In this subsection:

9 “(A) The term ‘data-poor fishery’ means a
10 fishery—

11 “(i) that has not been surveyed in the
12 preceding 5-year period;

13 “(ii) for which a fishery stock assess-
14 ment has not been performed within the
15 preceding 5-year period; or

16 “(iii) for which limited information on
17 the status of the fishery is available for
18 management purposes.

19 “(B) The term ‘fisheries enforcement pen-
20 alties’ means any fine or penalty imposed, or
21 proceeds of any property seized, for a violation
22 of this Act or of any other marine resource law
23 enforced by the Secretary.

24 “(5) AUTHORIZATION OF APPROPRIATIONS.—

25 There is authorized to be appropriated to the Sec-

1 retary for each fiscal year to carry out this sub-
2 section up to 80 percent of the fisheries enforcement
3 penalties collected during the preceding fiscal year.”.

4 **SEC. 9. COUNCIL JURISDICTION FOR OVERLAPPING FISH-**
5 **ERIES.**

6 Section 302(a)(1) (16 U.S.C. 1852(a)) is amended—

7 (1) in subparagraph (A), in the second sen-
8 tence—

9 (A) by striking “18” and inserting “19”;

10 and

11 (B) by inserting before the period at the
12 end “and a liaison to represent the interests of
13 fisheries under the jurisdiction of the Mid-At-
14 lantic Fishery Management Council”; and

15 (2) in subparagraph (B), in the second sen-
16 tence—

17 (A) by striking “21” and inserting “22”;

18 and

19 (B) by inserting before the period at the
20 end “and a liaison to represent the interests of
21 fisheries under the jurisdiction of the New Eng-
22 land Fishery Management Council”.

1 **SEC. 10. GULF OF MEXICO COOPERATIVE RESEARCH AND**
2 **RED SNAPPER MANAGEMENT.**

3 (a) REPEAL.—Section 407 (16 U.S.C. 1883), and the
4 item relating to such section in the table of contents in
5 the first section, are repealed.

6 (b) REPORTING AND DATA COLLECTION PRO-
7 GRAM.—The Secretary of Commerce shall—

8 (1) in conjunction with the States, the Gulf of
9 Mexico Fishery Management Council, and the char-
10 ter and recreational fishing sectors, develop and im-
11 plement a real-time reporting and data collection
12 program for the Gulf of Mexico red snapper fishery
13 using available technology; and

14 (2) make implementation of this subsection a
15 priority for funds received by the Secretary under
16 section 2 of the Act of August 11, 1939 (commonly
17 known as the “Saltonstall-Kennedy Act”) (15 U.S.C.
18 713e–3).

19 (c) COOPERATIVE RESEARCH PROGRAM.—The Sec-
20 retary of Commerce—

21 (1) shall, in conjunction with the States, the
22 Gulf of Mexico and South Atlantic Fishery Manage-
23 ment Councils, and the commercial, charter, and
24 recreational fishing sectors, develop and implement a
25 cooperative research program for the fisheries of the
26 Gulf of Mexico and South Atlantic regions, giving

1 priority to those fisheries that are considered data-
2 poor; and

3 (2) may, subject to the availability of appropria-
4 tions, use funds received by the Secretary under sec-
5 tion 2 of the Act of August 11, 1939 (commonly
6 known as the “Saltonstall-Kennedy Act”) (15 U.S.C.
7 713e–3) to implement this subsection.

8 (d) STOCK SURVEYS AND STOCK ASSESSMENTS.—
9 The Secretary of Commerce, acting through the National
10 Marine Fisheries Service Regional Administrator of the
11 Southeast Regional Office, shall for purposes of the Mag-
12 nuson-Stevens Fishery Conservation and Management Act
13 (16 U.S.C. 1801 et seq.)—

14 (1) develop a schedule of stock surveys and
15 stock assessments for the Gulf of Mexico Region and
16 the South Atlantic Region for the 5-year period be-
17 ginning on the date of the enactment of this Act and
18 for every 5-year period thereafter;

19 (2) direct the Southeast Science Center Direc-
20 tor to implement such schedule; and

21 (3) in such development and implementation—

22 (A) give priority to those stocks that are
23 commercially or recreationally important; and

24 (B) ensure that each such important stock
25 is surveyed at least every 5 years.

1 (e) USE OF FISHERIES INFORMATION IN STOCK AS-
2 SESSMENTS.—The Southeast Science Center Director
3 shall ensure that fisheries information made available
4 through research funded under Public Law 112–141 is in-
5 corporated as soon as possible into any fisheries stock as-
6 sessments conducted after the date of the enactment of
7 this Act.

8 (f) STATE SEAWARD BOUNDARIES IN THE GULF OF
9 MEXICO WITH RESPECT TO RED SNAPPER.—Section
10 306(b) (16 U.S.C. 1856(b)) is amended by adding at the
11 end the following:3(11) (16 U.S.C. 1802) is amended by
12 inserting before the period the following: “and the seaward
13 boundary of a coastal State in the Gulf of Mexico is a
14 line 9 miles seaward from the baseline from which the ter-
15 ritorial sea of the United States is measured”.

16 “(3) Notwithstanding section 3(11), for the purposes
17 of managing the Gulf of Mexico red snapper fishery, the
18 seaward boundary of a coastal State in the Gulf of Mexico
19 is a line 9 miles seaward from the baseline from which
20 the territorial sea of the United States is measured”.

21 **SEC. 11. NORTH PACIFIC FISHERY MANAGEMENT CLARI-**
22 **FICATION.**

23 Section 306(a)(3)(C) (16 U.S.C. 1856(a)(3)(C)) is
24 amended—

1 (1) by striking “was no” and inserting “is no”;

2 and

3 (2) by striking “on August 1, 1996”.

4 **SEC. 12. AUTHORIZATION OF APPROPRIATIONS.**

5 Section 4 (16 U.S.C. 1803) is amended—

6 (1) by striking “this Act” and all that follows

7 through “(7)” and inserting “this Act”; and

8 (2) by striking “fiscal year 2013” and inserting

9 “each of fiscal years 2014 through 2018”.

10 **SEC. 13. ENSURING CONSISTENT MANAGEMENT FOR FISH-**

11 **ERIES THROUGHOUT THEIR RANGE.**

12 (a) IN GENERAL.—The Magnuson-Stevens Fishery

13 Conservation and Management Act (16 U.S.C. 1801 et

14 seq.) is amended by inserting after section 4 the following:

15 **“SEC. 5. ENSURING CONSISTENT FISHERIES MANAGEMENT**

16 **UNDER OTHER FEDERAL LAWS.**

17 “(a) NATIONAL MARINE SANCTUARIES ACT AND AN-

18 TIQUITIES ACT OF 1906.—In any case of a conflict be-

19 tween this Act and the National Marine Sanctuaries Act

20 (16 U.S.C. 1431 et seq.) or the Antiquities Act of 1906

21 (16 U.S.C. 431 et seq.), this Act shall control.

22 “(b) FISHERIES RESTRICTIONS UNDER ENDAN-

23 GERED SPECIES ACT OF 1973.—To ensure transparency

24 and consistent management of fisheries throughout their

25 range, any restriction on the management of fishery re-

1 sources that is necessary to implement a recovery plan
2 under the Endangered Species Act of 1973 (16 U.S.C.
3 1531 et seq.) shall be implemented—

4 “(1) using authority under this Act; and

5 “(2) in accordance with processes and time
6 schedules required under this Act.”.

7 (b) CLERICAL AMENDMENT.—The table of contents
8 in the first section is amended by inserting after the item
9 relating to section 4 the following:

“Sec. 5. Ensuring consistent fisheries management under other Federal laws.”.

[STAFF WORKING DRAFT]

APRIL 3, 2014

113TH CONGRESS
2D SESSION

S. _____

To amend the Magnuson-Stevens Fishery Conservation and Management Act to promote sustainable conservation and management for the Nation's fisheries and the communities that rely on them, and for other purposes.

IN THE SENATE OF THE UNITED STATES

_____ introduced the following bill; which was read twice
and referred to the Committee on _____

A BILL

To amend the Magnuson-Stevens Fishery Conservation and Management Act to promote sustainable conservation and management for the Nation's fisheries and the communities that rely on them, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Magnuson-Stevens Fishery Conservation and Manage-
6 ment Reauthorization Act of 2014”.

1 (b) TABLE OF CONTENTS.—The table of contents of
2 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. References to the Magnuson-Stevens Fishery Conservation and Management Act.
- Sec. 3. Changes in findings, purposes, and policy.
- Sec. 4. Definitions.
- Sec. 5. Authorization of appropriations.

TITLE I—CONSERVATION AND MANAGEMENT

- Sec. 101. Regional fishery management councils.
- Sec. 102. Contents of fishery management plans.
- Sec. 103. Fishery ecosystem planning authority.
- Sec. 104. Action by the Secretary.
- Sec. 105. Other requirements and authority.
- Sec. 106. Prohibited acts.
- Sec. 107. Penalties.
- Sec. 108. Enforcement.
- Sec. 109. Transition to sustainable fisheries; authorization of appropriations.
- Sec. 110. North Pacific fisheries conservation.
- Sec. 111. Summer flounder management.
- Sec. 112. Study of allocations in mixed-use fisheries.

TITLE II—FISHERY INFORMATION, RESEARCH, AND DEVELOPMENT

- Sec. 201. Electronic monitoring.
- Sec. 202. Cost reduction report.
- Sec. 203. Capital construction.
- Sec. 204. Fisheries research.
- Sec. 205. Improving science.
- Sec. 206. South Atlantic red snapper cooperative research program.
- Sec. 207. Focusing assets for improved fisheries outcomes.

TITLE III—REAUTHORIZATION OF OTHER FISHERY STATUTES

- Sec. 301. Anadromous Fish Conservation Act.
- Sec. 302. Interjurisdictional Fisheries Act of 1986.
- Sec. 303. Atlantic Coastal Fisheries Cooperative Management Act.
- Sec. 304. Atlantic Striped Bass Conservation Act.
- Sec. 305. Yukon River Salmon Act of 2000.
- Sec. 306. State authority for Dungeness crab fishery management.

TITLE IV—INTERNATIONAL

- Sec. 401. Secretarial representative for international fisheries.
- Sec. 402. Amendment to Pacific Salmon Treaty Act of 1985.
- Sec. 403. Reauthorization of Atlantic Tunas Convention Act of 1975.
- Sec. 404. Reauthorization of South Pacific Tuna Act of 1988.
- Sec. 405. High Seas Driftnet Fishing Moratorium Protection Act.
- Sec. 406. Reauthorization of Northwest Atlantic Fisheries Convention Act of 1995.

TITLE V—MISCELLANEOUS

Sec. 501. Technical amendments.

1 **SEC. 2. REFERENCES TO THE MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT.**

2
3 Except as otherwise expressly provided, wherever in
4 this Act an amendment or repeal is expressed in terms
5 of an amendment to, or repeal of, a section or other provi-
6 sion, the reference shall be considered to be made to a
7 section or other provision of the Magnuson-Stevens Fish-
8 ery Conservation and Management Act (16 U.S.C. 1801
9 et seq.).

10 **SEC. 3. CHANGES IN FINDINGS, PURPOSES, AND POLICY.**

11 (a) FINDINGS.—Section 2(a) (16 U.S.C. 1801(a)) is
12 amended—

13 (1) in paragraph (2), by striking “direct and in-
14 direct habitat losses which have resulted in a dimin-
15 ished capacity to support existing fishing levels” and
16 inserting “natural and human-caused effects on eco-
17 systems, including direct and indirect habitat losses,
18 bycatch mortality, and trophic impacts that have
19 changed the physical, chemical, and ecological proc-
20 esses that support marine ecosystems and resulted
21 in a diminished capacity to support existing fishing
22 levels”;

23 (2) in paragraph (3) by striking “at an ever-in-
24 creasing rate over the past decade”;

1 (3) in paragraph (6), by inserting “and marine
2 ecosystems” after “essential fish habitats”;

3 (4) in paragraph (11), by striking “have dem-
4 onstrated” and inserting “are demonstrating”;

5 (5) by redesignating paragraph (12) as para-
6 graph (17);

7 (6) by inserting before paragraph (17), as re-
8 designated, the following:

9 “(16) Bycatch of living marine resources in
10 United States marine fisheries can have profound
11 population, ecosystem, and socioeconomic effects on
12 United States fishery resources and the communities
13 that depend on those fishery resources.”;

14 (7) by redesignating paragraphs (8) through
15 (11) as paragraphs (12) through (15), respectively;

16 (8) by inserting before paragraph (12), as re-
17 designated, the following:

18 “(11) Forage species are a fundamental compo-
19 nent of marine ecosystems, highly vulnerable to nat-
20 ural population fluctuations and fishing pressure,
21 and are subject to increasing fishing pressure. In
22 most regions of the country there are few, if any,
23 constraints on the rapid development of new fish-
24 eries for forage fish, and the management ap-
25 proaches for the currently developed fisheries for

1 forage fish often put the ecological role of these
2 critically important species at risk.”;

3 (9) by redesignating paragraph (7) as para-
4 graph (10);

5 (10) by inserting before paragraph (10), as re-
6 designated, the following:

7 “(8) By establishing mechanisms, under au-
8 thority of this Act, for specifying science-based an-
9 nual catch limits in fishery management plans at
10 levels such that overfishing does not occur in fish-
11 eries, including measures to ensure accountability,
12 the Nation’s fishery resources are now being man-
13 aged sustainably to prevent overfishing and respond
14 quickly if overfishing occurs.

15 “(9) It is of critical importance to the health of
16 the Nation’s fishery resources and the coastal com-
17 munities that depend on them that the United
18 States maintain its progress in preventing over-
19 fishing and rebuilding overfished stocks.”;

20 (11) by redesignating paragraphs (4) through
21 (6) as paragraphs (5) through (7), respectively; and

22 (12) by inserting after paragraph (3) the fol-
23 lowing:

24 “(4) Subsistence fishing is an integral part of
25 life in many communities throughout the United

1 States, and the Nation’s marine and anadromous
2 fish are important sources of nutrition, subsistence,
3 and the cultural heritage of those communities.”.

4 (b) PURPOSES.—Section 2(b) (16 U.S.C. 1801(b)) is
5 amended—

6 (1) in paragraph (1), by inserting “, and fish-
7 ery resources in the special areas” before the semi-
8 colon;

9 (2) in paragraph (3), by striking “and rec-
10 reational” and inserting “, recreational, and subsist-
11 ence”;

12 (3) in paragraph (5), by striking “the State”
13 and inserting “the States, tribal governments,”;

14 (4) in paragraph (7), by striking “the review of
15 projects” and inserting “projects and activities”;

16 (5) by redesignating paragraphs (5) through
17 (7) as paragraphs (6) through (8), respectively; and

18 (6) by inserting after paragraph (4) the fol-
19 lowing:

20 “(5) to provide for the adoption of ecosystem-
21 based fishery management goals and policies that
22 promote ecosystem health, stability, and sustain-
23 ability, and the conservation and management of
24 fishery resources;”.

1 (c) POLICY.—Section 2(e)(3) (16 U.S.C. 1801(e)(3))
2 is amended—

3 (1) by inserting “, tribes,” after “affected
4 States”;

5 (2) by inserting “tribal,” after “State,”; and

6 (3) by striking “that minimize bycatch and
7 avoid unnecessary waste of fish; and is workable and
8 effective” and inserting “to avoid bycatch, minimize
9 mortality of bycatch that cannot be avoided, and
10 avoid unnecessary waste of fish; and is workable and
11 effective”.

12 **SEC. 4. DEFINITIONS.**

13 (a) IN GENERAL.—Section 3 (16 U.S.C. 1802) is
14 amended—

15 (1) by amending paragraph (2) to read as fol-
16 lows:

17 “(2) The term ‘bycatch’—

18 “(A) means fish that are harvested in a
19 fishery and discarded, including economic dis-
20 cards and regulatory discards, fish that are har-
21 vested in a fishery and retained but not landed,
22 non-target fish that are harvested in a fishery
23 and retained, or fish that are subject to mor-
24 tality due to a direct encounter with fishing
25 gear; and

1 “(B) does not include fish released alive
2 under a recreational catch and release fishery
3 management program.”;

4 (2) by inserting after paragraph (8) the fol-
5 lowing:

6 “(8A) The terms ‘depleted’ and ‘depletion’
7 mean, with respect to a stock of fish in a fishery,
8 that the stock is of a size that jeopardizes the capac-
9 ity of the fishery to produce the maximum sustain-
10 able yield on a continuing basis.”;

11 (3) by inserting after paragraph (18) the fol-
12 lowing:

13 “(18A) The term ‘forage fish’ means any low
14 trophic level fish that contributes significantly to the
15 diets of other fish and that retains a significant role
16 in energy transfer from lower to higher trophic levels
17 throughout its life cycle.”;

18 (4) by inserting after paragraph (30) the fol-
19 lowing:

20 “(30A) The term ‘non-target fish’ means fish
21 that are caught incidentally during the pursuit of
22 target fish in a fishery, including regulatory discards
23 which may or may not be retained for sale or per-
24 sonal use.”;

1 (5) in paragraph (36), by inserting “, tribal,”
2 after “State,”;

3 (6) by inserting after paragraph (42) the fol-
4 lowing:

5 “(42A) The term ‘subsistence fishing’ means
6 fishing in which the fish harvested are intended for
7 customary and traditional uses, including for direct
8 personal or family consumption as food or clothing;
9 for the making or selling of handicraft articles out
10 of nonedible byproducts taken for personal or family
11 consumption, for barter, or sharing for personal or
12 family consumption; and for customary trade. In
13 this paragraph, the term—

14 “(A) ‘family’ means all persons related by
15 blood, marriage, or adoption, or any person liv-
16 ing within the household on a permanent basis;
17 and

18 “(B) ‘barter’ means the exchange of a fish
19 or fish part—

20 “(i) for another fish or fish part; or

21 “(ii) for other food or for nonedible
22 items other than money if the exchange is
23 of a limited and noncommercial nature.

1 “(42B) The term ‘target fish’ means fish that
2 are caught for sale or personal use, including eco-
3 nomic discards.”; and

4 (7) by inserting after paragraph (43) the fol-
5 lowing:

6 “(43A) The terms ‘tribal’ and ‘tribe’ mean an
7 Indian tribe as defined in section 102 of the Feder-
8 ally Recognized Indian Tribe List Act of 1994 (25
9 U.S.C. 479a).”.

10 (b) REDESIGNATION.—Paragraphs (1) through (50)
11 of section 3, as amended by subsection (a) of this section,
12 are redesignated as paragraphs (1) through (56), respec-
13 tively.

14 (c) TECHNICAL AND CONFORMING AMENDMENTS.—

15 (1) Section 7306b(b) of title 10, United States
16 Code, is amended by striking “defined in section
17 3(14)” and inserting “defined in section 3”.

18 (2) Section 3 of the Whale Conservation and
19 Protection Study Act (16 U.S.C. 917a) is amended
20 by striking “including the fishery conservation zone
21 as defined in section 3(8)” and inserting “including
22 the exclusive economic zone as defined in section 3”.

23 (3) Section 114(o) of the Marine Mammal Pro-
24 tection Act of 1972 (16 U.S.C. 1383a(o)) is amend-
25 ed—

1 (A) in paragraph (1), by striking “section
2 3(8)” and inserting “section 3”; and

3 (B) in paragraph (4), by striking “section
4 3(27)” and inserting “section 3”.

5 (4) Section 304(g)(2) (16 U.S.C. 1854(g)(2)) is
6 amended by striking “Notwithstanding section 3(2)”
7 and inserting “Notwithstanding the definition of by-
8 catch under section 3”.

9 (5) Section 8(b)(2) of the Lacey Act Amend-
10 ments of 1981 (16 U.S.C. 3377(b)(2)) is amended—

11 (A) by striking “as defined in paragraph
12 (14) of section 3” and inserting “as defined in
13 section 3”; and

14 (B) by striking “as defined in paragraph
15 (13) of such section 3” and inserting “as de-
16 fined in such section 3”.

17 (6) Section 302 of the Atlantic Salmon Conven-
18 tion Act of 1982 (16 U.S.C. 3601) is amended—

19 (A) in paragraph (6), by striking “in sec-
20 tion 3(10)” and inserting “in section 3” and

21 (B) in paragraph (8), by striking “in sec-
22 tion 3(19)” and inserting “in section 3”.

23 (7) Section 3(6) of the Atlantic Striped Bass
24 Conservation Act (16 U.S.C. 5152(6)) is amended

1 by striking “in section 3(6)” and inserting “in sec-
2 tion 3”.

3 (8) Section 104(f)(4)(B) of the Compact of
4 Free Association Act of 1985 (48 U.S.C.
5 1904(f)(4)(B)) is amended by striking “have the
6 same meanings as provided in paragraphs (10) and
7 (14), respectively, of section 3” and inserting “have
8 the same meanings as provided in section 3”.

9 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

10 Section 4 (16 U.S.C. 1803) is amended to read as
11 follows:

12 **“SEC. 4. AUTHORIZATION OF APPROPRIATIONS.**

13 “There are authorized to be appropriated to the Sec-
14 retary to carry out the provisions of this Act—

15 “(1) **【\$XXX,XXX,XXX】** for fiscal year 2015;

16 “(2) **【\$XXX,XXX,XXX】** for fiscal year 2016;

17 “(3) **【\$XXX,XXX,XXX】** for fiscal year 2017;

18 “(4) **【\$XXX,XXX,XXX】** for fiscal year 2018;

19 “(5) **【\$XXX,XXX,XXX】** for fiscal year 2019;

20 “(6) **【\$XXX,XXX,XXX】** for fiscal year 2020;

21 and

22 “(7) **【\$XXX,XXX,XXX】** for fiscal year

23 2021.”.

1 **TITLE I—CONSERVATION AND**
2 **MANAGEMENT**

3 **SEC. 101. REGIONAL FISHERY MANAGEMENT COUNCILS.**

4 (a) VOTING MEMBERS.—Section 302(b)(2) (16
5 U.S.C. 1852(b)(2)) is amended—

6 (1) in subparagraph (A), by striking “or the
7 commercial or recreational harvest” and inserting
8 “or the commercial, recreational, or subsistence fish-
9 ing harvest”; and

10 (2) in subparagraph (D)—

11 (A) in clause (i)—

12 (i) by striking “Fisheries” and insert-
13 ing “Fishery”; and

14 (ii) by inserting “or the South Atlan-
15 tic Fishery Management Council” after
16 “Council”; and

17 (B) by striking clause (iv).

18 (b) ADDITION OF RHODE ISLAND TO THE MID-AT-
19 LANTIC FISHERY MANAGEMENT COUNCIL.—Section
20 302(a)(1)(B) (16 U.S.C. 1852(a)(1)(B)) is amended—

21 (1) by inserting “Rhode Island,” after “States
22 of”;

23 (2) by inserting “Rhode Island,” after “except
24 North Carolina,”;

25 (3) by striking “21” and inserting “23”; and

1 (4) by striking “13” and inserting “14”.

2 (c) COMMITTEES AND ADVISORY PANELS.—Section
3 302(g)(1)(B) (16 U.S.C. 1852(g)(1)(B)) is amended to
4 read as follows:

5 “(B) Each scientific and statistical com-
6 mittee shall—

7 “(i) provide its Council ongoing sci-
8 entific advice for fishery management deci-
9 sions, including recommendations for ac-
10 ceptable biological catch, preventing over-
11 fishing, maximum sustainable yield, achiev-
12 ing rebuilding targets, goals and objectives
13 of fishery ecosystem plans developed under
14 the discretionary authority provided under
15 section 303B, and reports on stock status
16 and health, bycatch, habitat status, social
17 and economic impacts of management
18 measures, and sustainability of fishing
19 practices;

20 “(ii) develop a control rule to derive
21 annual recommendations for acceptable bi-
22 ological catch for a forage fishery which
23 account for the importance of forage spe-
24 cies to managed fish throughout their
25 range and provide a minimum reference

1 point to determine when a forage fishery
2 should close; and

3 “(iii) carry out the requirements of
4 this subparagraph in a transparent man-
5 ner, allowing for public involvement in the
6 process.”.

7 (d) FUNCTIONS.—Section 302(h) (16 U.S.C.
8 1852(h)) is amended—

9 (1) in paragraph (7)(C), by striking “; and”
10 and inserting a semicolon;

11 (2) by redesignating paragraph (8) as para-
12 graph (10);

13 (3) by redesignating paragraphs (2) through
14 (7) as paragraphs (3) through (8), respectively;

15 (4) by inserting after paragraph (1) the fol-
16 lowing:

17 “(2) review any allocation of fishing privileges
18 among sectors of a mixed-use fishery under a fishery
19 management plan prepared by that Council not less
20 often than once every 5 years, except a Council may
21 delay action for not more than 3 additional 1-year
22 periods;”; and

23 (5) by inserting after paragraph (8), as redesign-
24 nated, the following:

1 “(9) have the authority to use alternative fish-
2 ery management measures in a recreational fishery
3 (or the recreational component of a mixed-use fish-
4 ery), including extraction rates, fishing mortality,
5 and harvest control rules, to the extent they are in
6 accordance with the requirements of this section;
7 and”.

8 (e) **WEBCASTS OF COUNCIL MEETINGS.**—Section
9 302(i)(2) (16 U.S.C. 1852(i)(2)) is amended by adding
10 at the end the following:

11 “(G) Unless closed in accordance with
12 paragraph (3), each Council shall, where prac-
13 ticable, make available on the Internet website
14 of the Council a video or audio webcast of each
15 meeting of the Council and each meeting of the
16 science and statistical committee of the Council
17 not later than 30 days after the date of the
18 conclusion of such meeting.”.

19 (f) **REGIONAL FISHERY MANAGEMENT COUNCILS;**
20 **PROCEDURAL MATTERS.**—Section 302(i) (16 U.S.C.
21 1852(i)) is amended—

22 (1) in paragraph (4), by striking “or State au-
23 thorities” and inserting “, State, or tribal authori-
24 ties”; and

1 (2) in paragraph (6), by striking “Federal
2 agency or from a” and inserting “Federal agency,
3 tribal government, or”.

4 (g) COUNCIL TRAINING PROGRAM; TRAINING
5 COURSE.—Section 302(k)(1) (16 U.S.C. 1852(k)(1)) is
6 amended—

7 (1) by striking “Within 6 months after the date
8 of enactment of the Magnuson-Stevens Fishery Con-
9 servation and Management Reauthorization Act of
10 2006 [enacted Jan. 12, 2007], the” and inserting
11 “The”;

12 (2) in subparagraph (H), by striking “; and”
13 and inserting a semicolon;

14 (3) in subparagraph (I), by striking the period
15 at the end and inserting “; and”; and

16 (4) by adding at the end the following:

17 “(J) ecosystem-based fishery manage-
18 ment.”.

19 **SEC. 102. CONTENTS OF FISHERY MANAGEMENT PLANS.**

20 (a) REQUIRED PROVISIONS.—Section 303 (16 U.S.C.
21 1853) is amended—

22 (1) in subsection (a)—

23 (A) in paragraph (5), by inserting “, and
24 subsistence” after “charter”;

1 (B) in paragraph (13), by striking “and
2 charter” each place it appears and inserting
3 “charter, and subsistence”;

4 (C) in paragraph (14), by striking “and
5 charter fishing sectors in the fishery and;” and
6 inserting “charter, and subsistence fishing sec-
7 tors in the fishery;”;

8 (D) by redesignating paragraphs (14) and
9 (15) as paragraphs (16) and (17), respectively;

10 (E) by inserting after paragraph (13) the
11 following:

12 “(14) in the case of a fishery for a forage
13 fish—

14 “(A) when determining annual catch limits
15 under this Act, assess, specify, and adjust those
16 limits by the feeding requirements of dependent
17 fish throughout the range of the dependent fish;
18 and

19 “(B) include a control rule developed and
20 applied by the scientific and statistical com-
21 mittee of the relevant Council to derive annual
22 recommendations—

23 “(i) for acceptable biological catch for
24 a fishery for forage fish and a minimum

1 reference point to determine when a fish-
2 ery for forage fish should close; and

3 “(ii) that account for the importance
4 of forage fish to managed fish species
5 throughout the range of the managed fish
6 species;

7 “(15) assess the fishery dependent data needs
8 of the fishery and, if necessary to meet those needs,
9 establish an integrated data collection program
10 under subsection (e) to gather and analyze data re-
11 quired for fisheries management; and”;

12 (F) in paragraph (17), as redesignated, by
13 striking “establish a mechanism” and inserting
14 “subject to subsection (d), establish a mecha-
15 nism”; and

16 (2) by adding at the end the following:

17 “(d) LIMITATIONS.—

18 “(1) IN GENERAL.—The requirements under
19 subsection (a)(17) shall not—

20 “(A) apply to a species in a fishery that
21 has a mean life cycle of 18 months or less, or
22 to a species in a fishery with respect to which
23 all spawning and recruitment occurs beyond
24 State waters and the exclusive economic zone,

1 unless the Secretary has determined the fishery
2 is subject to overfishing of that species;

3 “(B) limit or otherwise affect the require-
4 ments of section 301(a)(1) or 304(e) of this
5 Act; and

6 “(C) be construed as requiring that a fish-
7 ery management plan specify a separate annual
8 catch limit and accountability measures for
9 each individual species of non-target fish in the
10 fishery.

11 “(2) CONSTRUCTION.—Nothing in this sub-
12 section shall be construed to affect any effective date
13 regarding the requirements under subsection (a)(17)
14 otherwise provided for under an international agree-
15 ment in which the United States participates.

16 “(e) INTEGRATED DATA COLLECTION.—

17 “(1) IN GENERAL.—Any integrated data collec-
18 tion required by subsection (a)(15) shall—

19 “(A) have scientific data collection as its
20 principal purpose;

21 “(B) specifically consider the requirements
22 of section 301(a)(8);

23 “(C) with respect to any data to be col-
24 lected from a fishing vessel while that vessel is

1 at-sea, give first consideration and priority to
2 the utilization of electronic monitoring;

3 “(D) subject to paragraph (3), provide for
4 a system of fees on a fishery specific basis to
5 be collected from participants in the fishery, in-
6 cluding those persons whose participation is as
7 direct harvesters or bycatch harvesters;

8 “(E) be developed in consultation with
9 stakeholders, including fishery participants,
10 equipment providers in the case of electronic
11 monitoring systems, and contractors in the case
12 of human observers; and

13 “(F) include—

14 “(i) initial performance standards for
15 the fishery;

16 “(ii) field support systems;

17 “(iii) data review procedures; and

18 “(iv) implementation strategies.

19 “(2) IMPORTANCE OF FISHERY RESOURCES TO
20 FISHING COMMUNITIES.—When specifically consid-
21 ering the requirements of section 301(a)(8), the in-
22 tegrated data collection required by subsection
23 (a)(15) may provide, as appropriate, for electronic
24 monitoring, human observers, and dockside moni-
25 toring.

1 “(3) SYSTEM OF FEES.—The system of fees
2 under paragraph (1)(D) shall be consistent with the
3 applicable sections of this title.”.

4 (b) FISHERY MANAGEMENT PLAN AMENDMENTS.—
5 Not later than 1 year after the date of enactment of this
6 Act, each Regional Fishery Management Council shall
7 amend each fishery management plan under its jurisdic-
8 tion to comply with subsections (a)(15) and (e) of section
9 303 of the Magnuson-Stevens Fishery Conservation and
10 Management Act (16 U.S.C. 1853), as amended by section
11 102(a) of this Act.

12 (c) TECHNICAL AND CONFORMING AMENDMENTS.—

13 (1) Section 104 of the Magnuson-Stevens Fish-
14 ery Conservation and Management Reauthorization
15 Act of 2006 (120 Stat. 3584; 16 U.S.C. 1853 note)
16 is amended—

17 (A) by striking subsection (b); and

18 (B) by redesignating subsection (c) as sub-
19 section (b).

20 (2) Section 313(g)(2) (16 U.S.C. 1862(g)(2)) is
21 amended by striking “Notwithstanding section
22 303(d)” and inserting “Notwithstanding section
23 303A”.

24 (3) Section 407(b) (16 U.S.C. 1883(b)) is
25 amended by inserting “as in effect on the day before

1 the date of enactment of Magnuson-Stevens Fishery
2 Conservation and Management Reauthorization Act
3 of 2006 (120 Stat. 3575),” after “In addition to the
4 restrictions under section 303(d)(1)(A)”.

5 (4) Section 53706(a)(7) of title 46, United
6 States Code, is amended by striking “section
7 303(d)(4)” and inserting “section 303A”.

8 **SEC. 103. FISHERY ECOSYSTEM PLANNING AUTHORITY.**

9 (a) IN GENERAL.—Title III (16 U.S.C. 1851 et seq.)
10 is amended by inserting after section 303A the following:

11 **“SEC. 303B. FISHERY ECOSYSTEM PLANNING AUTHORITY.**

12 **“(a) DISCRETIONARY PLANNING AUTHORITY.—**

13 **“(1) COUNCIL AUTHORITY.—**For a fishery or
14 fisheries for which a fishery management plan has
15 been prepared by a Regional Fishery Management
16 Council and approved by the Secretary, the Council
17 may, at the Council’s discretion and in accordance
18 with the provisions of this Act, prepare and submit
19 to the Secretary a fishery ecosystem plan and
20 amendments to such plan as are necessary from
21 time to time or required under subsection (c).

22 **“(2) SECRETARIAL AUTHORITY.—**For a fishery
23 or fisheries for which a fishery management plan
24 has been prepared and approved by the Secretary,
25 the Secretary may, at the Secretary’s discretion and

1 in accordance with the provisions of this Act, pre-
2 pare a fishery ecosystem plan and amendments to
3 such plan as are necessary from time to time or re-
4 quired under subsection (c).

5 “(b) REQUIRED PROVISIONS.—A fishery ecosystem
6 plan that is prepared at the discretion of a Council or the
7 Secretary on or after the date of enactment of the Magnu-
8 son-Stevens Fishery Conservation and Management Reau-
9 thorization Act of 2014 shall—

10 “(1) contain a description of the fishery eco-
11 system and fishery ecosystem context, including—

12 “(A) the geographical extent of the fishery
13 ecosystem;

14 “(B) the biological, physical, chemical, and
15 socioeconomic aspects of the fishery ecosystem;

16 “(C) the goods and services provided by
17 the fishery ecosystem;

18 “(D) the structure and function of the
19 food web, including key predator-prey relation-
20 ships and the habitat needs of different life his-
21 tory stages of key species that make up the
22 food web;

23 “(E) the indicators of fishery ecosystem
24 health; and

1 “(F) the impacts of activities on the fish-
2 ery ecosystem and on indicators of fishery eco-
3 system health, including direct, indirect, and
4 cumulative impacts of activities under the
5 Council’s jurisdiction and outside the Council’s
6 jurisdiction;

7 “(2) specify fishery ecosystem-level goals and
8 objectives for management, including—

9 “(A) identifying and preventing fishing
10 rates or exploitation patterns that jeopardize
11 the maintenance or recovery of the fishery eco-
12 system or biological community structure, func-
13 tion, stability, or resilience;

14 “(B) protecting and restoring species di-
15 versity;

16 “(C) protecting and restoring habitat di-
17 versity and integrity;

18 “(D) protecting and restoring food web
19 structure and function; and

20 “(E) optimizing economic output;

21 “(3) assess the level of uncertainty in fishery
22 ecosystem structure, function, data, and reasonably
23 foreseeable responses to management action;

24 “(4) specify how the uncertainty under para-
25 graph (3) is accounted for in conservation and man-

1 agement measures that achieve the goals and objec-
2 tives under paragraph (2);

3 “ (5) contain conservation and management
4 measures—

5 “ (A) that achieve the goals and objectives
6 under paragraph (2);

7 “ (B) that will be implemented through rel-
8 evant fishery management plans; and

9 “ (C) that will not limit or otherwise affect
10 the conservation requirements of the national
11 standards or other provisions of this Act; and

12 “ (6) contain a monitoring and evaluation
13 plan—

14 “ (A) to describe available data sources and
15 specify information gaps for assessing the per-
16 formance of management in achieving fishery
17 ecosystem-level goals and objectives specified
18 under paragraph (2);

19 “ (B) to develop measurable standards and
20 performance measures based on indicators of
21 fishery ecosystem health identified under para-
22 graph (1)(E); and

23 “ (C) to measure the achievement of fishery
24 ecosystem-level goals and objectives specified
25 under paragraph (2).

1 “(c) ASSESSMENT AND UPDATING OF PLANS.—

2 “(1) IN GENERAL.—Each fishery ecosystem
3 plan prepared by a Council or the Secretary shall be
4 assessed and updated as necessary to better achieve
5 ecosystem-level goals and objectives.

6 “(2) ASSESSMENT CRITERIA.—A plan assess-
7 ment or update under paragraph (1) shall—

8 “(A) identify research priorities—

9 “(i) to improve monitoring of fishery
10 ecosystem health and understanding of
11 fishery ecosystem processes; and

12 “(ii) to fill data gaps;

13 “(B) analyze progress in meeting fishery
14 ecosystem-level goals and objectives included in
15 the fishery ecosystem plan; and

16 “(C) specify additional actions that shall
17 be taken when practicable to better meet fishery
18 ecosystem-level goals and objectives.

19 “(d) RULE OF CONSTRUCTION.—Nothing in this sec-
20 tion shall be construed as requiring a Council or the Sec-
21 retary to exercise the discretionary planning authority pro-
22 vided by this section.”.

23 (b) CONFORMING AMENDMENT.—The table of con-
24 tents in the Act is amended by inserting after the item
25 relating to section 303A the following:

“303B. Fishery ecosystem planning authority.”.

1 **SEC. 104. ACTION BY THE SECRETARY.**

2 (a) UPDATED AGENCY PROCEDURES.—Not later
3 than 90 days after the date of enactment of this Act, the
4 Secretary of Commerce shall issue a notice of proposed
5 rulemaking to revise and update agency procedures under
6 the mandate of section 304(i) of the Magnuson-Stevens
7 Fishery Conservation and Management Act (16 U.S.C.
8 1854(i)), as added by section 107 of the Magnuson-Ste-
9 vens Fishery Conservation and Management Reauthoriza-
10 tion Act of 2006 (120 Stat. 3594).

11 (b) REVIEW OF PLANS.—Section 304 (16 U.S.C.
12 1854) is amended—

13 (1) in subsection (a)—

14 (A) in paragraph (1), by inserting “, fish-
15 ery ecosystem plan,” after “fishery manage-
16 ment plan”; and

17 (B) in paragraph (5), by inserting “fishery
18 ecosystem plan,” after “fishery management
19 plan,”;

20 (2) in subsection (b), by inserting “fishery eco-
21 system plan,” after “fishery management plan,”
22 each place it appears; and

23 (3) in subsection (c)—

24 (A) in paragraph (1), by inserting “or fish-
25 ery ecosystem plan” after “fishery management
26 plan” each place it appears;

1 (B) in paragraph (3), by inserting “or fish-
2 ery ecosystem plan” after “fishery management
3 plan”;

4 (C) in paragraph (4), by inserting “, fish-
5 ery ecosystem plan,” after “fishery manage-
6 ment plan”; and

7 (D) in paragraph (7), by inserting “with
8 the fishery ecosystem plan,” after “fishery man-
9 agement plan,”.

10 (c) ESTABLISHMENT OF FEES.—Section 304(d) (16
11 U.S.C. 1854(d)) is amended—

12 (1) in paragraph (2)(A)(i), by striking “; and”
13 and inserting a semicolon;

14 (2) in paragraph (2)(A)(ii), by striking the pe-
15 riod at the end and inserting “; and”;

16 (3) in paragraph (2)(A), by adding at the end
17 the following:

18 “(iii) management program that allo-
19 cates a percentage of the total allowable
20 catch to individuals who have formed a
21 sector.”; and

22 (4) by adding at the end the following:

23 “(3) The Secretary shall not collect any fee
24 under this section or section 313(a) before preparing
25 an analysis that identifies the costs that will be re-

1 covered by the fee and the costs that will not be re-
2 covered by the fee. The analysis shall be included in
3 the applicable fisheries management plan.”;

4 (d) REBUILDING OVERFISHED AND DEPLETED
5 FISHERIES.—Section 304(e) (16 U.S.C. 1854(e)) is
6 amended—

7 (1) by amending the heading to read as follows:

8 “(e) REBUILDING OVERFISHED AND OTHERWISE
9 DEPLETED FISHERIES.—”;

10 (2) by amending paragraph (1) to read as fol-
11 lows:

12 “(1) The Secretary shall report annually to the
13 Congress and the Councils on the status of fisheries
14 within each Council’s geographical area of authority
15 and identify those fisheries that are overfished, oth-
16 erwise depleted or are approaching a condition of
17 being overfished or otherwise depleted. For those
18 fisheries managed under a fishery management plan
19 or international agreement, the status shall be deter-
20 mined using the criteria for overfishing (or deple-
21 tion, where applicable) specified in the plan or agree-
22 ment. A fishery shall be classified as approaching a
23 condition of being overfished or otherwise depleted
24 if, based on trends in fishing effort, fishery resource
25 size, and other appropriate factors, the Secretary es-

1 estimates that the fishery will become overfished or
2 otherwise depleted within 2 years.”;

3 (3) in paragraph (2), by inserting “or otherwise
4 depleted” after “overfished”;

5 (4) in paragraph (3)(B), by inserting “or other-
6 wise depleted” after “overfished”;

7 (5) in paragraph (4)—

8 (A) in the matter preceding subparagraph
9 (A), by inserting “or otherwise depleted” after
10 “overfished”;

11 (B) in subparagraph (A)(i), by inserting
12 “or otherwise depleted” after “overfished” each
13 place it appears; and

14 (C) by amending subparagraph (A)(ii) to
15 read as follows:

16 “(ii) except in cases where the biology
17 of the stock of fish, other environmental
18 conditions, or management measures under
19 an international agreement in which the
20 United States participates dictate other-
21 wise, not exceed—

22 “(I) the sum of the minimum
23 time required to rebuild an affected
24 stock of fish and the mean generation
25 time of the affected stock of fish, if

1 those time values are scientifically es-
2 tablished and widely accepted among
3 fish population biologists; or

4 “(II) 10 years, if either of the
5 time values specified in subclause (I)
6 is not scientifically established and
7 widely accepted among fish population
8 biologists;”; and

9 (6) in paragraph (5), by striking “that a fishery
10 is overfished” and inserting “that a fishery is over-
11 fished or otherwise depleted”.

12 (e) INTERNATIONAL OVERFISHING.—Section 304 (16
13 U.S.C. 1854) is amended—

14 (1) by striking “(i) INTERNATIONAL OVER-
15 FISHING.—” and inserting “(j) INTERNATIONAL
16 OVERFISHING.—”; and

17 (2) in subsection (j)(1), as redesignated by
18 paragraph (1) of this subsection, by inserting
19 “shall” after “State,”.

20 (f) ANNUAL REPORT ON SPECIAL FUNDS.—Section
21 304 (16 U.S.C. 1854), as amended by subsection (e) of
22 this section, is further amended by inserting at the end
23 the following:

24 “(k) ANNUAL REPORT ON SPECIAL FUNDS.—

1 “(1) ANNUAL REPORT.—Not later than 30 days
2 after the last day of each fiscal year, the Secretary
3 shall submit to the Committee on Commerce,
4 Science, and Transportation of the Senate and the
5 Committee on Natural Resources of the House of
6 Representatives a report for that fiscal year on—

7 “(A) the Western Pacific Sustainable Fish-
8 eries Fund established under section 204(e)(7);

9 “(B) the Limited Access System Adminis-
10 tration Fund established under section
11 305(h)(5)(B);

12 “(C) the North Pacific Fishery Observer
13 Fund established under section 313(d); and

14 “(D) the Fisheries Conservation and Man-
15 agement Fund established under section 208(a)
16 of the Magnuson-Stevens Fishery Conservation
17 and Management Reauthorization Act of 2006
18 (16 U.S.C. 1891b(a)).

19 “(2) REQUIRED INFORMATION.—The annual re-
20 port required under paragraph (1) shall include a
21 detailed accounting of—

22 “(A) all moneys in each fund at the start
23 of the fiscal year;

24 “(B) all moneys deposited in each fund
25 during the fiscal year;

1 “(C) all moneys paid out of each fund dur-
2 ing the fiscal year; and

3 “(D) all projects, programs, and activities
4 funded by each fund during the fiscal year.”.

5 **SEC. 105. OTHER REQUIREMENTS AND AUTHORITY.**

6 (a) FISH HABITAT.—Section 305(b) (16 U.S.C.
7 1855(b)) is amended—

8 (1) in paragraph (3), by inserting “or tribal
9 government” after “or State agency” each place it
10 appears; and

11 (2) in paragraph (4)—

12 (A) by striking “from a Council or Federal
13 or State agency” and inserting “from a Coun-
14 cil, Federal or State agency, or tribal govern-
15 ment”; and

16 (B) by inserting “or tribal government”
17 after “by any State or Federal agency”.

18 (b) JUDICIAL REVIEW.—Section 305(f)(2) (16
19 U.S.C. 1855(f)(2)) is amended by striking “including but
20 not limited to actions that establish the date of closure
21 of a fishery to commercial or recreational fishing” and in-
22 serting “including actions that establish the date of clo-
23 sure of a fishery to commercial, recreational, or subsist-
24 ence fishing”.

1 (c) CONSUMER INFORMATION REGARDING
2 SUSTAINABLY CAUGHT FISH.—Section 305(k) (16 U.S.C.
3 1855(k)) is amended to read as follows:

4 “(k) CONSUMER INFORMATION REGARDING
5 SUSTAINABLY CAUGHT FISH.—

6 “(1) IN GENERAL.—The producer, processor,
7 importer, exporter, distributor, or seller of a fish
8 product may place the words ‘Sustainably Caught’
9 on the fish product and any packaging thereof if—

10 “(A) the fish that comprises or is con-
11 tained in the fish product meets the sustain-
12 ability standard specified in paragraph (2); and

13 “(B) the information specified in para-
14 graph (3) is displayed on the packaging of, or
15 otherwise accompanies, the fish product
16 through processing, distribution, and final sale.

17 “(2) SUSTAINABILITY STANDARD.—

18 “(A) IN GENERAL.—For the purpose of
19 paragraph (1)(A), fish meets the sustainability
20 standard if—

21 “(i) the fish is harvested in accord-
22 ance with—

23 “(I) a fishery management plan
24 prepared and approved under this
25 Act; or

1 “(II) equivalent State, tribal, for-
2 eign, or international conservation and
3 management measures, as determined
4 by the Secretary;

5 “(ii) the fishery from which the fish is
6 harvested is not overfished or otherwise de-
7 pleted; and

8 “(iii) overfishing or other depletion is
9 not occurring in the fishery from which the
10 fish is harvested.

11 “(B) REBUILDING FISHERIES.—A fishery
12 that is subject to a rebuilding plan under this
13 Act, or equivalent conservation and manage-
14 ment measures as determined by the Secretary,
15 meets the criteria specified in clauses (ii) and
16 (iii) of subparagraph (A) if the Secretary deter-
17 mines that the plan is effectively rebuilding the
18 fishery.

19 “(3) REQUIRED INFORMATION.—For the pur-
20 pose of paragraph (1)(B), information is required
21 about the fish that comprises or is contained in a
22 fish product as follows:

23 “(A) The common name.

24 “(B) The scientific name.

25 “(C) The country of origin.

1 “(D) The Federal, State, tribal, foreign, or
2 other entity responsible for overseeing its con-
3 servation and management or cultivation.

4 “(E) If harvested from the wild—

5 “(i) the country of registry of the har-
6 vesting vessel;

7 “(ii) the general method of harvest;
8 and

9 “(iii) the management region.

10 “(F) If cultivated—

11 “(i) the country of cultivation; and

12 “(ii) the method of cultivation, includ-
13 ing whether it is produced through land-
14 based aquaculture, ocean aquaculture, or
15 another method.

16 “(4) DEFINITIONS.—In this subsection:

17 “(A) The term ‘common name’ means the
18 common name used to refer to the fish species
19 in the fishery management plan, or equivalent
20 measures, under which it is conserved and man-
21 aged.

22 “(B) The term ‘fish product’ means a fish
23 or an item that contains fish, which has been
24 harvested, processed, manufactured, or pro-
25 duced for sale or use as food.”.

1 **SEC. 106. PROHIBITED ACTS.**

2 Section 307(1) (16 U.S.C. 1857(1)) is amended—

3 (1) in subparagraph (Q), by striking “; or” and
4 inserting a semicolon;

5 (2) by redesignating subparagraph (R) as sub-
6 paragraph (T); and

7 (3) by inserting after paragraph (Q) the fol-
8 lowing:

9 “(R) to make or submit any incomplete,
10 invalid, or false record, account, or label for, or
11 any false identification of, any fish or fish prod-
12 uct (including false identification of the species,
13 harvesting vessel or nation, or the date or loca-
14 tion where harvested) that has been or is in-
15 tended to be imported, exported, transported,
16 sold, offered for sale, purchased, or received in
17 interstate or foreign commerce, except where
18 such making or submission is prohibited under
19 subparagraph (I);

20 “(S) to place on a fish product, as defined
21 in section 305(k)(4), the words “sustainably
22 caught” or any other word, phrase, mark, or
23 symbol that claims or suggests that the fish
24 that comprises or is contained in the fish prod-
25 uct is sustainably caught if the person knows or
26 reasonably should know—

1 “(i) that the fish does not meet the
2 sustainability standard under section
3 305(k)(2); or

4 “(ii) that the required information
5 specified in section 305(k)(3) is false, mis-
6 leading, incomplete, or not displayed on
7 the packaging of, or otherwise accom-
8 panying, the fish product through proc-
9 essing, distribution, and final sale; or”.

10 **SEC. 107. PENALTIES.**

11 (a) CIVIL PENALTIES AND PERMIT SANCTIONS.—
12 Section 308 (16 U.S.C. 1858) is amended—

13 (1) in subsection (a), by striking
14 “\$100,000” and inserting “\$180,000”; and

15 (2) in subsection (f), by inserting “or investiga-
16 tion of a violation of this Act” after “under this sec-
17 tion”.

18 (b) CRIMINAL PENALTIES.—Section 309(b) (16
19 U.S.C. 1859) is amended—

20 (1) by striking “\$100,000” and inserting
21 “\$180,000”; and

22 (2) by striking “\$200,000” each place it ap-
23 pears and inserting “\$360,000”.

24 **SEC. 108. ENFORCEMENT.**

25 (a) JURISDICTION OF THE COURTS.—

1 (1) IN GENERAL.—Section 311(d) (16 U.S.C.
2 1861(d)) is amended to read as follows:

3 “(d) JURISDICTION OF THE COURTS.—

4 “(1) IN GENERAL.—The district courts of the
5 United States shall have exclusive jurisdiction over
6 any case or controversy arising under the provisions
7 of this Act. Any such court may, at any time—

8 “(A) enter restraining orders or prohibi-
9 tions;

10 “(B) issue warrants, process in rem, or
11 other process;

12 “(C) prescribe and accept satisfactory
13 bonds or other security; and

14 “(D) take such other actions as are in the
15 interest of justice.

16 “(2) HAWAII AND PACIFIC INSULAR AREAS.—In
17 the case of Hawaii or any possession of the United
18 States in the Pacific Ocean, the appropriate court is
19 the United States District Court for the District of
20 Hawaii, except that—

21 “(A) in the case of Guam and Wake Is-
22 land, the appropriate court is the United States
23 District Court for the District of Guam; and

24 “(B) in the case of the Northern Mariana
25 Islands, the appropriate court is the United

1 States District Court for the District of the
2 Northern Mariana Islands.”.

3 (2) CONSTRUCTION.—Nothing in this section,
4 or the amendments made by subsection (a), shall be
5 construed to affect any case or controversy com-
6 menced, or any case or controversy pending before
7 a district court of the United States, prior to the
8 date of enactment of this Act.

9 (b) PAYMENT OF STORAGE, CARE, AND OTHER
10 COSTS.—Section 311(e) (16 U.S.C. 1861(e)) is amend-
11 ed—

12 (1) in paragraph (1), by striking “Notwith-
13 standing any other provision of law” and inserting
14 “IN GENERAL.—”;

15 (2) by redesignating paragraph (2) as para-
16 graph (3);

17 (3) in paragraph (3), as redesignated, by strik-
18 ing “Any person” and inserting “LIABILITY FOR
19 COSTS INCURRED.—Any person”; and

20 (4) by inserting after paragraph (1) the fol-
21 lowing:

22 “(2) FISHERIES ENFORCEMENT FUND.—There
23 is established in the Treasury a non-interest bearing
24 fund to be known as the Fisheries Enforcement
25 Fund, into which shall be deposited all sums re-

1 ceived as described in paragraph (1), which shall re-
2 main available to the Secretary of Commerce until
3 expended as authorized in paragraph (1), without
4 appropriation or fiscal year limitation.”.

5 (c) ADMINISTRATIVE ADJUDICATION.—Section 311
6 (16 U.S.C. 1861) is amended—

7 (1) by redesignating subsections (d) through (j)
8 as subsections (e) through (k), respectively; and

9 (2) by inserting after subsection (c) the fol-
10 lowing:

11 “(d) ADMINISTRATIVE ADJUDICATION.—

12 “(1) IN GENERAL.—Notwithstanding section
13 559 of title 5, United States Code, with respect to
14 any marine resource conservation law or regulation
15 administered by the Secretary acting through the
16 National Oceanic and Atmospheric Administration,
17 all adjudicatory functions that are required by chap-
18 ter 5 of title 5, United States Code to be performed
19 by an administrative law judge may be performed by
20 another Federal agency on a reimbursable basis.

21 “(2) DETAILS.—If another Federal agency per-
22 forming adjudicatory functions under paragraph (1)
23 requires the detail of an administrative law judge to
24 perform any of these functions, it may request tem-
25 porary or occasional assistance from the Office of

1 Personnel Management under section 3344 of title
2 5, United States Code.”.

3 (d) REPEALS.—Sections 110 and 111 of title I of Di-
4 vision B of the Consolidated and Further Continuing Ap-
5 propriations Act, 2012 (Public Law 112—55; 16 U.S.C.
6 1861 note), and the items relating to those sections in the
7 table of contents for that Act, are repealed.

8 (e) ANNUAL REPORT ON SPECIAL FUNDS.—Section
9 304(k), as added by section 104(f) of this Act, is amend-
10 ed—

11 (1) in paragraph (1)(C), by striking “; and”
12 and inserting a semicolon;

13 (2) in paragraph (1)(D), by striking
14 “2006.” and inserting “2006; and”; and

15 (3) by inserting at the end the following:

16 “(E) the Fisheries Enforcement Fund es-
17 tablished under section 311(f)(2).”.

18 (f) CONFORMING AMENDMENTS.—

19 (1) CIVIL FORFEITURES.—Section 310 (16
20 U.S.C. 1860) is amended—

21 (A) in subsection (b), by striking “section
22 311(d)” and inserting “subsection 311(e)”; and

23 (B) in subsection (d), by striking “section
24 311(d)” each place it appears and inserting
25 “subsection 311(e)”.

1 (2) ENFORCEMENT; NORTH ATLANTIC SALMON
2 FISHING.—Section 308 of the Atlantic Salmon Con-
3 vention Act of 1982 (16 U.S.C. 3607) is amended
4 by striking “and (d)” each place it appears and in-
5 serting “and (e)”.

6 **SEC. 109. TRANSITION TO SUSTAINABLE FISHERIES; AU-**
7 **THORIZATION OF APPROPRIATIONS.**

8 Section 312(a)(4) (16 U.S.C. 1861a(a)(4)) is amend-
9 ed—

10 (1) by inserting “to carry out this subsection”
11 after “necessary”; and

12 (2) by striking “2007 through 2013” and in-
13 serting “2015 through 2021”.

14 **SEC. 110. NORTH PACIFIC FISHERIES CONSERVATION.**

15 (a) ELECTRONIC MONITORING SYSTEMS.—Section
16 313 (16 U.S.C. 1862) is amended—

17 (1) in subsection (a)—

18 (A) in the sentence preceding paragraph
19 (1), by striking “jurisdiction except a salmon
20 fishery which” and inserting “jurisdiction, ex-
21 cept a salmon fishery, that”;

22 (B) in paragraph (1), by inserting “elec-
23 tronic monitoring systems or” before “observ-
24 ers”; and

1 (C) by amending paragraph (2) to read as
2 follows:

3 “(2) establish a system of fees to pay for the
4 cost of implementing the plan and any integrated
5 data collection program, including electronic moni-
6 toring, established under subsections (a)(15) and (e)
7 of section 303;” and

8 (2) in subsection (b)—

9 (A) in paragraph (1)(A), by inserting
10 “placing electronic monitoring systems or” be-
11 fore “stationing observers on”;

12 (B) in paragraph (2)(E), by inserting “ac-
13 tual electronic monitoring system costs or” be-
14 fore “actual observer costs”; and

15 (C) by adding at the end the following:

16 “(3) Any system of fees established under this
17 section may vary by fishery, management area, elec-
18 tronic monitoring system, or observer coverage
19 level.”.

20 (b) ARCTIC COMMUNITY DEVELOPMENT QUOTA.—

21 Section 313 (16 U.S.C. 1862) is amended by adding at
22 the end the following:

23 “(k) ARCTIC COMMUNITY DEVELOPMENT QUOTA.—

24 If the North Pacific Fishery Management Council issues
25 a fishery management plan for the exclusive economic zone

1 in the Arctic Ocean, or an amendment to its current Fish-
2 ery Management Plan for Fish Resources of the Arctic
3 Management Area, that makes available to commercial
4 fishing and establishes a sustainable harvest level for any
5 part of such zone, the North Pacific Fishery Management
6 Council shall set aside not less than 10 percent of the total
7 allowable catch therein as a community development quota
8 for coastal villages north and east of the Bering Strait.”.

9 **SEC. 111. SUMMER FLOUNDER MANAGEMENT.**

10 (a) IN GENERAL.—Not later than 1 year after the
11 date of the enactment of this Act, the Mid-Atlantic Fish-
12 ery Management Council shall submit to the Secretary of
13 Commerce, and the Secretary of Commerce may approve,
14 a modified fishery management plan or plan amendment
15 for the commercial and recreational management of sum-
16 mer flounder (*Paralichthys dentatus*) under the Magnu-
17 son-Stevens Fishery Conservation and Management Act
18 (16 U.S.C. 1801 et seq.). The modified fishery manage-
19 ment plan or plan amendment shall—

20 (1) be based on the best scientific information
21 available;

22 (2) reflect changes in the distribution, abun-
23 dance, and location of summer flounder in estab-
24 lishing distribution of the commercial and rec-
25 reational catch quotas;

1 (3) consider regional, coast-wide, or other man-
2 agement measures for summer flounder that comply
3 with the National Standards under section 301(a) of
4 the Magnuson-Stevens Fishery Conservation and
5 Management Act (16 U.S.C. 1851(a)); and

6 (4) prohibit the allocation of commercial or rec-
7 reational catch quotas for summer flounder on a
8 State-by-State basis using historical landings data
9 that does not reflect the status of the summer floun-
10 der stock, based on the most recent scientific infor-
11 mation.

12 (b) CONSULTATION WITH THE COMMISSION.—In
13 preparing the modified fishery management plan or plan
14 amendment as described in subsection (a), the Council
15 shall consult with the Atlantic States Marine Fisheries
16 Commission to ensure consistent management throughout
17 the range of the fishery.

18 (c) FAILURE TO SUBMIT PLAN.—If the Council fails
19 to submit a modified fishery management plan or plan
20 amendment as described in subsection (a) that may be ap-
21 proved by the Secretary, the Secretary shall prepare and
22 approve such a modified plan or plan amendment.

23 (d) REPORT.—Not later than 1 year after the date
24 of the approval of a modified fishery management plan
25 or plan amendment as described in subsection (a), the

1 Comptroller General of the United States shall submit to
2 the Committee on Commerce, Science, and Transportation
3 of the Senate and the Committee on Natural Resources
4 of the House of Representatives a report on the implemen-
5 tation of the modified plan or plan amendment that in-
6 cludes an assessment of whether the implementation com-
7 plies with the national standards for fishery conservation
8 and management under section 301(a) of the Magnuson-
9 Stevens Fishery Conservation and Management Act (16
10 U.S.C. 1851(a)).

11 **SEC. 112. STUDY OF ALLOCATIONS IN MIXED-USE FISHERIES.**
12

13 (a) **STUDY REQUIREMENTS.**—The National Academy
14 of Sciences, in coordination with the Assistant Adminis-
15 trator for Fisheries of the Department of Commerce, shall
16 conduct a study—

17 (1) to determine which variables, including con-
18 sideration of the conservation and socioeconomic
19 benefits of each sector in a fishery, should be consid-
20 ered by a Regional Fishery Management Council es-
21 tablished under section 302 of the Magnuson-Ste-
22 vens Fishery Conservation and Management Act (16
23 U.S.C. 1852) in allocating fishing privileges in a
24 fishery management plan prepared under that Act;
25 and

1 (2) to determine which sources should be used
2 for such variables.

3 (b) REPORT.—Not later than 180 days after the date
4 of enactment of this Act, the National Academy of
5 Sciences shall submit a report on the study conducted
6 under subsection (a) to the Committee on Commerce,
7 Science, and Transportation of the Senate and the Com-
8 mittee on Natural Resources of the House of Representa-
9 tives.

10 **TITLE II—FISHERY INFORMA-**
11 **TION, RESEARCH, AND DE-**
12 **VELOPMENT**

13 **SEC. 201. ELECTRONIC MONITORING.**

14 (a) SENSE OF CONGRESS.—It is the sense of Con-
15 gress that the use of technologies such as digital video
16 cameras and monitors, digital recording systems, and
17 other forms of electronic monitoring as a complement to
18 observers can maintain or increase observer information
19 collected from fisheries while reducing the need for observ-
20 ers and the financial costs and logistical difficulties associ-
21 ated with such observers.

22 (b) ELECTRONIC MONITORING REVIEW.—Not later
23 than 180 days after the date of enactment of this Act,
24 the Secretary of Commerce, in consultation with the Re-
25 gional Fishery Management Councils, shall complete and

1 submit to the Committee on Commerce, Science, and
2 Transportation of the Senate and the Committee on Nat-
3 ural Resources of the House of Representatives a review
4 of all Federal fishery management plans that—

5 (1) identifies each fishery management plan
6 with respect to which the incorporation of electronic
7 monitoring, as a complement to observers, can de-
8 crease costs and improve efficiencies in the fishery
9 while continuing to meet the standards and require-
10 ments of the Magnuson-Stevens Fishery Conserva-
11 tion and Management Act (16 U.S.C. 1801 et seq.);
12 and

13 (2) specifies for each fishery management plan
14 identified which type or types of electronic moni-
15 toring technology can achieve such cost and effi-
16 ciency improvements.

17 (c) REGIONAL ELECTRONIC MONITORING ADOPTION
18 PLANS.—

19 (1) IN GENERAL.—Not later than 1 year after
20 submitting the results of the review required under
21 subsection (b), each Regional Fishery Management
22 Council, in consultation with the Secretary of Com-
23 merce, shall develop a plan to adopt and implement
24 electronic monitoring in each of its fishery manage-
25 ment plans identified in the review.

1 (2) ELEMENTS OF PLANS.—Each plan required
2 by this subsection

3 (A) shall include an estimate of anticipated
4 improvements in cost effectiveness and manage-
5 ment efficiency for each Federal fishery man-
6 agement plan in the plan;

7 (B) shall prioritize fishery management
8 plans in each region, to guide development,
9 adoption, and implementation of electronic
10 monitoring amendments to such plans;

11 (C) shall set forth an implementation
12 schedule, consistent with the implementation
13 deadline specified in subsection (d), for the de-
14 velopment, review, adoption, and implementa-
15 tion of electronic monitoring amendments to
16 Federal fishery management plans; and

17 (D) may be reviewed or amended annually
18 to address changing circumstances or improve-
19 ments in technology.

20 (d) DEADLINE FOR IMPLEMENTATION.—Not later
21 than 4 years after the date of enactment of this Act, the
22 Regional Fishery Management Councils and the Secretary
23 of Commerce shall complete implementation of the plans
24 developed under subsection (c).

1 **SEC. 202. COST REDUCTION REPORT.**

2 Not later than 1 year after the date of enactment
3 of this Act, the Secretary of Commerce, in consultation
4 with the Regional Fishery Management Councils, shall
5 submit a report to Congress that, with respect to each
6 fishery governed by a fishery management plan in effect
7 under the Magnuson-Stevens Fishery Conservation and
8 Management Act (16 U.S.C. 1801 et seq.)—

9 (1) identifies the goals of the applicable pro-
10 grams governing monitoring and enforcement of
11 fishing that is subject to the plan;

12 (2) identifies methods to accomplish the goals
13 under paragraph (1), including human observers,
14 electronic monitoring, and vessel monitoring sys-
15 tems;

16 (3) certifies the methods under paragraph (2)
17 that are most cost-effective for fishing that is sub-
18 ject to the plan; and

19 (4) explains why the most-cost-effective meth-
20 ods under paragraph (3) are not required, if applica-
21 ble.

22 **SEC. 203. CAPITAL CONSTRUCTION.**

23 (a) DEFINITIONS; ELIGIBLE AND QUALIFIED FISH-
24 ERY FACILITIES.—Section 53501 of title 46, United
25 States Code, is amended—

1 (1) by striking “(7) UNITED STATES FOREIGN
2 TRADE.—” and inserting “(11) UNITED STATES
3 FOREIGN TRADE.—”;

4 (2) by striking “(8) VESSEL.—” and inserting
5 “(12) VESSEL.—”;

6 (3) by redesignating paragraphs (5), (6), and
7 (7) as paragraphs (8), (9), and (10), respectively;

8 (4) by redesignating paragraphs (2), (3), and
9 (4) as paragraphs (4), (5), and (6), respectively;

10 (5) by redesignating paragraph (1) as para-
11 graph (2);

12 (6) by inserting before paragraph (2), as redesi-
13 gnated, the following:

14 “(1) AGREEMENT FISHERY FACILITY.—The
15 term ‘agreement fishery facility’ means an eligible
16 fishery facility or a qualified fishery facility that is
17 subject to an agreement under this chapter.”;

18 (7) by inserting after paragraph (2), as redesi-
19 gnated, the following:

20 “(3) ELIGIBLE FISHERY FACILITY.—

21 “(A) IN GENERAL.—Subject to subpara-
22 graph (B), the term “eligible fishery facility”
23 means—

24 “(i) for operations on land—

1 “(I) a structure or an appur-
2 tenance thereto designed for unload-
3 ing and receiving from a vessel, proc-
4 essing, holding pending processing,
5 distribution after processing, or hold-
6 ing pending distribution, of fish from
7 a fishery;

8 “(II) the land necessary for the
9 structure or appurtenance described
10 in subclause (I); and

11 “(III) equipment that is for use
12 with the structure or appurtenance
13 that is necessary to perform a func-
14 tion described in subclause (I);

15 “(ii) for operations not on land, a ves-
16 sel built in the United States and used for,
17 equipped to be used for, or of a type nor-
18 mally used for, processing fish; or

19 “(iii) for aquaculture, including oper-
20 ations on land or elsewhere—

21 “(I) a structure or an appur-
22 tenance thereto designed for aqua-
23 culture;

24 “(II) the land necessary for the
25 structure or appurtenance;

1 “(III) equipment that is for use
2 with the structure or appurtenance
3 and that is necessary to perform a
4 function described in subclause (I);
5 and

6 “(IV) a vessel built in the United
7 States and used for, equipped to be
8 used for, or of a type normally used
9 for, aquaculture.

10 “(B) OWNERSHIP REQUIREMENT.—Under
11 subparagraph (A), the structure, appurtenance,
12 land, equipment, or vessel shall be owned by—

13 “(i) an individual who is a citizen of
14 the United States; or

15 “(ii) an entity that is—

16 “(I) a citizen of the United
17 States under section 50501 of this
18 title; and

19 “(II) at least 75 percent owned
20 by citizens of the United States, as
21 determined under section 50501 of
22 this title.”; and

23 (8) by inserting after paragraph (6), as redesign-
24 nated, the following:

25 “(7) QUALIFIED FISHERY FACILITY.—

1 “(A) IN GENERAL.—Subject to subpara-
2 graph (B), the term ‘qualified fishery facility’
3 means—

4 “(i) for operations on land—

5 “(I) a structure or an appur-
6 tenance thereto designed for unload-
7 ing and receiving from a vessel, proc-
8 essing, holding pending processing,
9 distribution after processing, or hold-
10 ing pending distribution, of fish from
11 a fishery;

12 “(II) the land necessary for the
13 structure or appurtenance; and

14 “(III) equipment that is for use
15 with the structure or appurtenance
16 and necessary to perform a function
17 described in subclause (I);

18 “(ii) for operations not on land, a ves-
19 sel built in the United States and used for,
20 equipped to be used for, or of a type nor-
21 mally used for, processing fish; or

22 “(iii) for aquaculture, including oper-
23 ations on land or elsewhere—

1 “(I) a structure or an appur-
2 tenance thereto designed for aqua-
3 culture;

4 “(II) the land necessary for the
5 structure or appurtenance;

6 “(III) equipment that is for use
7 with the structure or appurtenance
8 and necessary for performing a func-
9 tion described in subclause (I); and

10 “(IV) a vessel built in the United
11 States.

12 “(B) OWNERSHIP REQUIREMENT.—Under
13 subparagraph (A), the structure, appurtenance,
14 land, equipment, or vessel shall be owned by—

15 “(i) an individual who is a citizen of
16 the United States; or

17 “(ii) an entity that is—

18 “(I) a citizen of the United
19 States under section 50501 of this
20 title; and

21 “(II) at least 75 percent owned
22 by citizens of the United States, as
23 determined under section 50501 of
24 this title.”.

25 (b) ELIGIBLE FISHERY FACILITIES.—

1 (1) DEFINITION OF SECRETARY.—Section
2 53501 of title 46, United States Code, as amended
3 by subsection (a) of this section is further amended
4 in paragraph (9)(A), by inserting “, and an eligible
5 fishery facility or a qualified fishery facility” after
6 “United States”.

7 (2) ESTABLISHING A CAPITAL CONSTRUCTION
8 FUND.—Section 53503 of title 46, United States
9 Code, is amended—

10 (A) in subsection (a)—

11 (i) by inserting “or eligible fishery fa-
12 cility” after “eligible vessel”; and

13 (ii) by inserting “or fishery facility”
14 after “the vessel”; and

15 (B) in subsection (b)—

16 (i) by designating the text that follows
17 after “The purpose of the agreement shall
18 be” as paragraph (1) and indenting appro-
19 priately;

20 (ii) in paragraph (1), as designated,
21 by striking “United States.” and inserting
22 “United States; or”; and

23 (iii) by inserting after paragraph (1),
24 as designated, the following:

1 “(2) to provide for the acquisition, construction,
2 or reconstruction of a fishery facility owned by—

3 “(A) an individual who is a citizen of the
4 United States; or

5 “(B) an entity that is—

6 “(i) a citizen of the United States
7 under section 50501; and

8 “(ii) at least 75 percent owned by citi-
9 zens of the United States, as determined
10 under section 50501.”.

11 (c) AGREEMENT FISHERY FACILITIES.—

12 (1) DEPOSITS AND WITHDRAWALS.—Section
13 53504(b) of title 46, United States Code, is amend-
14 ed by inserting “or an agreement fishery facility”
15 after “agreement vessel”.

16 (2) CEILING ON DEPOSITS.—Section 53505 of
17 title 46, United States Code, is amended—

18 (A) in paragraphs (1) and (2) of sub-
19 section (a), by inserting “or agreement fishery
20 facilities” after “agreement vessels”;

21 (B) in subsection (a)(3) by inserting “or
22 agreement fishery facility” after “agreement
23 vessel” each place it appears; and

24 (C) in subsection (b)—

- 1 (i) by inserting “or agreement fishery
2 facility” after “an agreement vessel”; and
3 (ii) by inserting “or fishery facility”
4 after “the vessel”.

5 (d) QUALIFIED FISHERY FACILITIES.—

6 (1) QUALIFIED WITHDRAWALS.—Section
7 53509(a) of title 46, United States Code, is amend-
8 ed—

9 (A) in paragraph (1), by striking “quali-
10 fied vessel; or” and inserting “qualified vessel,
11 or the acquisition, construction, or reconstruc-
12 tion of a qualified fishery facility; or”; and

13 (B) in paragraph (2), by striking “quali-
14 fied vessel.” and inserting “qualified vessel, or
15 the acquisition, construction, or reconstruction,
16 of a qualified fishery facility.”.

17 (2) TAX TREATMENT OF QUALIFIED WITH-
18 DRAWALS AND BASIS OF PROPERTY.—Section 53510
19 of title 46, United States Code, is amended—

20 (A) in subsections (b) and (c), by striking
21 “or container” each place it appears and insert-
22 ing “container, or fishery facility”; and

23 (B) in subsection (d), by striking “and
24 containers” and inserting “containers, and fish-
25 ery facilities”.

1 (3) TAX TREATMENT OF NONQUALIFIED WITH-
2 DRAWALS.—Section 53511(e)(4) of title 46, United
3 States Code, is amended by inserting “or fishery fa-
4 cility” after “vessel”.

5 (e) TECHNICAL AMENDMENT.—Section 53501 of
6 title 46, United States Code, as amended by subsection
7 (a) of this section, is further amended in paragraph
8 (8)(A)(iii), by striking “trade trade” and inserting
9 “trade”.

10 **SEC. 204. FISHERIES RESEARCH.**

11 (a) DEFINITION OF STOCK ASSESSMENT.—Section 3
12 (16 U.S.C. 1802), as amended by section 4 of this Act,
13 is further amended by redesignating paragraphs (45)
14 through (56) as paragraphs (46) through (57), and by in-
15 serting after paragraph (44) the following:

16 “(45) The term ‘stock assessment’ means an
17 evaluation of the past, present, and future status of
18 a stock of fish, that includes—

19 “(A) a range of life history characteristics
20 for the stock, including—

21 “(i) the geographical boundaries of
22 the stock; and

23 “(ii) information on age, growth, nat-
24 ural mortality, sexual maturity and repro-

1 duction, feeding habits, and habitat pref-
2 erences of the stock; and

3 “(B) fishing for the stock.”.

4 (b) STOCK ASSESSMENT PLAN.—Section 404 (16
5 U.S.C. 1881e) is amended by adding at the end the fol-
6 lowing:

7 “(e) STOCK ASSESSMENT PLAN.—

8 “(1) IN GENERAL.—The Secretary shall develop
9 and publish in the Federal Register, on the same
10 schedule as required for the strategic plan required
11 under section 404(b) of such Act, a plan to conduct
12 stock assessments for all stocks of fish for which a
13 fishery management plan is in effect under this Act.

14 “(2) CONTENTS.—The plan shall—

15 “(A) for each stock of fish for which a
16 stock assessment has previously been con-
17 ducted—

18 “(i) establish a schedule for updating
19 the stock assessment that is reasonable
20 given the biology and characteristics of the
21 stock; and

22 “(ii) subject to the availability of ap-
23 propriations, require completion of a new
24 stock assessment, or an update of the most
25 recent stock assessment—

1 “(I) every 5 years, except a
2 Council may delay action for not more
3 than 3 additional 1-year periods; or

4 “(II) within such other time pe-
5 riod specified and justified by the Sec-
6 retary in the plan;

7 “(B) for each stock of fish for which a
8 stock assessment has not previously been con-
9 ducted—

10 “(i) establish a schedule for con-
11 ducting an initial stock assessment that is
12 reasonable given the biology and character-
13 istics of the stock; and

14 “(ii) subject to the availability of ap-
15 propriations, require completion of the ini-
16 tial stock assessment not later than 3
17 years after the date that the plan is pub-
18 lished in the Federal Register unless an-
19 other time period is specified and justified
20 by the Secretary in the plan; and

21 “(C) identify data and analysis, especially
22 concerning recreational fishing, that, if avail-
23 able, would reduce uncertainty in and improve
24 the accuracy of future stock assessments, in-
25 cluding whether that data and analysis could be

1 provided by nongovernmental sources, including
2 fishermen, fishing communities, universities,
3 and research institutions.

4 “(3) WAIVER OF STOCK ASSESSMENT REQUIRE-
5 MENT.—Notwithstanding subparagraphs (A)(ii) and
6 (B)(ii) of paragraph (2), a stock assessment shall
7 not be required for a stock of fish in the plan if the
8 Secretary determines that such a stock assessment
9 is not necessary and justifies the determination in
10 the Federal Register notice required by this sub-
11 section.”.

12 (c) DEADLINE.—Notwithstanding paragraph (1) of
13 section 404(e) of the Magnuson-Stevens Fishery Con-
14 servation and Management Act, as amended by this sec-
15 tion, the Secretary of Commerce shall issue the first stock
16 assessment plan under that section by not later than 1
17 year after the date of enactment of this Act.

18 (d) STRATEGIC PLAN.—Section 404(b)(5) (16 U.S.C.
19 1881c(b)(5)) is amended by striking “and affected States,
20 and provide for coordination with the Councils, affected
21 States, and other research entities” and inserting “, af-
22 fected States, and tribal governments, and provide for co-
23 ordination with the Councils, affected States, tribal gov-
24 ernments, and other research entities”.

1 **SEC. 205. IMPROVING SCIENCE.**

2 (a) INCORPORATION OF INFORMATION FROM WIDE
3 VARIETY OF SOURCES.—Section 2 (16 U.S.C. 1801), as
4 amended by section 3 of this Act, is further amended by
5 adding at the end of subsection (a)(10) the following:
6 “Fisheries management is most effective when it incor-
7 porates information provided by governmental and non-
8 governmental sources, including State and Federal agency
9 staff, fishermen, fishing communities, universities, re-
10 search institutions, and other appropriate entities. As ap-
11 propriate, that information should be considered the best
12 scientific information available and form the basis of con-
13 servation and management measures as required by this
14 Act.”.

15 (b) IMPROVING DATA COLLECTION AND ANALYSIS.—

16 (1) IN GENERAL.—Section 404 (16 U.S.C.
17 1881c), as amended by section 204 of this Act, is
18 further amended by adding at the end the following:

19 “(f) IMPROVING DATA COLLECTION AND ANAL-
20 YSIS.—

21 “(1) IN GENERAL.—The Secretary, in consulta-
22 tion with the science and statistical committee of the
23 Councils established under section 302(g), shall de-
24 velop and publish in the Federal Register guidelines
25 that will facilitate greater incorporation of data,
26 analysis, and stock assessments from nongovern-

1 mental sources, including fishermen, fishing commu-
2 nities, universities, and research institutions, into
3 fisheries management decisions.

4 “(2) CONTENT.—The guidelines shall—

5 “(A) identify types of data and analysis,
6 especially concerning recreational fishing, that
7 can be reliably used as the best scientific infor-
8 mation available for purposes of this Act and
9 the basis for establishing conservation and man-
10 agement measures as required by section
11 303(a)(1), including setting standards for the
12 collection and use of that data and analysis in
13 stock assessments and for other purposes;

14 “(B) provide specific guidance for col-
15 lecting data and performing analyses identified
16 as necessary to reduce the uncertainty referred
17 to in section 404(e)(2)(C); and

18 “(C) establish a registry of persons pro-
19 viding such information.

20 “(3) ACCEPTANCE AND USE OF DATA AND
21 ANALYSES.—The Secretary and Regional Fishery
22 Management Councils shall—

23 “(A) use all data and analyses that meet
24 the guidelines published under paragraph (1) as
25 the best scientific information available for pur-

1 poses of this Act in fisheries management deci-
2 sions, unless otherwise determined by the
3 science and statistical committee of the Coun-
4 cils established under section 302(g) of this
5 Act;

6 “(B) explain in the Federal Register notice
7 announcing the fishery management decision
8 how the data and analyses under subparagraph
9 (A) have been used to establish conservation
10 and management measures; and

11 “(C) if any data or analysis under sub-
12 paragraph (A) is not used, provide in the Fed-
13 eral Register notice announcing the fishery
14 management decision an explanation developed
15 by such science and statistical committee of
16 why that data or analysis was not used.”.

17 (c) DEADLINE.—The Secretary of Commerce shall
18 develop and publish guidelines under the amendment
19 made by subsection (a) not later than 1 year after the
20 date of enactment of this Act.

21 (d) INFORMATION COLLECTION; CONTRACTING AU-
22 THORITY.—

23 Section 402(d) (16 U.S.C. 1881a(d)) is amended by
24 inserting “tribal government,” before “Council” each
25 place it appears.

1 **SEC. 206. SOUTH ATLANTIC RED SNAPPER COOPERATIVE**
2 **RESEARCH PROGRAM.**

3 (a) IN GENERAL.—Title IV (16 U.S.C. 1881 et seq.)
4 is amended—

5 (1) by redesignating section 408 as section 409;

6 and

7 (2) by inserting after section 407 the following:

8 **“SEC. 408. SOUTH ATLANTIC RED SNAPPER COOPERATIVE**
9 **RESEARCH PROGRAM.**

10 “(a) RESEARCH PROGRAM REQUIRED.—Not later
11 than 90 days after the date of enactment of this Act, the
12 Secretary of Commerce, in consultation with the South At-
13 lantic Fishery Management Council, shall commence car-
14 rying out a research program to assess the status of the
15 red snapper fishery in the South Atlantic.

16 “(b) DURATION.—Subject to subsection (g), the re-
17 search program shall be carried out during the 6-year pe-
18 riod beginning on the date of the commencement of the
19 research program.

20 “(c) RESEARCH PERMITS.—

21 “(1) IN GENERAL.—The Secretary shall carry
22 out the research program through the issuance of re-
23 search permits to participants in the research pro-
24 gram.

25 “(2) ENTITLEMENT.—For each research permit
26 that a participant in the research program receives

1 under the research program in a year of the re-
2 search program, the participant shall be entitled to
3 land 1 fish in the fishery described in subsection (a)
4 in that year.

5 “(3) INTENT TO USE.—The Secretary shall en-
6 sure that research permits are only issued under the
7 research program to participants in the research
8 program who intend to use the research permits to
9 gather data by fishing from the fishery described in
10 subsection (a).

11 “(4) NUMBER OF RESEARCH PERMITS
12 ISSUED.—The Secretary shall issue research permits
13 under the research program as follows:

14 “(A) During the first 2 years of the re-
15 search program, up to **[X]** research permits
16 per year.

17 “(B) During any subsequent 2-year period
18 of the research program, such number of re-
19 search permits as the South Atlantic Fishery
20 Management Council determines appropriate
21 using the best available science and with consid-
22 eration of the needs of other fishery manage-
23 ment plans.

24 “(5) ALLOCATION.—The Secretary shall allo-
25 cate the issuance of research permits to the fol-

1 lowing categories of persons in percentage distribu-
2 tions determined appropriate by the South Atlantic
3 Fishery Management Council for purposes of meet-
4 ing the data requirements of the research program:

5 “(A) Recreational.

6 “(B) Charter.

7 “(C) Commercial.

8 “(6) TRANSFERABILITY.—

9 “(A) IN GENERAL.—A person that receives
10 a research permit under the research program
11 may transfer the research permit to another
12 person participating in the research program.

13 “(B) NO CONSIDERATION.—A person that
14 transfers a research permit under the research
15 program may not receive consideration for that
16 transfer.

17 “(d) PARTICIPATION.—

18 “(1) VOLUNTARY.—Participation in the re-
19 search program shall be voluntary.

20 “(2) EXCLUSION FROM PARTICIPATION IN OPEN
21 SEASON.—A person that participates in the research
22 program in a year of the program may not partici-
23 pate in any fishery management plan in that year
24 that involves the imposition of limitations on periods

1 in which a fish can or cannot be fished from the
2 fishery described in subsection (a).

3 “(3) REPORT.—

4 “(A) IN GENERAL.—At the end of each
5 year of the research program, each person that
6 participated in the research program in that
7 year shall submit to the Secretary the weight
8 and length of each fish that was fished by the
9 person under the research program and date of
10 issue of the research permit that entitled the
11 person to capture that fish.

12 “(B) FAILURE TO REPORT.—A person sub-
13 ject to subparagraph (A) that fails to submit a
14 report under that subparagraph for a year may
15 not participate in the research program in any
16 subsequent year.

17 “(e) FEES.—

18 “(1) IN GENERAL.—Subject to paragraph (3),
19 the Secretary may collect a fee for each research
20 permit issued under the research program.

21 “(2) DISPOSITION OF FEES.—The Secretary
22 may use amounts collected under this subsection—

23 “(A) to administer the research program;
24 and

1 “(B) to determine and enhance the red
2 snapper biomass in the fisheries under the ju-
3 risdiction of the South Atlantic Fishery Man-
4 agement Council.

5 “(3) LIMITATION.—The Secretary shall ensure
6 that no more is collected under this subsection than
7 is necessary for the uses set forth in paragraph (2).

8 “(f) STATE AND LOCAL COOPERATION.—The Sec-
9 retary may enter into cooperative agreements with State
10 and local government agencies to assist the Secretary in
11 carrying out the research program.

12 “(g) BIENNIAL CONSIDERATION OF TERMINATION.—

13 “(1) CONSIDERATION.—Not less frequently
14 than once every 2 years, the Secretary shall assess
15 the research program using the best available
16 science and determine whether continuing the re-
17 search program would be advisable.

18 “(2) TERMINATION.—The Secretary shall ter-
19 minate the research program on the earlier of the
20 following:

21 “(A) The soonest practicable date after the
22 date on which the Secretary makes a deter-
23 mination under paragraph (1) that continuation
24 of the pilot program would not be advisable.

1 “(B) The date that is 6 years after the
2 date of the commencement of the research pro-
3 gram.”.

4 (b) CONFORMING AMENDMENTS.—The table of con-
5 tents in the Act is amended—

6 (1) by redesignating the item relating to section
7 308 as the item relating to 309; and

8 (2) by inserting after the item relating to sec-
9 tion 307 the following:

 “308. South Atlantic red snapper cooperative research program.”.

10 **SEC. 207. FOCUSING ASSETS FOR IMPROVED FISHERIES**
11 **OUTCOMES.**

12 (a) IN GENERAL.—Section 2(b) of the Act of August
13 11, 1939 (15 U.S.C. 713c-3(b)), is amended—

14 (1) in paragraph (1)—

15 (A) by striking “beginning with the fiscal
16 year commencing July 1, 1954, and ending on
17 June 30, 1957,”;

18 (B) by striking “moneys” the first place
19 that term appears and inserting “monies”; and

20 (C) by striking “shall be maintained in a
21 separate fund only for” and all that follows and
22 inserting “shall only be used for the purposes
23 described under subsection (c).”; and

24 (2) by striking paragraph (2).

1 (b) LIMITATIONS ON BILLS TRANSFERRING
2 FUNDS.—Section 2(b) of the Act of August 11, 1939 (15
3 U.S.C. 713c-3(b)), as amended by subsection (a) of this
4 section, is further amended by adding at the end the fol-
5 lowing:

6 “(2) LIMITATIONS ON BILLS TRANSFERRING
7 FUNDS.—

8 “(A) IN GENERAL.—It shall not be in
9 order in the Senate or the House of Represent-
10 atives to consider any bill, resolution, amend-
11 ment, or conference report that reduces any
12 amount in the fund referred to in paragraph
13 (1) in a manner that is inconsistent with such
14 paragraph.

15 “(B) LIMITATION ON CHANGES TO THIS
16 PARAGRAPH.—It shall not be in order in the
17 Senate or the House of Representatives to con-
18 sider any bill, resolution, amendment, or con-
19 ference report that would repeal or otherwise
20 amend this paragraph.

21 “(C) WAIVER.—A provision of this para-
22 graph may be waived or suspended in the Sen-
23 ate only by the affirmative vote of three-fifths
24 of the Members, duly chosen and sworn.

1 “(D) APPEALS.—An affirmative vote of
2 three-fifths of the Members of the Senate, duly
3 chosen and sworn, shall be required to sustain
4 an appeal of the ruling of the Chair on the
5 point of order raised under this paragraph.

6 “(E) RULES OF THE SENATE AND THE
7 HOUSE OF REPRESENTATIVES.—This para-
8 graph is enacted by Congress—

9 “(i) as an exercise of the rulemaking
10 power of the Senate and the House of Rep-
11 resentatives, respectively, and is deemed to
12 be part of the rules of each house, respec-
13 tively, but applicable only with respect to
14 the procedure to be followed in the House
15 in the case of a bill, resolution, amend-
16 ment, or conference report under this
17 paragraph, and it supersedes other rules
18 only to the extent that it is inconsistent
19 with such rules; and

20 “(ii) with full recognition of the con-
21 stitutional right of either House to change
22 the rules (so far as they relate to the pro-
23 cedure of that House) at any time, in the
24 same manner, and to the same extent as in
25 the case of any other rule of that House.”.

1 **TITLE III—REAUTHORIZATION**
2 **OF OTHER FISHERY STATUTES**

3 **SEC. 301. ANADROMOUS FISH CONSERVATION ACT.**

4 Section 4 of the Anadromous Fish Conservation Act
5 (16 U.S.C. 757d) is amended by striking “2007 through
6 2012” and inserting “2015 through 2021”.

7 **SEC. 302. INTERJURISDICTIONAL FISHERIES ACT OF 1986.**

8 Section 308 of the Interjurisdictional Fisheries Act
9 of 1986 (16 U.S.C. 4107) is amended—

10 (1) in subsection (a), by striking “\$5,000,000”
11 and all that follows through the end of that sub-
12 section and inserting “**[\$X,XXX,XXX]** for each of
13 fiscal years 2015 through 2021.”; and

14 (2) in subsection (c), by striking “\$900,000 for
15 each of fiscal years 2007 through 2012” and insert-
16 ing “**[\$X,XXX,XXX]** for each of fiscal years 2015
17 through 2021”.

18 **SEC. 303. ATLANTIC COASTAL FISHERIES COOPERATIVE**
19 **MANAGEMENT ACT.**

20 Section 811(a) of the Atlantic Coastal Fisheries Co-
21 operative Management Act (16 U.S.C. 5108(a)) is amend-
22 ed—

23 (1) by striking “\$10,000,000” and inserting
24 **["\$XX,XXX,XXX"]**; and

1 **“SEC. 202A. SECRETARIAL REPRESENTATIVE FOR INTER-**
2 **NATIONAL FISHERIES.**

3 “(a) IN GENERAL.—The Secretary, in consultation
4 with the Under Secretary of Commerce for Oceans and
5 Atmosphere, shall designate a senior official who is ap-
6 pointed by the President, by and with the advice and con-
7 sent of the Senate, to serve as the Secretarial Representa-
8 tive for International Fisheries for the purpose of per-
9 forming the duties of the Secretary with respect to inter-
10 national agreements involving fisheries and other living
11 marine resources, including the development of policy and
12 representation of the United States as a Commissioner
13 under such international agreements.

14 “(b) ADVICE.—The Secretarial Representative for
15 International Fisheries shall, in consultation with the
16 Deputy Assistant Secretary for International Affairs and
17 the Administrator of the National Marine Fisheries Serv-
18 ice, advise the Secretary, Undersecretary of Commerce for
19 Oceans and Atmosphere, and other senior officials of the
20 Department of Commerce and the National Oceanic and
21 Atmospheric Administration on development of policy on
22 international fishery conservation and management mat-
23 ters.

24 “(c) CONSULTATION.—The Secretarial Representa-
25 tive for International Fisheries shall consult with the Com-
26 mittee on Natural Resources of the House of Representa-

1 tives and the Committee on Commerce, Science, and
2 Transportation of the Senate on matters pertaining to any
3 regional or international negotiation concerning living ma-
4 rine resources.”.

5 (b) REPEAL.—Section 408 of the Magnuson-Stevens
6 Fishery Conservation and Management Reauthorization
7 Act of 2006 (16 U.S.C. 1891d) and the item relating to
8 that section in the table of contents for that Act are re-
9 pealed.

10 (c) CONFORMING AMENDMENT.—The table of con-
11 tents in the first section of the Act (16 U.S.C. 1801 et
12 seq.) is amended by inserting after the item relating to
13 section 202 the following:

“Sec. 202A. Secretarial Representative for International Fisheries.”.

14 **SEC. 402. AMENDMENT TO PACIFIC SALMON TREATY ACT**
15 **OF 1985.**

16 Section 11 of the Pacific Salmon Treaty Act of 1985
17 (16 U.S.C. 3640) is amended—

18 (1) by redesignating subsections (c) and (d) as
19 subsections (d) and (e), respectively;

20 (2) by inserting after subsection (b) the fol-
21 lowing:

22 “(c) COMPENSATION OF COMMITTEE ON SCIENTIFIC
23 COOPERATION MEMBERS.—Members of the Committee on
24 Scientific Cooperation who are not State or Federal em-
25 ployees shall receive compensation at a rate equivalent to

1 the rate payable for level IV of the Executive Schedule
2 under section 5315 of title 5, United States Code, when
3 engaged in actual performance of duties for the Commis-
4 sion.”; and

5 (3) by striking “71” in subsection (e), as reded-
6 igned, and inserting “171”.

7 **SEC. 403. REAUTHORIZATION OF ATLANTIC TUNAS CON-**
8 **VENTION ACT OF 1975.**

9 Section 10 of the Atlantic Tunas Convention Act of
10 1975 (16 U.S.C. 971h) is amended—

11 (1) in subsection (a)(1), by striking
12 “\$5,770,000 for each of fiscal years 2007 and
13 2008” and inserting “**[\$X,XXX,XXX]** for each of
14 fiscal years 2015 and 2016”;

15 (2) in subsection (a)(2), by striking
16 “\$6,058,000 for each of fiscal years 2009 and
17 2010” and inserting “**[\$X,XXX,XXX]** for each of
18 fiscal years 2017 and 2018”;

19 (3) in subsection (a)(3), by striking
20 “\$6,361,000 for each of fiscal years 2011 and
21 2013” and inserting “**[\$X,XXX,XXX]** for each of
22 fiscal years 2019, 2020, and 2021”;

23 (4) in subsection (b)(1), by striking “\$160,000”
24 and inserting “**[\$XXX,XXX]**”; and

1 (5) in subsection (b)(2), by striking
2 “\$7,500,000” and inserting [“\$X,XXX,XXX”].

3 **SEC. 404. REAUTHORIZATION OF SOUTH PACIFIC TUNA ACT**
4 **OF 1988.**

5 Section 20(a) of the South Pacific Tuna Act of 1988
6 (16 U.S.C. 973r(a)) is amended—

7 (1) in the text preceding paragraph (1)—

8 (A) by striking “for fiscal years 1992,
9 1993, 1994, 1995, 1996, 1997, 1998, 1999,
10 2000, 2001, and 2002”; and

11 (B) by striking “Act including—” and in-
12 serting “Act.”; and

13 (2) by striking paragraphs (1) and (2).

14 **SEC. 405. HIGH SEAS DRIFTNET FISHING MORATORIUM**
15 **PROTECTION ACT.**

16 (a) **ILLEGAL, UNREPORTED, OR UNREGULATED**
17 **FISHING DEFINED.**—Section 609(e) of the High Seas
18 Driftnet Fishing Moratorium Protection Act (16 U.S.C.
19 1826j(e)) is amended—

20 (1) by striking “Within 3 months after the date
21 of enactment of the Magnuson-Stevens Fishery Con-
22 servation and Management Reauthorization Act of
23 2006” and inserting “Not later than 3 months after
24 the date of enactment of the Magnuson-Stevens

1 Fishery Conservation and Management Reauthoriza-
2 tion Act of 2014” in paragraph (2);

3 (2) by striking “and” at the end of paragraph
4 (3)(B);

5 (3) in paragraph (3)(C), by striking “agree-
6 ment.” and inserting “agreement; and”; and

7 (4) by adding at the end the following:

8 “(D) to the extent possible—

9 “(i) fishing activities conducted by
10 foreign vessels in waters under the jurisdic-
11 tion of a nation without permission of
12 that nation; and

13 “(ii) fishing activities conducted by
14 foreign vessels in contravention of a na-
15 tion’s laws, including fishing activity that
16 has not been reported or that has been
17 misreported to the relevant national au-
18 thority of a nation in contravention of that
19 nation’s laws.”.

20 (b) AUTHORIZATION OF APPROPRIATIONS; ILLEGAL,
21 UNREPORTED, OR UNREGULATED FISHING.—Section
22 609(f) of the High Seas Driftnet Fishing Moratorium Pro-
23 tection Act (16 U.S.C. 1826j(f)) is amended by striking
24 “2007 through 2013” and inserting “2015 through
25 2021”.

1 (c) AUTHORIZATION OF APPROPRIATIONS; EQUIVA-
2 LENT CONSERVATION MEASURES.—Section 610(f) of the
3 High Seas Driftnet Fishing Moratorium Protection Act
4 (16 U.S.C. 1826k) is amended by striking “2007 through
5 2013” and inserting “2015 through 2021”.

6 **SEC. 406. REAUTHORIZATION OF NORTHWEST ATLANTIC**
7 **FISHERIES CONVENTION ACT OF 1995.**

8 Section 211 of the Northwest Atlantic Fisheries Con-
9 vention Act of 1995 (16 U.S.C. 5610) is amended—

10 (1) by striking “\$500,000” and inserting
11 **["\$XXX,XXX"]**; and

12 (2) by striking “2012” and inserting “2020”.

13 **TITLE V—MISCELLANEOUS**

14 **SEC. 501. TECHNICAL AMENDMENTS.**

15 (a) MAGNUSON-STEVENS FISHERY CONSERVATION
16 AND MANAGEMENT ACT.—

17 (1) Section 202(e)(5) (16 U.S.C. 1822(e)(5)) is
18 amended by striking “and it Annexes” and inserting
19 “and its Annexes”.

20 (2) Section 302 (16 U.S.C. 1852) is amended—

21 (A) in subsection (a)(1)(F) by striking
22 “Federally” and inserting “federally”;

23 (B) in subsection (b)(2)(C) by striking
24 “subsection (k)” and inserting “subsection (j)”;

1 (C) in subsection (b)(5)(A) by striking
2 “Federally” and inserting “federally”;

3 (D) in subsection (b)(6) by striking “para-
4 graphs” and inserting “paragraph”;

5 (E) in subsection (h)(5) by striking “ex-
6 cept as provided in section” and inserting “ex-
7 cept as provided in”; and

8 (F) in subsection (i)(3)(B) by striking
9 “subpararaph” and inserting “subparagraph”.

10 (3) Section 303 (16 U.S.C. 1853) is amended—

11 (A) in subsection (a)(5)—

12 (i) by striking “recreational,” and in-
13 serting “recreational, and”; and

14 (ii) by striking “processors,” and in-
15 serting “processors;”; and

16 (B) in subsection (b) by redesignating
17 paragraph (14) as paragraph (13).

18 (4) Section 303A(c)(4)(A)(v) (16 U.S.C.
19 1853a(c)(4)(A)(v)) is amended by striking “is” and
20 inserting “its”.

21 (5) Section 307(1)(K) (16 U.S.C. 1857(1)(K))
22 is amended by striking “to to steal” and inserting
23 “to steal”.

1 (6) Section 312(b)(2)(A) (16 U.S.C. 1861a) is
2 amended by striking “federal or state” and inserting
3 “Federal or State”.

4 (7) Section 313 (16 U.S.C. 1862) is amended—

5 (A) in subsection (a)(2), by striking “or
6 system” and inserting “or systems”; and

7 (B) in subsection (j)(9), by striking “sec-
8 tion 307(l)” and inserting “section 307(1)”.

9 (8) Section 314(a)(3) (16 U.S.C. 1863(a)(3)) is
10 amended by striking “subsection (1)” and inserting
11 “paragraph (1)”.

12 (9) Section 316(c) (16 U.S.C. 1865(c)) is
13 amended by striking “Interior” and inserting “the
14 Interior”.

15 (10) Section 401(c)(5) (16 U.S.C. 1881(c)(5))
16 is amended by striking “subsection” and inserting
17 “section”.

18 (11) Section 406(f)(1)(A) (16 U.S.C. 1882) is
19 amended by striking “federal, state” and inserting
20 “Federal, State”.

21 (b) MAGNUSON-STEVENSON FISHERY CONSERVATION
22 AND MANAGEMENT REAUTHORIZATION ACT OF 2006.—
23 Section 104 of the Magnuson-Stevens Fishery Conserva-
24 tion and Management Reauthorization Act of 2006 (120

1 Stat. 3584; 16 U.S.C. 1854 note) is amended by striking
2 subsection (d).

3 (c) HIGH SEAS DRIFTNET FISHING MORATORIUM
4 PROTECTION ACT.—Section 610(a)(1)(A) of the High
5 Seas Driftnet Fishing Moratorium Protection Act (16
6 U.S.C. 1826k(a)(1)(A)) is amended by striking “prac-
7 tices;” and inserting “practices—”.

8 (d) ANADROMOUS FISH CONSERVATION ACT.—Sec-
9 tion 2 of the Anadromous Fish Conservation Act (16
10 U.S.C. 757b) is amended in paragraph (5) by striking
11 “Seretary” and inserting “Secretary”.

12 (e) NORTHERN PACIFIC HALIBUT ACT OF 1982.—
13 The Northern Pacific Halibut Act of 1982 is amended—

14 (1) in section 9(a) (16 U.S.C. 773g(a)) by
15 striking “any” and inserting “an”; and

16 (2) in section 12 (16 U.S.C. 773j)—

17 (A) by redesignating subsections (a) and

18 (b) as paragraphs (1) and (2), respectively; and

19 (B) in paragraph (2), as redesignated, by

20 striking “section 262(b)” and inserting “section

21 262b”.

22 (f) GREAT LAKES FISHERY ACT OF 1956.—The
23 Great Lakes Fishery Act of 1956 is amended—

1 (1) in section 3(a)(1)(B) (16 U.S.C.
2 932(a)(1)(B)) by inserting “a” after “official of”;
3 and

4 (2) in section 8 (16 U.S.C. 937) by striking
5 “these provisions of title 28, U. S. C.,” and insert-
6 ing “those provisions of title 28, United States
7 Code,”.

8 (g) SOUTH PACIFIC TUNA ACT OF 1988.—Section
9 9(h) of the South Pacific Tuna Act of 1988 (16 U.S.C.
10 973g(h)) is amended—

11 (1) in paragraph (3), by striking “(16 U.S.C.
12 1374(h)(2) and 1416(a))—” and inserting “(16
13 U.S.C. 1374(h)(2) and 1416(a));”; and

14 (2) in the matter following paragraph (3), by
15 striking “treaty” and inserting “Treaty”.

16 (h) ANTARCTIC MARINE LIVING RESOURCES CON-
17 VENTION ACT OF 1984.—Section 303(1) of the Antarctic
18 Marine Living Resources Act of 1984 (16 U.S.C. 2432(1))
19 is amended by striking “60 degrees south; 50 degrees
20 west” and inserting “60 degrees south, 50 degrees west”.

21 (i) PACIFIC SALMON TREATY ACT OF 1985.—The
22 Pacific Salmon Treaty Act of 1985 (16 U.S.C. 3631 et
23 seq.) is amended—

1 (1) in section 3(a) (16 U.S.C. 3632(a)), by
2 striking “States of Oregon, or Washington” and in-
3 serting “State of Oregon or Washington”; and

4 (2) in section 3(h)(2) (16 U.S.C. 3632(h)(2))
5 by inserting a period after “under subsection (a)”.

6 (j) NORTH PACIFIC ANADROMOUS STOCKS ACT OF
7 1992.—The North Pacific Anadromous Stocks Act of
8 1992 (16 U.S.C. 5001 et seq.) is amended—

9 (1) in section 803(6) (16 U.S.C. 5002(6)) by
10 striking “North Latitude” and inserting “north lati-
11 tude”; and

12 (2) in section 809(d)(1)(B) (16 U.S.C.
13 5008(d)(1)(B)), by striking “If any” and inserting
14 “if any”.

15 (k) NORTHWEST ATLANTIC FISHERIES CONVENTION
16 ACT OF 1995.—Section 210(5) of the Northwest Atlantic
17 Fisheries Convention Act of 1995 (16 U.S.C. 5609(5)) is
18 amended by striking “Article” and inserting “Articles”.

19 (l) YUKON RIVER SALMON ACT OF 1995.—The
20 Yukon River Salmon Act of 1995 (16 U.S.C. 5701 et seq.)
21 is amended.—

22 (1) in section 704(c), by striking “subsections
23 (b)(1) and (3)” and inserting “paragraphs (1) or (3)
24 of subsection (b)”;

1 (2) in section 709(c) (16 U.S.C. 5708(e)), by
2 striking “chapter 71” and inserting “chapter 171”;
3 and

4 (3) in section 710(2) (16 U.S.C. 5709(2)), by
5 striking “section 262(b)” and inserting “section
6 262b”.

7 (m) YUKON RIVER SALMON ACT OF 2000.—Section
8 206(e) of the Yukon River Salmon Act of 2000 (16 U.S.C.
9 5725(e)) is amended by striking “chapter 71” and insert-
10 ing “chapter 171”.

11 (n) WESTERN AND CENTRAL PACIFIC FISHERIES
12 CONVENTION IMPLEMENTATION ACT.—The Western and
13 Central Pacific Fisheries Convention Implementation Act
14 (16 U.S.C. 6901 et seq.) is amended.—

15 (1) in section 502(8) (16 U.S.C. 6901(8)), by
16 striking “Convention Area” and inserting “conven-
17 tion area”;

18 (2) in section 503 (16 U.S.C. 6902)—

19 (A) by striking “fashion.” in section
20 (d)(1)(C) and inserting “fashion,”; and

21 (B) by redesignating subsection (f) as sub-
22 section (e);

23 (3) in section 507(a)(7) (16 U.S.C.
24 6906(a)(7)), by striking “chapter” and inserting
25 “act”;

1 (4) in section 508 (16 U.S.C. 6907)—

2 (A) in subsection (a), by striking “United
3 States government” and inserting “United
4 States Government”;

5 (B) in subsection (e)(1)((B)(i)), by striking
6 “that” and inserting “than”;

7 (C) by striking “(e) APPLICATION OF REG-
8 ULATIONS—” and inserting “(e) APPLICATION
9 OF REGULATIONS.—”; and

10 (D) in subsection (e)(3), by striking “pur-
11 suant” and inserting “under”.

12 (o) PACIFIC WHITING ACT OF 2006.—Section
13 608(c)(4) of the Pacific Whiting Act of 2006 (16 U.S.C.
14 7007(c)(4)) is amended by striking “United State’s” and
15 inserting “United States’”.

A Vision for Managing America's Saltwater Recreational Fisheries

Spring 2014



The Commission on Saltwater Recreational Fisheries Management

Chaired by

Johnny Morris
*Founder and CEO,
Bass Pro Shops*

Scott Deal
*President and Co-Founder,
Maverick Boats*



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Envisioning a New Future for Saltwater Fisheries Management

America's sportsmen and women are the backbone of aquatic resource conservation. For the past several decades, anglers have played a leading role in helping rebuild marine fish stocks and prevent overfishing. This is a success story of which we should all be proud.

Through federal excise taxes on fishing equipment and motorboat fuel, fishing license fees and direct donations, anglers contribute nearly \$1.5 billion annually to fund fisheries conservation and habitat restoration. Our community invests in aquatic resource conservation because we know that the future of recreational fishing directly depends on the health of fish populations and their habitat.

In the last half century, saltwater recreational fishing in the U.S. has experienced tremendous advances in the overall number of anglers, angling ethics, technology used and their overall economic impact to the nation.

The National Marine Fisheries Service¹ estimates that approximately 11 million Americans participated in saltwater fishing in 2011, spending \$27 billion on fishing tackle, equipment, and trip-related goods and services. Spending by saltwater anglers generated more than \$70 billion in economic output, supporting more than 450,000 jobs.

However, in the midst of our success in rebuilding marine fisheries and the growth in saltwater recreational fishing, the federal fisheries management system has not adapted to meet the needs of this economic and conservation powerhouse.

Recognizing that we now have an opportunity to establish a saltwater fisheries management system that incorporates the unique goals and needs of anglers, we invited a group of leaders and experts in the fisheries community to initiate a landmark process to develop a vision for saltwater recreational fishing. Throughout 2013, the Commission on Saltwater Recreational Fisheries Management met to deliberate and debate strategies to improve saltwater recreational fisheries management.

The Future of Saltwater Recreational Fisheries Management

The commission envisions a marine fisheries management system that conserves fishery resources, provides consistency in regulations, and produces the full range of saltwater recreational fishing's economic, social and conservation benefits for the nation.

1. National Marine Fisheries Service, 2012. Fisheries Economics of the United States, U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-118, 175p, 2011. <https://www.st.nmfs.noaa.gov/st5/publication/index.html>.



We are proud to play a role in advancing the long-standing traditions of recreational fishing and boating in this country. Each time Americans go fishing and boating, they make a positive contribution to our fish, our waters and the fabric of American society. We are committed to working together to ensure the conservation of our saltwater resources so their recreational benefits are available for future generations to enjoy.

Johnny Morris
Founder and CEO, Bass Pro Shops
Chairman

Additionally, a wide range of experts and other stakeholders were invited to meet with the commission to provide information and advice on a variety of fisheries management issues. These included economists, researchers, federal and state agency administrators, environmentalists, charter captains and individual recreational anglers.

After extensive discussion and deliberation, the commission established a vision for saltwater recreational fishing and identified steps to set the foundation for a management system that addresses the needs of anglers and industry and produces the full range of economic, social and conservation benefits provided by recreational fishing.

The recommendations in this report primarily focus on the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act in six key areas:

- Establishing a national policy for recreational saltwater fishing
- Adopting a revised approach to saltwater recreational fisheries management
- Allocating marine fisheries for the greatest benefit to the nation
- Creating reasonable latitude in stock rebuilding timelines
- Codifying a process for cooperative management
- Managing for the forage base



Johnny Morris (right) and his son John Paul



Scott Deal
President and Co-Founder, Maverick Boats
Chairman

Commission on Saltwater Recreational Fisheries Management

- Chairman Larry McKinney, Ph.D.**, executive director, Harte Research Institute
- Tundi Agardy, Ph.D.**, founder, Sound Seas
- Lee Anderson, Ph.D.**, professor, University of Delaware
- Rip Cunningham**, former editor in chief, Salt Water Sportsman Magazine
- Ricky Gease**, executive director, Kenai River Sportfishing Association
- Ken Haddad**, former executive director, Florida Fish and Wildlife Conservation Commission
- Rollie Schmitten**, former director, National Marine Fisheries Service

Economic, Social and Conservation Benefits of Saltwater Recreational Fishing

Recreational fishing is one of America's most enduring pastimes: an activity in which people of all ages can participate, enjoying opportunities to spend time in the outdoors with family and friends. But recreational fishing in our nation's oceans is more than a chance to create memories and strengthen our connection with nature.



Saltwater recreational fishing has a \$70 billion impact on our nation's economy, supporting 454,000 jobs. Marinas, grocery stores, restaurants, motels, lodges, tackle shops, boat dealerships, clothing manufacturers, gas stations and a host of other businesses and entities benefit from the dollars spent by recreational anglers in pursuit of their sport. Coastal communities throughout the country depend - in some cases, exclusively - on recreational fishing for their livelihoods.

Whether they access the fishery in their own boat, fish from the shoreline, beach or pier, or hire a charter captain, America's 11 million saltwater anglers are looking for opportunities to have quality experiences on the water. For some, that means catching the fish of a lifetime only to release it for the next angler to catch. Others hope to bring home some of their catch to share with family and friends. For most, fishing represents an opportunity to strengthen relationships with family, friends and colleagues. For all anglers, fishing provides a chance to experience a special connection with our marine environment, gain a better appreciation for our country's natural resources, and practice the conservation ethic that is integral to the sporting community.

Economic Impact of Saltwater Recreational Fishing

State	Saltwater Anglers	Jobs	Sales (in thousands)
Alabama	907,000	8,867	819,340
Alaska	286,000	4,250	483,000
California	1,045,000	10,111	1,430,919
Connecticut	518,000	1,190	156,415
Delaware	318,000	1,403	132,223
Florida	4,878,000	98,355	11,826,000
Georgia	355,000	3,217	344,794
Hawaii	87,000	2,861	310,782
Louisiana	959,000	17,808	2,062,048
Maine	198,000	1,197	118,336
Maryland	836,000	6,466	724,394
Massachusetts	897,000	6,550	799,558
Mississippi	268,000	1,383	120,644
New Hampshire	96,000	441	47,999
New Jersey	1,067,000	12,818	1,841,343
New York	561,000	3,094	398,881
North Carolina	1,499,000	15,831	1,622,060
Oregon	217,000	2,799	308,602
Rhode Island	296,000	1,940	208,021
South Carolina	478,000	3,303	306,678
Texas	708,903*	13,332	1,644,672
Virginia	892,000	9,454	969,571
Washington	321,000	5,093	653,972

Source: *Fisheries Economics of the United States*, NOAA Fisheries, 2011.

*The Marine Recreational Information Program does not collect participation (number of anglers) data for Texas. Therefore, estimate for Texas is from Southwick Associates, "The 2011 Economic Benefits of Sportfishing in Texas," 2013.



Without recreational fishing, fisheries conservation would virtually cease to exist. Through federal excise taxes on fishing equipment and motorboat fuel, fishing license fees and direct donations, anglers contribute nearly \$1.5 billion annually to fund fisheries conservation and habitat restoration. These contributions drive the most successful conservation and fisheries restoration program in the world.

Anglers not only pay for conservation through license fees and excise taxes, they also support conservation work by volunteering for

habitat creation and restoration projects in all 50 states. As citizen scientists, they actively participate in fish tagging and tracking programs, monitor water quality, and collect other environmental data valuable to fisheries managers across the country. Anglers have spearheaded state and national programs that promote best practices among



anglers to reduce fish mortality, including catch-and-release techniques and the use of circle hooks and barotrauma-reduction devices to reduce hook-and-release mortality.

Recreational fishing is founded on conservation, sustainability and opportunity. Saltwater anglers and the recreational fishing industry they support are critical to conservation and a healthy economic environment for all Americans.



License fees, taxes paid on fishing equipment and donations to conservation organizations made by anglers pay for a host of habitat restoration and creation projects throughout the U.S.

The Current State of Saltwater Recreational Fishing Management

Our ocean resources are used for many commercial and recreational purposes. Despite its large constituency and major economic impact, when critical regulatory or management decisions are made, the recreational saltwater fishing community often doesn't get due consideration. This is particularly true regarding federal marine waters, which, in most parts of the country, extend from three to 200 miles offshore.

The three factors contributing to the inadequate management of federal marine fisheries for recreational fishing are

- The laws that govern federal marine fisheries are primarily designed for and focused on commercial fishing.
- The federal agency tasked with managing marine fisheries has commercial fishing as its primary focus.
- We do not have a national policy for saltwater recreational fishing.

Federal law is focused primarily on commercial fishing

In the 1960s, foreign fishing fleets began fishing in waters off the U.S. coast for high market value fish and shellfish. Due to a desire to both conserve these valuable stocks from overfishing and promote and develop domestic commercial interests, Sen. Warren G. Magnuson of Washington State led the passage of the 1976 Fishery Conservation and Management Act. The act established a U.S. Exclusive Economic Zone, or EEZ, from three to 200 miles offshore and established eight regional fisheries management councils to develop management plans for marine fisheries in their individual regions. These actions were extraordinarily effective, and within a decade U.S. commercial interests had replaced foreign fishing fleets in the EEZ.

While the act was successful in keeping foreign fleets out of U.S. waters, many marine fish stocks were at low levels, prompting legislative changes to better ensure the fisheries' sustainability. Led by Sen. Ted Stevens of Alaska, in 1996 the act was amended with provisions to end overfishing and protect important fish habitats. This became the



Federal fisheries management and the law that governs it have been focused almost entirely on commercial fishing.

1996 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The Magnuson-Stevens Act was again reauthorized in 2006, which added strict deadlines to end overfishing and called for annual catch limits to be put in place for all fisheries by a certain date.

While the Magnuson-Stevens Act has produced a demonstrable improvement in fish stocks, we now need to manage that success in a way that fully develops saltwater recreational fishing's economic, social and conservation benefits to our nation. Because it is a fundamentally different activity than commercial fishing, recreational fishing requires different management approaches.

From a management perspective, the Magnuson-Stevens Act relies on limited entry and catch share programs, along with fixed quotas that can be managed in real time. While these approaches



Cobia Boats



American Sportfishing Association

Saltwater anglers are fishing waters their fathers and grandfathers only dreamed about thanks to advances in boat designs, fuel-efficient engines and marine electronics.

work for the commercial sector where relatively few vessels are focused on maximum sustainable yield, recreational fisheries are enjoyed by millions of individuals with diverse goals. Some try to catch fish for food, while others simply want to have fun catching and releasing fish and enjoy their time outdoors. What recreational anglers want and need is wide-ranging, dependable access to healthy and abundant fish stocks.

In its defense, when the Fishery Conservation and Management Act was originally passed in 1976, saltwater recreational fishing was in its infancy. The ensuing decades have witnessed a significant growth in coastal communities and an interest in recreational saltwater fishing spurred on by tremendous changes in recreational boat designs, engines, electronics and other fishing gear technologies.

Current laws and policies governing saltwater recreational fishing have not kept pace with the evolution of recreational saltwater fishing, its growing popularity and its economic impact. This impact is equal to or greater than the commercial

industry in terms of number of jobs provided and total economic benefits, while accounting for only a fraction of overall landings.

A federal agency focused primarily on commercial fishing

The National Marine Fisheries Service (NMFS), under the auspices of the National Oceanic and Atmospheric Administration and ultimately the Department of Commerce, is the federal agency responsible for fisheries management in federal waters. Given its mandated commercial focus, the fact that the NMFS has not embraced fisheries management practices that also meet the unique goals, needs and motivations of recreational anglers should come as no surprise. While the NMFS has made great strides in recent years in improving communication and interaction with the recreational fishing community, much work remains to be done to effectively integrate recreational fishing into its policies and procedures.



Capt. Sam Barbera



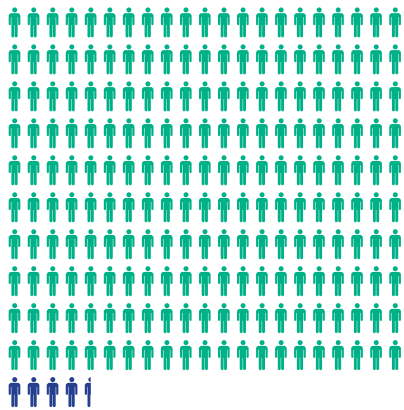
Snook and Gamefish Foundation

Marine fish such as red drum and snook are very successfully managed by state fisheries agencies.

Many state natural resource agencies, especially those in the South, recognize the benefits of a vibrant recreational fishing community and have managed to promote it while conserving their saltwater resources. Striped bass, red drum, black drum, summer flounder, sheepshead, snook, spotted seatrout and tarpon are examples of successfully managed state fisheries that sufficiently meet the needs of recreational anglers while providing extensive economic benefits to their state and the national economies.

Many coastal states have adopted management models that are well tuned for their particular saltwater fisheries. These models conserve fishery resources, provide multi-year consistency in regulations and allow for ample public access. However, these approaches have not yet been embraced by the NMFS, which is a significant contributing factor to the current dilemma in saltwater recreational fisheries management.

Jobs per 100,000 pounds landed in the United States, 2011



All Recreation: 210 All Commercial: 4.5

For every 100,000 pounds of fish landed there were 210 recreational fishing jobs compared to 4.5 jobs in the commercial fishing industry.

Fisheries Economics of the United States, 2011. NOAA Fisheries.

Lack of a national policy for recreational fishing

For the past several decades, the recreational fishing community has helped lead the charge toward building a management system that controls commercial exploitation to effectively sustain healthy fisheries resources.

This was a natural focus of anglers, policymakers and resource managers because commercial fishing accounts for the vast majority of finfish harvest and



Tomo Balaguer, 123rf

has been the primary contributor to over-exploitation. While the road to ending overfishing has been a challenge and many sacrifices have been made, Americans now have a solid foundation of healthy fisheries resources that benefit the entire nation.

However, the federal system to control commercial fisheries exploitation is largely inappropriate for managing recreational fishing. The solution is to develop a national policy for saltwater recreational fishing that builds upon our current fisheries management system but acknowledges that a new and distinctive path forward is needed for recreational fishing.

This report addresses the three primary contributing factors that have led to deficient federal saltwater fisheries management by identifying a clear vision for saltwater recreational fisheries management and recommending key policy changes to establish the foundation for a national saltwater recreational fishing policy.

The work to implement a national policy for recreational fishing will take a collective effort in which all segments of the recreational fishing community will need to come together and engage with fisheries managers, policymakers and other stakeholders to advance a unified vision.

Commission on Saltwater Recreational Fisheries Management Recommendations

The Commission on Saltwater Recreational Fisheries Management's recommendations are largely focused on the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act. The commission recognizes the need to extend these efforts beyond just the law's reauthorization to bring about a cultural shift within the National Marine Fisheries Service, which administers the law, to ensure that the values of recreational fishing are recognized throughout all relevant aspects of the agency's operations.

Strong fisheries conservation and management are the foundation for the recommendations in this report. Policy makers, resource managers, industry people and anglers must continue to advocate for a saltwater fisheries management system that conserves our fishery resources, provides consistency in regulations, and produces the full range of saltwater recreational fishing's economic, social and conservation benefits for the nation. Ensuring the health and sustainability of our fisheries resources is the primary concern of the recreational fishing community.

The following recommendations present a positive vision to build upon our recent fisheries management successes in a way that benefits conservation, the economy and the public.

Establishing a national policy for recreational fishing

Recreational fishing is currently addressed in an inconsistent fashion by NMFS. The only section of the Magnuson-Stevens Act that relates to promoting recreational fishing focuses specifically on catch and release practices, which, while an important component of many recreational fisheries, hardly encompass the entirety of the recreational fishing experience.

In the late 1980s, the U.S. Fish and Wildlife Service established a national recreational fisheries policy for the U.S. Department of Interior² that outlined the agency's goals and strategies for primarily freshwater recreational fishing on federal lands. The policy called for federal and partner resources



to be coordinated and organized to advance recreational fishing and fisheries conservation. Because the NMFS has no such policy, the impacts have not been felt within the saltwater recreational fishing community.

Recommendation

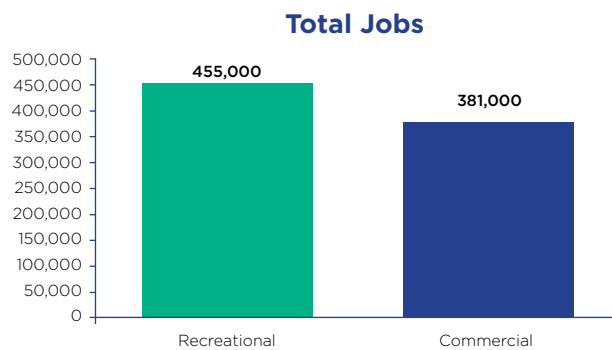
The Magnuson-Stevens Act should include a provision for the creation of a national saltwater recreational fishing policy that identifies goals and strategies for recreational fisheries management at the local, state and national levels. The NMFS has made progress in recent years in elevating the importance of recreational fishing within the agency, including hosting a national recreational fishing summit, establishing national and regional action agendas and creating new agency positions focused on recreational fishing policies. Future progress would be significantly advanced through the establishment of a comprehensive national policy defining and coordinating efforts throughout the federal government, focusing primarily on the NMFS, to advance saltwater recreational fishing.

2. U.S. Fish and Wildlife Service, Recreational Fisheries Policy of the U.S. Department of the Interior, 1989. http://www.fws.gov/policy/a1npi89_25.pdf.

Adopting a revised approach to saltwater recreational fisheries management

Recreational and commercial fishing are fundamentally different activities that require different management approaches. Currently, federal fisheries managers set catch limits for recreational and commercial fishing at or near maximum sustainable yield. While this may be an ideal management strategy for commercial fishing, where harvesting the maximum biomass is desired, it is not an effective management tool for saltwater recreational fishing. Recreational anglers are more focused on abundance and size, structure of the fisheries, and opportunities to get out on the water. Fulfilling these needs is an important economic contributor to coastal communities and the nation.

Total Jobs from Recreational and Commercial Fishing in the United States, 2011



In 2011, there were 455,000 jobs related to recreational fishing compared to 381,000 for commercial fishing.

Fisheries Economics of the United States, 2011. NOAA Fisheries.



Recommendation

The NMFS should manage recreational fisheries based on long-term harvest rates, not strictly on poundage-based quotas. This strategy has been successfully used by fisheries managers in the Atlantic striped bass fishery, which is the most sought-after saltwater recreational fishery in the nation. By managing the recreational sector based on harvest rate as opposed to a poundage-based quota, managers have been able to provide predictability in regulations while also sustaining a healthy population. While the Magnuson-Stevens Act does not prohibit such an approach, it should specifically direct the NMFS and regional councils to consider alternative strategies to commercial management for appropriate recreationally valuable fisheries.



Red snapper, like this one caught in the Gulf of Mexico, are being allocated to recreational and commercial fishermen based on outdated harvest data.

Allocating marine fisheries for the greatest benefit to the nation

For many mixed-sector fisheries, (i.e., those sought by both the commercial and recreational sectors), allocations of harvestable quota for each sector are based on decisions in fisheries management plans written decades ago.

In its current language, the Magnuson-Stevens Act³ calls for allocations to be:

- Fair and equitable to all such fishermen
- Reasonably calculated to promote conservation
- Carried out in such a manner that no particular individual, corporation or other entity acquires an excessive share of such privileges

However, because no formalized process exists to prompt the regional fishery management councils toward reallocation, and because allocation discussions have been historically contentious, fisheries managers lack the necessary incentives to reexamine allocations regardless of how outdated and/or inequitable they may be.

Recommendation

The Magnuson-Stevens Act should require the NMFS, in conjunction with the National Academy of Sciences (NAS), to develop guidelines and criteria that the regional fishery management councils must consider for allocation of all mixed sector fisheries. The allocation decisions must consider conservation and socioeconomic output. To help provide necessary information for managers to consider, the NMFS must enhance its existing economic program for mixed sector fisheries. The Magnuson-Stevens Act also should require that the regional fishery management councils develop procedures for allocation reviews and adjustments based on those guidelines to occur at regular intervals.

Creating reasonable latitude in stock rebuilding timelines

The Magnuson-Stevens Act currently states that the timeline for ending overfishing and rebuilding fisheries “be as short as possible” and “not exceed 10 years,” with a few limited exceptions to allow for longer timeframes. While some stocks can be rebuilt in 10 years or less, others require longer generation times, or factors unrelated to fishing pressure may prohibit rebuilding in 10 years or less.

Echoing the concerns raised by stakeholders and many of the regional fishery management councils, a report by the prestigious and nonpartisan National Academy of Sciences concluded that the 10-year rebuilding provision should be revised to



3. 16USC1801 Sec. 301(a)(4)

4. National Research Council, Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States, 2013. http://www.nap.edu/catalog.php?record_id=18488.



Beth Swanson, 123rf.

Healthy stocks of forage fish, like these mullet, are vital for healthy and sustainable recreational fishing.

provide greater flexibility than is currently allowed under the law.⁴ Instead of having a fixed deadline for stocks to be rebuilt, the NAS recommended that the regional councils and fisheries managers set lower harvest rates that would allow fish stocks to recover gradually while diminishing socioeconomic impacts.

Recommendation

The commission supports the National Academy of Science's recommendations to provide the regional councils and fisheries managers greater latitude to rebuild fish stocks in a timely and reasonable manner.

Codifying a process for cooperative management

Cooperative management, where fisheries are managed jointly between the NMFS and individual states or interstate fisheries management commissions, is currently an option for fisheries management. By integrating research and management expertise, cooperative management can more successfully help meet fisheries management goals. However, the concept is not fully utilized because of a lack of guidance regarding options and processes to help determine if this is an appropriate management approach.

Recommendation

The regional councils should be required to develop a process to determine on a stock-by-stock basis which management entities are most appropriate and capable of successfully managing the stock. This requirement should provide guidance for determining the most appropriate management structure.

Managing for the forage base

The fisheries management system in the U.S. has historically concentrated on achieving maximum sustainable yield from individual fisheries and is slowly moving toward multispecies management or ecosystem-based fishery management. For the recreational fishing community, ecosystem-based fishery management includes conserving the forage base – the suite of fish that provide much of the food resource for important recreational fish species. Forage fish must be managed to provide enough food resources for healthy recreational fish species. Currently, very few forage fish are considered in fishery management plans, meaning that potential impacts on these critical components of the ecosystem are not considered or controlled.

Recommendation

Fisheries managers should better incorporate forage base management to provide optimal health, reproduction and growth in important predator fish stocks. The NMFS and regional councils should identify the most significant forage fish for every fish stock currently being managed and determine whether or not the identified forage fish should be managed.



Conclusion

The Commission on Saltwater Recreational Fisheries Management recommends that the reauthorization of the Magnuson-Stevens Fisheries Conservation and Management Act include the following elements:

- A national policy for recreational fishing
- A revised approach to saltwater recreational fisheries management that promotes both conservation and access
- Allocation of marine fisheries for the greatest benefit to the nation
- Reasonable latitude in stock rebuilding timelines
- A process for cooperative management
- Managing for the forage base

The commission strongly believes that now is the time to begin this important, critical work. The commission’s recommendations provide the steps needed to improve the Magnuson-Stevens Fisheries

Conservation and Management Act in a manner that finally addresses the needs of the saltwater recreational fishing community.

The commission recognizes the need for strengthening old and creating new partnerships to improve science, economic data and information sharing in fisheries management. The commission strongly advocates for the need to focus on habitat, water quality and environmental challenges that recreational anglers and all citizens will confront in the years ahead. In addition, federal and state fisheries management agencies should make it a priority to inform the public about anglers’ contributions to conservation.

Finally, saltwater anglers must continue to support and advocate for a strong conservation ethic within our community. Anglers were among the first to set the example as stewards of the outdoors. Anglers need to continue that legacy to assure a future for anglers today and for generations to come.



The Following Organizations Contributed to this Report



Theodore Roosevelt Conservation Partnership

1660 L St. N.W., Suite 208
Washington, DC 20036
Phone: (202) 639-TRCP(8727)
Fax: (202) 639-8728
cmacaluso@trcp.org



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
MARINE FISHERIES ADVISORY COMMITTEE
Silver Spring, MD 20910

DEC 20 2013

MEMORANDUM FOR: Samuel D. Rauch III
Deputy Assistant Administrator for Regulatory Programs,
performing the functions and duties of the
Assistant Administrator for Fisheries

FROM: Keith Rizzardi *KWRizzardi*
Chair, Marine Fisheries Advisory Committee

SUBJECT: White Paper on Recommendations for MSA by the Recreational
Fishing Working Group (RFWG)

This memo transmits a white paper by the MAFAC Recreational Fishing Group on recommendations for changes in the Magnuson-Stevens Act. This was developed in response to the terms of reference MAFAC received from you in mid-2013. MAFAC's Recreational Fishing Subcommittee and Recreational Fishing Working Group (RFWG) was assigned to help identify the motivations of recreational and non-commercial fishermen; common factors, goals, and management objectives of these sectors; and specific legislative, regulatory, and policy changes needed to achieve these goals.

It is important to note that this white paper was not intended to reflect a consensus viewpoint of the members of MAFAC. The goal was to obtain the opinions of a broad range of national recreational fishery opinion leaders and stakeholders comprising the RFWG.

The white paper was the product of many hours of work by the national membership of the RFWG (including the Pacific Islands). It was vetted through the Recreational Fishing Subcommittee and returned with comments and questions for final development. The final document was presented for information to MAFAC by the Recreational Fishing Subcommittee at the December 2013 MAFAC meeting. The contents will also be used by NOAA Fisheries staff convening the Saltwater Recreational Fishing Summit to target key points of concern.

We respectfully submit this white paper so you can understand the national perspectives of the wider recreational fishing community, as represented by the broad-based RFWG membership.

Cc: Dr. Kathryn Sullivan, Acting Under Secretary for Oceans and Atmosphere
Dr. Mark Schaefer, Assistant Secretary for Conservation and Management

Attachment

MAFAC Recreation Fishing Working Group
White Paper on MSA Recommendations

11/20/2013

Magnuson-Stevens Fishery Conservation and Management Act Reauthorization and NOAA Fisheries' Regulations: Challenges and Recommendations - a Marine Recreational Fisheries Perspective.

Prologue

There is strong agreement among Recreational Fisheries Working Group (RFWG) members that the motivations, rewards, social and economic benefits, and impacts of recreational and non-commercial fisheries are significantly different than those of commercial fisheries. These distinctions are important enough that RFWG members believe management strategies for the recreational sector differ from those of the commercial sector, which requires flexibility within the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as well as flexibility with NOAA policies and guidance. Recreational fishermen primarily seek opportunities to catch fish, with some anglers preferring to catch larger fish. Overall, anglers have proven to seek access to public fish resources in responsible and sustainable ways. Recreational anglers request the ability to impact management decisions by exploring new and different approaches that rethink the management process. Their strong opinions about the differences between recreational and commercial fishing are presented in the responses to question one in the Appendix.

Executive Summary

The Marine Fisheries Advisory Committee (MAFAC) Recreational Fisheries Working Group (RFWG) developed specific issue areas and recommendations for possible changes to the Magnuson Stevens Fishery Conservation and Management Act (MSA) during reauthorization, as well as possible changes to NOAA fishing regulations. These were developed through the working group process detailed in the introduction. Some of these recommendations received very strong and broad consensus as being nationally important, while two of the recommendations received strong consensus as being regionally important. The recommendations are presented in detail in the section entitled "Recommendations." The recommendations in brief form relate to:

- Improved and expanded data is necessary for timely and appropriate management
- Flexibility in timeframes for rebuilding stock efforts
- Setting Maximum Sustainable Yield (MSY)/Optimum Yield (OY) to manage for an appropriate and different stock structure

- Individual Transferable Quota (ITQ), Individual Fishing Quota (IFQ), and catch share programs are considered inappropriate for recreational fisheries
- Flexibility in setting Annual Catch Limits (ACL), and reducing buffers
- Other statutes: Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), National Marine Sanctuaries Act (NMSA) need separate review. In the implementation of these acts, fishing opportunities may be overly or unnecessarily constrained
- Cooperative research should engage recreational fishermen and other stakeholders
- Fishing definitions should recognize subsistence and noncommercial fishing on a regionally appropriate basis
- A portion of the Allowable Biological Catch (ABC) should be set aside to test new management strategies

The working group consensus process leads us to urge both the Recreational Fishing Subcommittee of MAFAC and MAFAC to take these recommendations and supporting documents into full consideration during their discussions and deliberations about appropriate input into the MSA reauthorization process. We also recommend that consideration be given to possible changes to NOAA Fisheries regulations, which would make them more effective in accommodating the needs of recreational/non-commercial anglers and the need for sustainability and enhancement of recreational fisheries and fishing opportunities.

Introduction

This white paper and the recommendations are a synthesis and summary of two larger documents developed through the MAFAC RFWG working group process. That process elicited WG members' ideas, issues, concerns, and recommendations identified from responses to four broad questions developed through a conference call consensus process. Questions focused on:

- 1) "Key differences between recreational, non-commercial, and commercial sectors"
- 2) "Common factors, goals, and management objectives shared by recreational/non-commercial fishermen"
- 3) " Specific feasible recommendations to achieve 2-4 of the common goals and objectives"
- 4) "Themes for the 2014 National Summit"

Most WG members responded in writing to each question. Their responses were then condensed and synthesized into a working document following the 3 part template: 1) overarching theme, 2) supporting points, and 3) supporting quotes. The second working document is attached as an Appendix.

The white paper was then developed by 3 members based on a determination of consensus responding to question 3, including dividing them into those that are nationwide with very broad consensus and those that are important, but more regionally specific. Where applicable, the relevant MSA passages, supporting fishery regulations, and NMFS guidance that may benefit

from statutory or regulatory changes are noted. Those notations are not exhaustive, since not all working group members have detailed knowledge of the MSA.

The Appendix is included as an important supporting document because of the strong consensus on the concerns and the recommendations, which were repeated independently by many working group members, and because of the strength of opinions detailed in the supporting quotes. The document displays regional diversity and the appropriate intent of the MSA, which provides a process for accommodating major regional differences between council jurisdictions. However, it also highlights some of the shortfalls in the MSA's ability to effectively manage the recreational sector overall. Finally, the Appendix outlines specific issue areas where NOAA fisheries can more effectively accommodate the concerns of recreational/noncommercial fishermen. The working group urges the reader to review the Appendix as well as the white paper.

Section 1 - Common factors, goals, management objectives, and the recreational communities' perspective

The recreational sector is fundamentally different from the commercial sector in several ways, including their motivations for participating in the fishery. Commercial fishermen prosecute the fishery primarily for personal economic gain. They want to catch as many fish as possible, as efficiently as possible, in order to maximize profit. Conversely, recreational anglers fish for enjoyment, to provide fish for their families, for the challenge of catching specific species, and for spending quality time with family and friends. Such social motivations for recreational anglers result in significant positive economic impacts to the nation's economy and coastal communities.

Within the recreational sector, non-commercial and recreational anglers alike share many common factors, goals, and management objectives, regardless of their regional perspectives. The term non-commercial is more appropriate for the Western Pacific region, because it encompasses a broader range of motivations, including subsistence, meeting cultural and ceremonial needs, and cultural exchange of fish in ways that are not profit motivated.

Commonalities include:

- **A desire and reasonable opportunity to catch (larger) fish.** This desire translates to having a range of size classes of fish, which helps ensure access to an occasional trophy (large) fish.
- **Access to a fishery that has management accountability, sustainability, stability, predictability, and maximizes angler experience.** The fish, their availability, and access to fish are strong common factors.
- **The need for timely reporting and analysis of fish landings and fishing effort.** Data to make in-season harvest estimates is available with commercial fishing; this data does not exist for recreational fishing, so the resulting catch-limits and management plans are very conservative.
- **Many fishermen feel new and different approaches are needed to rethink recreational fisheries management. Many believe there is a need to consider the**

importance of social and economic impacts in decision-making. Often arbitrary ten-year mandates to rebuild stocks for some species result in ultra conservative ACLs and AMs that unnecessarily restrict fishing.

Section 2 - Recommendations

The following recommendations were the collective effort of the RFWG members to address the fundamental differences and the resulting needs of the recreational sector within MSA, the National Standards and/or NOAA Fisheries policy. The list is not exhaustive, nor ordered in any prioritized ranking, but rather is a consensus-based reflection of the issues and solutions necessary to overcome some of the most important national and regional challenges for America's recreational anglers.

National Significance:

- **DATA.** Improved data collection and data systems are necessary for timely and responsive management. This must include social, cultural, and economic data as well as catch and effort data (**MSA 303, 109 479, FMP amendments, NS8, Guidelines for Community Analyses?**).
- **REBUILDING.** Flexibility in stock rebuilding timeframes is needed. Required rebuilding time frames are necessary, but they should be determined based on species life histories (as long as stocks move in a forward rebuilding trajectory, regardless if quotas are exceeded, fishing should be allowed, seasons should not be restricted unless removals are negatively affecting the stock).
- **MSY/OY.** Managing to MSY/OY carries inherent risk and may not meet the goals of recreational fishermen for having frequent encounter opportunities or the chance to catch larger fish. Management should focus on a more balanced and robust stock using a wider range of tools (**MSA NS1, New NS1 guidelines, NS8?**).
- **SECTOR FLEXIBILITY.** The current biomass-based management system is a commercial fisheries model that does not work well when applied to recreational fisheries. Inland fisheries managers have demonstrated that recreational fisheries can be managed much more effectively using rates of mortality, rather than a hard poundage quota system. NOAA Fisheries should embrace the management flexibilities under the MSA and provide guidance to the Councils for alternative management approaches for the recreational sector (**NS1 Guidelines, Management tools?**).
- **ITQ, IFQ, CATCH SHARES.** ITQ, IFQ, and Catch Shares programs are not appropriate for the recreational sector. New entry opportunities and equal access to a public trust resource are imperative to effectively managing the nation's fisheries resources for the good of all (**MSA 303A, NOAA Catch Shares policy**).
- **FLEXIBILITY WITH SSC RECOMMENDATIONS.** ACL and AM/ACT recommendations from the SSCs are often too conservative as they attempt to account for

frequent data uncertainty. The tendency for their recommendations to include overly precautionary buffers can significantly disadvantage recreational fishermen by unnecessarily reducing fishing opportunities. The councils should be allowed to adjust ACL upwardly (within a specified margin of error) when there is low risk of overfishing or there are significant social and economic benefits (**MSA NS1, NS1 Guidelines, NS8?**).

- **OTHER STATUTES.** The ESA, MMPA, and NMSA have placed restrictions that at times appear unreasonable to recreational fishermen in some regions. ESA and MMPA risk assessments (PBR) and population estimates are often based on very poor data. Sanctuaries may close areas to fishing without adequate baseline data or monitoring to demonstrate conservation benefits. A separate review of these statutes is needed to ensure that unnecessary closures to recreational angling are not a consequence of statute implementation.
- **COOPERATIVE RESEARCH.** Cooperative research programs should be adequately funded and specifically provide opportunities for recreational fishermen to be involved with study design, data collection, and reporting. The ‘Coastal Angling Tagging Cooperative’ project out of Scripps Institution of Oceanography, UC San Diego is a current example.
- **SEPARATION OF COMMERCIAL AND RECREATIONAL FISHING.** It is detrimental for recreational fisheries to be lumped together with commercial fisheries operations. Creating separate languages to regulate commercial and recreational fishermen allows lawmakers the freedom to put regulations into place that make sense for everyone.
- **SENSIBLE ALLOCATION BETWEEN COMMERCIAL AND RECREATIONAL FISHERIES.** Formal guidelines should be established that separate recreational anglers and commercial anglers.
- **ANNUAL CATCH LIMITS NEED TO BE BASED ON SOLID SCIENCE WITH FLEXIBILITY FOR NON-TARGETTED AND INCIDENTALLY CAUGHT SPECIES.** For coral reef species in particular, there is not enough life history and stock assessment data to develop reasonable ACLs and ACTs. Proxy species within complexes may not be representative.
- **CONSIDER MANAGEMENT AT THE STATE LEVEL WHERE APPROPRIATE.** In many cases, federal agencies are not the most appropriate organizations to manage fisheries. Where applicable, states or fishery management commissions should take control of managing fish populations. This will allow organizations to manage fisheries with a greater attention to detail.

Regionally important/important to include:

- **FISHING DEFINITIONS.** Fishing definitions need to be revised so that the strict separation between commercial and recreational fishing may allow for recognition of

subsistence fishing and its value to communities, at least in Alaska, the Western Pacific, and the Caribbean. On a regionally appropriate basis the definitions should also allow for recognition of noncommercial fishing that allows the cultural exchange of fish for other resources in ways that are not considered barter and not considered a commercial profit making transaction (MSA 104-297(3); 104-297(4); 104-297(37)).

- RESEARCH SET ASIDES. Language that authorizes the Councils to set aside a portion of the ABC to use in pilot projects to test alternative management strategies is needed. However, research set asides should not be permitted for the purpose of sector separation or individual fishing privileges.

Section 3 - Proposed themes for the 2014 recreational fisheries summit

In September 2009, NOAA began an initiative to strengthen their relationship with the saltwater recreational fishing community. Soon thereafter, the National Policy Advisor for Recreational Fisheries was created and supported by both an internal team of regional NOAA Fisheries coordinators and a group of outside advisors linked to the Agency's official Marine Fisheries Advisory Committee. In April 2010, the first national Saltwater Recreational Fishing Summit was held, which provided direction to the national policy advisor and his support network. The summit kicked off an improved dialogue and commitment to action on priority issues and formed the basis for NOAA's national and regional Recreational Saltwater Fisheries Action Agendas. The overall goal of the initiative was to enable NOAA Fisheries to become more coordinated, strategic, and responsive to recreational angler concerns.

In April 2014, NOAA Fisheries plans to host a second national summit on saltwater recreational angling. The 2014 summit will provide an opportunity to reflect on the success and effectiveness of NOAA's relatively new recreational angling program, along with what still needs to be accomplished to meet the goal of being more coordinated, strategic, and responsive to the needs of recreational anglers. In addition, members of the Recreational Fisheries Working Group submitted the following topics and ideas for consideration in developing the upcoming summit agenda:

- Explore alternative management strategies and needed changes to the Magnuson-Stevens Act to maximize recreational opportunities
- Understanding the differences and similarities between recreational/non-commercial anglers and commercial fishers
- Equal representation and priority for recreational fisheries within Magnuson-Stevens and NOAA fisheries policy, including developing clear definitions for recreational vs. commercial fisheries
- Marine Protected Areas/Marine Sanctuaries - understand the potential and realized short and long-term economic impacts to recreational anglers
- MRIP data collection processes and potential improvements
- Population assessments – how can they be improved?
- Understand the recreational sector impacts of ACLs, ABCs, MSY/OY, IFQs and ITQs
- Rebuilding timelines
- Discard mortality – new advancements and further improvements in understanding

- Illegal, Unreported, and Unregulated fishing (IUU) in U.S. waters
- Inland vs. marine fisheries management - what remains to be learned?

Section 4 - Conclusions

The NOAA Recreational Fisheries Initiative and the timing of reauthorization of the Magnuson Stevens Act have created an opportunity for substantive input from the MAFAC RFWG. RFWG members are representative of a broad range of fisheries and constituencies. The RFWG process has been a rapid response to this opportunity. This white paper and Appendix represent a range of concerns and issues that face recreational and noncommercial fishermen throughout the nation and its territories. The specific recommendations speak to both the MSA and to a range of NOAA Fisheries regulations and policies. Given fair consideration, these recommendations will enhance recreational fishing opportunities and experiences.

Appendix - RFWG responses to 4 questions

Question 1: Describe the key differences between the recreational, non-commercial, and commercial sectors which you see as most important for federal managers to understand in developing policy and regulation.

OVERARCHING THEME 1

One of the differences between recreational and commercial fishing sectors is the motivation and forces that drive each. Recreational anglers are driven by social factors and their efforts provide a significant economic impact. Commercial fishing is almost exclusively driven by economic factors.

Supporting points

Recreational anglers fish for pure enjoyment, to catch and consume fish, for the challenge of catching specific species, and for social reasons. These efforts provide significant economic impact. Conversely, commercial fishing is a business and is driven by the need to produce income and profit.

Supporting quotes from working group participants.

Recreational anglers “may participate in a fishery to bring home food to eat, the challenge or sport of catching a fish, and/or to enjoy the outdoor experience. The recreational reasons for going fishing may be consumptive or non-consumptive with the latter being an increasing trend often dependent on the species.”

"In the most basic sense, one is a vocation and the other an avocation." "From an economic perspective, recreational saltwater anglers are an important and significant component of our nation's marine fisheries. In 2011, there were more than 11 million saltwater anglers who took 70 million fishing related trips and who contributed \$70 billion in sales impacts to our economy - resulting in 455,000 jobs (NOAA – Fisheries Economics of the United States 2011). Recreational anglers spent \$3.8 billion in 2011 on fishing tackle alone." "Commercial Fishers have the expectation that fish belong to them." "Recreational fishermen (RF) view fishing as a privilege, not a right."

"Fortunately, there are a limited number of species where both user groups conflict on how they are managed and allocated." [Commercial harvesters] "fish as a job, a way to pay bills and produce profit." [Recreational Anglers] "relate “quality of life” issues when fishing. The national survey poll illustrates this." "Time on the water, friendships, teaching others to fish have high value to them [recreational anglers] and are as important as catch." "Socially, recreational anglers want the interactions and joy that comes from fishing alone or with others. When recreational anglers fish alone they enjoy the solitude and thinking time that fishing brings." "When fishing with others...family members, friends or acquaintances... recreational anglers enjoy the time together to talk and communicate about various topics (family, the fishery, tactics, etc.)." "In the for-hire party and charter boat sector this social engagement is amplified as often times the intensity of fishing is magnified by expert guides which usually leads to greater fishing

success. This greater shared experience often creates memories that last a lifetime. Memories shared by mothers, fathers, daughters and sons."

"Recreational fishing provides serious social and economic benefits to local fishing communities. This activity supports many small and large supporting businesses such as tackle shops, tackle manufactures, boat builders and sellers, marinas, fuel sales, hotels and restaurants, and a host of other businesses. While recreational fishing is clearly an activity that is not commercial for the individual angler it is a huge economic generator for local, state, and federal communities." "In the Western Pacific region there are indigenous and resident fishermen who expect and claim a long-term right to fish for subsistence, to meet cultural and ceremonial needs, to share widely in their communities, for pleasure, for social recognition, and for occasional sales to offset some costs. This background makes us somewhat unique and means that there is a blurring of the recreational commercial distinction enshrined in simple language in the MSA. It also means that there are mixed and somewhat overlapping motivations, values of participation, costs and benefits." "In Samoa and the Marianas a good fisherman gains status and reputation in the community, and may become a more desirable marriage partner! They fish to eat and to share!" "The key differences: recreational/non-commercial fishermen are chasing the excitement, adventure, and the thrill of hooking and fighting fish. Whether the catch ends up as dinner, is released, or is landed in hopes of winning a tournament or new record, the excitement and thrill of hooking-up and the subsequent fight that follows is what keeps people fishing for their entire life. Commercial fishing success is not measured in life experience but rather in net profit. And in general, it is assumed that the more fish that are retained and sold, the more profit that will be generated."

OVERARCHING THEME 2

Commercial fishing is completely motivated by economic incentives and the generation of income in an efficient and effective manner.

Supporting points

The commercial fishery is motivated largely, if not solely, upon the desire to provide income for self or family. The commercial fishery is totally consumptive with a goal of maximizing yield with as little of cost as possible to maximize profit.

Supporting quotes:

"Commercial fishing is about spending the least amount of money to catch the most fish to have the highest profits. Without the monetary reward, commercial fishing goes away." "[Commercial fishing's]... motivation is to make a profit and provide a fresh and safe product to the consumer. [Its] success enhances the social and economic impacts to small fishing communities and the supporting businesses that move the product to the consumer." "Recreational fishing is inherently less efficient than commercial fishing...Maximum sustainable yield management benchmarks may provide adequately for a commercial fishery but typically result in poor recreational fishing."

OVERARCHING THEME 3

The charter and for hire sectors provide a platform for recreational anglers and are in part driven by a combination of factors. These include recreational anglers' enjoyment of fishing, the challenge of catching specific species, and the opportunity to catch and consume fish.

Supporting points

The charter and for hire sector is a component of recreational fishing that provides opportunities to recreational anglers and significant economic impact to our communities.

Supporting quotes

"For-hire vessels only land fish when hired by recreational anglers to take them fishing. Unless payment is received from the recreational anglers there would be no fish landed on a for-hire vessel."

"The economic benefit of the recreational and for-hire sectors is huge and has been documented most recently with numerous economic impact studies." "Charter for hire fishermen need economic incentives as well as a regulatory structure that provides stability for their businesses. Charter for hire captains are operating in commerce like commercial fishermen, but are handicapped by a derby fishery that does not allow them to fish when they have customers available"... "It is important that the charter for hire and recreational sectors both are able to maximize full economic benefit for their respective sides of the fishery."

Question 2: Identify and describe the common factors, goals and management objectives shared by recreational/non-commercial fishermen.

OVERARCHING THEME 1

Recreational/non-commercial anglers desire a reasonable chance of **catching fish and larger fish.**

Supporting points

A biomass with a diversity of size classes helps ensure access to an occasional trophy fish.

Supporting quotes

"Size within the biomass is perhaps more important... than the size of the biomass..."

"(fishing) is enhanced if there is a chance of catching a larger than average fish."

"All fishermen share the common goal of catching fish."

"Recreational non-commercial fishermen share the common goals of catching, eating and sharing fish, especially big fish..."

OVERARCHING THEME 2

Recreational/non-commercial fishermen want **access to a fishery that has management accountability, sustainability, stability, predictability, and a maximum angler experience.**

Supporting points

The fish, their availability, and access to fish are strong common factors shared by all.

Supporting quotes

“The ability to catch fish without having to incur high cost of equipment, gear and supplies and the need to have access to fishing areas through government or private landowners.”

“An unequivocal common goal across all sectors is managing for healthy fisheries.”

“The shared management objective is to have some peak fishing challenges and experiences in a sustainable fishery”

OVERARCHING THEME 3

Need for **timely reporting and analysis of recent fisheries data to impact management decisions** is a common theme among recreational/non-commercial fishermen

Supporting points

The present MRIP data is not enough, nor are other surveys. A system is needed that allows timely reporting and analysis of the fish landed recreationally. Data to make in-season harvest estimates is available with commercial fishing. However, these data do not exist for recreational fishing so resulting catch limits and management plans are very conservative

Supporting quotes

“Fisheries management plans need more timely data and analysis to develop catch limits that foster optimum yield while sustaining fisheries.”

“There’s a general and widespread lack of confidence about FMP stock assessments, especially regarding recreational data.” “(Managing healthy fisheries) not only requires collecting the best science possible, but also approximately applying the data to effectively guide management processes and decisions.” “In summary better science, better data, better supply of fish and better access to the resource are all areas of common ground...”

OVERARCHING THEME 4

Recreational/non-commercial anglers want **new and different approaches that rethink the way we manage**, from considering the importance of social and economic impacts in decision making, to having NOAA, the Councils, and statistical committees consider and use a different management approach.

Supporting points

Arbitrary ten-year mandates to rebuild stocks for various species results in ultra conservative ACLs and AMs that unnecessarily restrict fishing. All fishermen plan their fishing year with specific seasons.

Supporting quotes

“Many fishermen believe that there are discrepancies in management when for example bottom species are put off limits during the winter fishing season when bottom fishing is more popular.” “Some species sought by anglers (bottom and reef fish) should be managed as “Recreational food fish”... other species (like tarpon and bonefish) as catch and release only... and some others like striped bass, redfish and sea trout should be managed as recreational food and as sport fish.” “Sport fishing managers need to start placing more value on socio- economic data and value as compared with commercial profit margins.” “What motivates (us) to be better fishers are cultural practices and methods, the motivation of show casing their freshly caught fish and preparing the harvest catch for cultural events, weddings, ... (etc.)” “They want their children and grandchildren and extended family members to learn and to participate in the fishing experience.” “They want to be able to give fish widely through social networks and have the option of exchanging fish and fish products for other kinds of resources in informal ‘non-barter’ exchange.”

Question 3: Describe specific feasible recommendations to achieve 2-4 of the common goals and objectives.

OVERARCHING THEME 1

Managing to MSY carries risk, does not adequately account for normal stock fluctuations, and disadvantages recreational fishermen. OY estimates should incorporate environmental variability and the different needs of recreational fishermen.

Supporting points

With some stocks, managing to MSY reduces the number of larger individuals and is counter to the recreational fisherman’s goals of frequent encounters with larger fish. Managing to a yield % of the stock, using a wider range of tools (i.e. fresh water fisheries) would better serve recreational fishermen.

Supporting quotes

"Managing for MSY maximizes yield and reduces age structure which is counter to the recreational goals of maximizing encounters and size." "The management needs to change somewhat from MSY to a more robust and diverse stock". "The MSA allows managing based on a mortality rate rather than poundage...it will likely require specific direction in MSA for the Councils and NOAA to consider this approach."

OVERARCHING THEME 2

Greater flexibility is needed so that different sectors can be managed appropriately. Councils and SSCs need more flexibility in setting ABCs and ACLs - the ACL should be

permitted to be upwardly adjusted when there is low risk of overfishing and there are significant social and economic benefits. Rebuilding time frames should be flexible and science-based on life history data.

Supporting points

Different sectors have varying needs and goals, and management flexibility should accommodate them. AM buffers for data poor stocks can be overly large and reduce fishing opportunities and thus, negatively impact communities. The 10-year rebuilding time frame is arbitrary as some stocks have rebuilt even where there have been overages.

Supporting quotes

"We need flexibility to fish when we have customers...the private sector needs to be able to fish when they are off work." "Stocks with little or no population data, yet age and size structure show no indication of overfishing should be removed from the requirement to set ACL or AM on that stock." "The concept of OY could be better operationalized as it relates to MSY specifications that lead to ABC/ACL/ACT....so that relevant social and economic factors are given at least some consideration, especially in data poor situations where...AM buffers are overly large and restrictive." "FMPs should be reviewed and based on multiyear segments as year to year ACL-ACTs do not allow for averaging."

Themes 1 & 2 require revision of NS1 in the MSA and revision of the new NS1 Guidelines. NS8 needs reconsideration/revision with respect to bycatch reduction, bycatch counting, and maintenance of robust stock structure.

OVERARCHING THEME 3

Improved data management systems and data collection processes are needed on recreational effort, catch, economic value, and non-economic values such as social participation, cultural identity, and community support through sharing fish and fishing opportunities.

Supporting points

Quota management (i.e. ACL) may seriously disadvantage recreational fishermen when catch and effort data is poor, especially if AMs lead to reduced seasons or other restrictions. The fishing experience may be of much higher economic value to the recreational fisherman than for the commercial fisherman, and should be recognized in the management strategies. Non-economic social and cultural values deriving from enhanced recreational fishing opportunities need more comprehensive consideration.

Supporting quotes

"Give states and regions the resources and authority to collect and analyze data...and allow them to more latitude to develop FMPs...based on more timely data." "Enhanced data collection is still a major concern and as MRIP evolves it is hoped that it will become more accepted by the statistical community, fisheries managers and the public." "The social and economic analyses for fishery impact statements and NEPA analyses.... need greater support and greater demand for more detailed and effective impact

analyses." "The allocation process needs to address the best economic and social uses, not reflect past trends."

Theme 3 may require revision of the MSA sections 303, 109 479 contents of FMP and FMP amendments, NS 8, and guidelines for community analyses.

OVERARCHING THEME 4

Fishing definitions (MSA 104-297 (4); MSA 104-297 (3); MSA104-297 (37) need to be revised so that the strict separation between commercial and recreational fishing, and their respective sectors, is more flexible. This can allow for recognition of subsistence fishing, and on a regionally appropriate basis, allow recognition of noncommercial fishing permitting cultural exchange of fish for other resources in traditional and customary ways that are not considered barter or a commercial profit making transaction.

Supporting points

True subsistence fishermen continue to exist in the Western Pacific, Alaska, and the Caribbean. The MSA should accommodate their special needs for fish that that can be shared and exchanged in ways that help sustain their communities and cultures.

Supporting quotes

"A recognition of subsistence and a general definition that could be adjusted or locally operationalized in FMPs region by region is needed."

"The MSA needs to consider the different cultural beliefs and practices in the Western Pacific. We honor and practice many cultural ceremonies and fish have been a part of the ceremonies for generations."

"The broad definition of 'Commercial fishing' does not fit our region... because sharing and exchange is not trade or barter because there is no discussion of equivalencies."

Theme 4 may require revisions to fishery definitions and to the sections on Western Pacific Communities as well as similar provisions for the Alaska and Caribbean regions.

OVERARCHING THEME 5

Catch shares, IFQ ITQ and similar management schemes should not be a NOAA policy that is "pushed on" recreational fishermen.

Supporting points

The data needed for fair and equitable allocation between sectors is lacking. Fish are a public resource and should not become a freely given property right for a select few.

Supporting quotes

"Eliminate catch Shares, ITQs, IFQs and similar programs in mixed fisheries as they "lock in" commercial prosecution of the resource for a defined term of time."

Theme 5 may require reconsideration of the MSA section on LAPPS and their appropriateness for recreational fisheries along with the Catch Shares policy.

OVERARCHING THEME 6

Issues with related statutes - the MSA needs to be strengthened relative to other statutes that may severely restrict access and reduce fishing opportunities. Congress should consider MSA goals and provisions during consideration of any revisions to the ESA, MMPA, and NMSA.

Supporting points

In situations where data is lacking, the ESA and MMPA risk assessments (PBR calculations) may be inflated and overly restrictive. The NMSA may restrict fishing opportunities in areas of long term fishing access and intensify pressure elsewhere.

Supporting quotes

"Rein in control over the National Marine Sanctuaries and their attempt to impose no fishing zones under the guise of sanctuary environmental research areas (SERA)."

Theme six may require changing section 303A, or at least guidelines to treat recreational fisheries differently.

Policy or Regulatory Changes to MSA - Major Themes:

1. MSA needs to acknowledge the varying needs of different sectors. In section 407, remove language that unnecessarily restricts fishers, and add language that allows the exploration of innovative management. By doing so, definitions in the act may be added that create a legal distinction among recreational sectors. The referendum and catch limit language in 407 limits the possibilities for alternative recreational management. (407 (d) (1) is specific to Gulf red snapper and constrains NOAA/NMFS to shutting the fishery down - this is the only fishery with such a requirement in the MSA. Removal of this requirement would allow the RA to set multi year seasons with adjustments after the multi year seasons.
2. Revise MSA to recognize and include charter for hire as a sub sector of the commercial sector or its own sector (charter fishing is already defined....104-297 ...the term "charter fishing" means fishing from a vessel carrying a passenger for-hire (as defined in section 2101(21a) of title 46, United States Code) who is engaged in recreational fishing).
3. Create new funding sources that allow for new management strategies and to expand cooperative research programs.
4. Add legislative solutions to MSA to mandate fishery dependent data collection with an emphasis put on the needs of regional fisheries.
5. Managing OY for recreational fisheries. As there are conflicts between ecological, economic, and social objectives, as well as in the short and long term, it is important to recognize the OY for a recreational fishery needs to be different than that for commercial fisheries. OY must be treated as the fishery target and MSY as the limit (need to study the effects of "total removal" moving forward because as fish stocks recover, the fish get larger and we remove fewer fish than before to reach our TAC).
6. Need language that authorizes any of the 8 councils to set aside/reserve a portion of the allowable biological catch to use in pilot projects to test alternative management projects for

recreational fisheries (create penalties for those who choose to participate in pilot programs/new alternative projects and then fail to do so).

7. 10 Year Rebuilding Plans are beneficial for most species because of the long-term conservation and economic benefits of a rebuilt fishery far outweigh a fishery that is lingering in a depleted state. It seems that without a clear deadline, the hard decisions being made by fishery managers are constantly being put off in favor of minimizing socioeconomic concerns and nothing gets done. It is beneficial to give fishery managers the ability to make sound decisions based on the best available information, and in situations where that information is arbitrary or lacking, strive to improve it and proceed in a precautionary manner.
8. Establishing ACLs for data poor stocks – the councils need the ability to be flexible when setting ACLs on data poor stocks, or for stocks where there are incidental catches in multi-species targeted fisheries (i.e. gulf reef fish), to avoid-unnecessary fishery closures without any benefit to the fish stocks.
9. Change the make up of the councils to include a charter for hire seat at the table (recreational seats do not always represent the charter for hire sector interests). This could be accomplished by revising the MSA language on page 62: **302, 109-479 (D)(i)** to read as follows **109-479 (D)(i)** "The Governor of an applicable State submitting a list of names of individuals for appointment by the Secretary of Commerce to any of the Eight Regional Fishery Management Councils under subparagraph (C) shall include—" thus making the rule applicable to all 8 Councils.

Question 4: Identify themes/topics for the 2014 National Saltwater Recreational Fisheries Summit.

1. Alternative management methods need to be explored to maximize recreational opportunities and to be more responsive to the needs of recreational anglers.

Commercial MSY is focused on poundage whereas recreational fishing is focused on encounter rates and the possibility of catching larger or trophy fish.

“Quality of life” issues rank high (time on the water with friends, etc.)

Age diversity in fish populations has more importance than MSY

Consider innovative regional management strategies that address recreational needs and provide benefits to local or regional areas.

2. The MSA needs to be modified to recognize the cultural and historical basis for subsistence and recreational fishing by the First Nations, the Western Pacific Area, and the Alaskan Subsistence Fishery and the Caribbean.

Subsistence fishing is a critical concern to these groups for food and traditions. Ceremonial/cultural practices are often in conflict with traditional management practices. Subsistence anglers have a “catch and eat” philosophy rather than a “catch and release” philosophy. Subsistence fishers in the Western Pacific are allowed to share fish or sell a particularly large fish (to help with expenses) that would otherwise

go to waste. Management plans need to be flexible to allow for local custom/ceremonial practices.

3. The MSA needs to be modified from a primary interest of the commercial fleet to one where the recreational sector has better representation among the eight fishery councils.

The MSA is heavily weighted to the commercial industry to maintain profit. The Councils need to consider job creation - the economic data illustrates the value recreational fishing provides to their regional areas and the nation. Clarify definitions in the MSA where there is less ambiguity regarding what constitutes commercial and recreational fishing. Establish flexibility in management to allow for excess fish caught for subsistence or ceremonial fishers to be sold to help pay expenses. Recent trends suggest that some interest in moving the charter fleet into the commercial sector - this concept demands careful analysis and would suggest that there is an attempt to move allocation into the commercial sector at the expense of the “for hire” charter fleet.

4. MPAs and fishing closure zones are having significant economic and social impacts on recreational anglers and subsistence fisheries. Are these zones functional and is this the best management practice available?

Loss of access via closure zones puts a substantial burden on subsistence fishing. MPAs can create behavior modifications that cause heavy fishing pressure on the edge of the zones. Do MPAs or closure zones act as effective conservation tools or do they merely create preservation areas for the sake of preservation. With loss of access, do state and regional management efforts of bag limits and in-season action work more effectively to manage the fishery?

5. Explore a uniform recreational effort and landing data collection and analysis system that provides uniformity across the councils and allows for timely and accurate reporting.

Consider observer data that is necessary and most beneficial. Data collection is difficult and expensive so must be focused and accurate. Solicit methods from those states and regions that have viable programs to determine if they can be expanded to other regions. Determine what species should be considered for ACL or would species complexes be more efficient and effective for management purposes. Data poor stocks have multiple layers of “uncertainty” built into the models of determining ACLs, ABCs, and harvest levels. Proxy values result in overly conservative estimates that reduce harvest levels and opportunity

6. Discuss the impacts of the current management methods of ACL, ABC, OY, IFQ, and ITQ on the recreational sector. While splitting sectors may be appropriate for the commercial fishery, these concepts are divisive and create conflict within the recreational sector.

The current management methods are more appropriate to the commercial industry, but are not effective for the recreational sector. Harvest data is immediate through fish tickets and landing data while recreational data has a long lag time of months or more than a year due to dock sampling methods, reporting differences, or lack of uniformity in reporting data. Harvest levels for the recreational sector should be more “guidance” than hard allocations since current data collection does not allow for in-season adaptive management controls. ACLs and ABCs should be modified from an annual hard allocation to a geometric average over a three-year period to buffer the rapid swings that can occur in one-year stock assessments.

7. The current policy for defining overfished stocks, the stock rebuilding process, and determining when a stock is deemed rebuilt needs to be modified. A ten-year rebuilding requirement is an arbitrary number and needs to be re-examined.

The current rebuilding model does not take into consideration the variation of species for maturity, spawning rate, recovery, or length of sexual maturity and fecundity. The ten year rebuilding requirement should be modified to consider short lived versus long lived species and be adjusted when appropriate. Current stock rebuilding requirements do not give consideration to the impacts on local communities and the potentially devastating effects of economic loss due to this inflexible standard of ten years. Look at regions or councils that have produced release mortality data, how can these be applied, and what lessons can be learned. How can anglers modify their fishing behavior to avoid overfished species or increase survival rates upon release? Evaluate high survival rate release methods to educate fishermen and encourage use by all regions to reduce mortality.

8. Harvest controls should be established for non-indigenous and non-US citizens fishing in the Western Pacific and elsewhere.

In the areas around Guam, Commonwealth of Northern Marianas, American Samoa, and Hawaii (Commonwealth/Territory), non-US citizens can fish completely unregulated without effective control rules or harvest limits
Uncontrolled fishing by non-US participants creates severe ecological and economic impacts to the local fisheries

9. Recreational marine managers should consider the current inland fisheries/wildlife best management practices - are there lessons to be learned?

The issues facing marine recreational fishers today are similar to those of inland fishers in the early 1900s. The federal government intervened to create policies that controlled or stopped market hunting and fishing to protect fish and wildlife resources. Policies were developed based upon conservation and socio-economic value over commercial dollars/pound comparisons.
Should industrial harvest of marine resources be more severely scrutinized?
Do “quality of life” (non-market economic values) issues in recreational fishing have priority over producing protein?

WRITTEN TESTIMONY BY
JEFF DEEM
ON BEHALF OF THE RECREATIONAL FISHING ALLIANCE

OVERSIGHT HEARING ON THE REAUTHORIZATION OF THE MAGNUSON-STEVENSON
FISHERY CONSERVATION AND MANAGEMENT ACT

BEFORE THE
COMMITTEE ON NATURAL RESOURCES
SUBCOMMITTEE ON FISHERIES, WILDLIFE, OCEANS AND INSULAR AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

SEPTEMBER 11, 2013

Introduction

Good morning Mr. Chairman and Members of the Committee.

Thank you for the opportunity to present testimony this morning on the need for flexibility in the re-authorization of the Magnuson-Stevens Fishery Conservation and Management Act. I am Jeff Deem and although I have the honor of being one of Virginia's representatives on the Mid Atlantic Fisheries Management Council and various state level committees, I am here to speak on behalf of the Recreational Fishing Alliance. In these capacities, I have a responsibility to represent fishermen from my state while working to achieve balance between conservation goals mandated by the Magnuson Act and the needs of the fishing community.

The premise that balance can be achieved between these two needs is reasonable and should be a defining principle of successful fisheries management. Yet, during my tenure on the Council, I have seen the implementation of some MSA mandates cause significant socioeconomic harm on the recreational fishing community while producing no conservation benefit. An example can be illustrated through the application of accountability measures and annual catch limits on the recreational fishing sector. The application of these management tools demands a timely, accurate and reliable data collection program. Even with improvements to MRFSS and the partial roll out of MRIP, no program currently exists which can responsibly or fairly enforce the accountability measures and annual catch limits on recreational anglers.

Management objectives must be in line with the limitations of the data collection at the time and when there is a disconnect, the impacts on the recreational sector can be severe, i.e., red snapper, black sea bass, etc.. That said, the Council just recently took action to address this shortcoming with the passage of the Omnibus Recreational Accountability Measure Amendment which will allow recreational catch limits to be evaluated in 3-year periods to account for the limitations of MRIP which is primarily designed to capture and estimate trends of recreational catch and harvest. Recreational

fishing seasons will no longer be cut short through emergency action based on projected landings derived from preliminary estimates. Also, the amendment would take into account the status of the stock when applying accountability measures to the recreational sector. These are measures that will ultimately improve the management of recreational fisheries under Council jurisdiction and move federal management more toward achieving the balance mentioned above. It is my hope that the members of the Committee look to this recent action by the Mid Atlantic Fishery Management Council as you develop reauthorization priorities in the coming months and use this example to draft pragmatic revisions to sections in MSA that deal with the application of annual catch limits and accountability measures on the recreational fishing community.

I believe it is critical that flexibility be part of the reauthorized MSA because our oceans are changing, especially in the Mid-Atlantic, in ways that we will not really understand for many years to come. It may be impossible to predict the long term effects of the pending changes on any particular species.

I believe the most pressing examples are;

1. Increasing Ocean Temperatures:

Whether this is caused by mankind or not is really not an issue in the discussion of flexibility. The fact is that fishermen and scientists are telling us that the ocean temperatures are rising and we are seeing the northerly movement of certain species as they apparently search for cooler water temperatures. What effect this relocation will have on the status of any particular stock is unclear. Adding to the uncertainty are other, less obvious, potential changes such as the timing of plankton blooms and juvenile production which currently coincide to some extent. Because many juvenile species rely on plankton as their first forage, the ability of juvenile fish to survive and stocks to flourish may be negatively effected if rising temperatures separate these two occurrences.

2. Ocean Acidification:

While global warming may ignite some vigorous debates, it is much more difficult to deny mankind's responsibility for the increase in carbon dioxide in the atmosphere and the resulting increase in ocean acidification. Although there are some studies underway, we are just beginning to analyze what effect it will have on any particular species' spawning, recruitment, maturity or even the abundance of the species they rely on for forage.

3. Ecosystem Management Strategies:

Most experts will agree that not all species can be at their peak at the same time. It is generally accepted that as we move into ecosystem management, we will be forced to decide which particular species are favored over others and then maintained at their peak abundance. As we begin to manage under an ecosystem model, what will we learn about species interactions and how will our potential management of those interactions affect our ability to set mandates and schedules for the growth of an individual stock? The only thing we can really be sure of is that the fish and other sea life will not always follow our schedules.

4. Protected Species:

As we take measures to further protect mammals such as dolphins and whales, and numerous species of sharks such as great whites, how will we calculate the effect of their increasing abundance on a particular species we are trying to manage? The average dolphin

weighs around 450 lbs. and consumes 20 to 40 lbs. of forage a day. A 200 ton blue whale consumes 4 to 6 tons of forage a day. A great white shark may weigh up to 5,000 lbs. and consume 150 to 500 lbs. per day. If you can think of the ocean as an aquarium, how much confidence can you have in your projections of stock growth for other species when you are increasing the number of large predators?

5. Species Not Managed:

For example, there has been a noticeable increase in the number of skates or rays in recent years. Some scientist tell me that the bycatch reduction steps we are taking to avoid taking protected species in nets and other gears also allow skates to escape. These and other un-managed species may compete with and feed upon the species we are trying to rebuild.

6. Invasive Species:

Unfortunately, my home state of Virginia has two prime examples of the damage invasive and transplanted species can cause. Snakeheads and Mississippi catfish are having a substantial negative effect on the natural balance in our tidal rivers. These catfish are surprising even the experts with their ability to thrive in brackish waters where they devour crabs, small flounder and other native species. I would expect that they also consume a substantial portion of the herring and other species that inhabit our tidal rivers during their spawning migrations. How can our projections for any particular species account for these relatively new competitors and any others introduced during a fixed rebuilding time frame?

7. Natural Cycles of Fish Stocks:

Last fall we witnessed a huge increase in the number of small red drum in the Chesapeake Bay, on Virginia's eastern shore and throughout much of the mid-Atlantic. This is great if red drum happens to be the species you are trying to rebuild, but if such a species rebuilds faster than expected and competes with or consumes other species we are trying to rebuild, how do we account for that without flexibility in our plans?

8. Offshore Energy:

The Bureau of Ocean Energy Management is projecting the installation of 20 gigawatts of wind turbines by 2020 and 54 gigawatts by 2030. At 7 megawatts per turbine, that's 1,400 turbines by 2020 and 7,700 by 2030. Add to that oil and gas platforms, liquified natural gas terminals, piping, cabling, construction and support traffic and we are talking about significant physical changes in the ocean environment. We do not yet have the experience to know:

Which species will benefit and which will suffer?

Will there be an increase in top level predators?

Will the electrical fields generated by submerged power lines affect spawning or migration?
How will the changes in wind flows affect the turning of the water at different depths and what effect will that have on our fish stocks?

In the near future, more than ever before, it appears that there will be far too many variables for us to make finite, long term projections about what will or will not happen to any particular species.

My testimony thus far has illustrated that the ocean and the marine resources within are extremely variable and influenced by many more uncontrollable factors than just fishing

pressure. It is unrealistic to assume that fish stocks can be rebuilt or maintained without acknowledging these factors. Language included in the 1996 reauthorization of MSA mandated very strict adherence to rebuilding timeframes and did not give fishery managers the ability to account for biological and environmental variable that may impact the speed at which a stock can rebuild. The scenario played out in the summer flounder fishery which was under a 10-year rebuilding timeframe. Tremendous progress had been made and the stock had reached historic levels of abundance. The rate of increase slowed during the final years of the rebuilding plan and the lack of flexibility forced managers to set fishing quotas so low that it was unlikely that directed fishing for summer flounder would be possible. In the final hours of the reauthorization, Congress allowed a 3-year extension to the summer flounder rebuilding timeframe which allowed the fishermen to retain reasonable access to the fishery. Ultimately the summer flounder stock was rebuilt on schedule and the rebuilding timeframe extension did not have any negative impact on the stock. This successful example illustrates that limited flexibility is a useful tool that should be afforded to all federally managed species.

This extension was a success from the scientific perspective as well. This "buffer" not only kept people working but provided time for the science to improve. The original target stock size for this fishery set in 1996 was 338 million pounds of total stock biomass. The numerous benchmark assessments performed over this 13 year period resulted in a determination that the stock could only support a population of 132.4 million pounds of spawning stock biomass, which equates to about 143 million pounds of total stock biomass. That is 42% of the original stock target. As we witnessed, the science is improving, but it is irresponsible to assume that it is accurate enough to justify the socioeconomic damage that can be inflicted through mandatory deadlines.

In closing, I urge the members of the committee to incorporate limited flexibility in rebuilding fish stocks when deemed appropriate and when not a detriment to the overall conservation of the stock in question. Experience has shown that management flexibility can have both a positive impact on the fishing community and rebuilding objectives. In addition, the Committee needs to acknowledge that the limitations of recreational data collection programs and the failure of NOAA to fully implement section 401(g) of the 2006 reauthorization make it impossible to apply annual catch limits and accountability measures on the recreational sector in a fair and responsible manner. Currently, the recreational fishing community is being disadvantaged due to this inconsistent enforcement of MSA. I believe that HR 6350 the Transparent and Science-based Fishery Management Act of 2012 is a very good starting point as the Committee undertakes MSA reauthorization in the 2013 Congress.

Thank your for this opportunity and the time and effort you and your staff have dedicated to protecting our resources and the citizens that rely upon them. If I can be of further assistance, please do not hesitate to contact me through the RFA.

Jeff Deem

Coastal Conservation Association

(November 15, 2013)

<http://www.joincca.org/issues/6>

The Magnuson-Stevens Fishery Conservation and Management Act is a comprehensive law managing America's marine fisheries. The bill first passed in 1976 and reauthorized twice in 1996 and 2006.

Throughout the Act's 30-plus-year history, MSA had yet to end one of recreational and commercial fisheries' most persistent problems, overfishing. Federal fisheries limped along from one year to the next under faulty management plans that rarely recovered overfished populations.

As a result, MSA's 2006 reauthorization enacted the strictest legal mandates ever seen in fisheries management in an effort to end the intractable problem of overfishing. MSA called for the cessation of all overfishing in U.S. waters by 2011 and a timetable for the rebuilding of overfished species. Ending overfishing finally had a firm deadline. And at last, recreational anglers felt they had the recipe for proper, robust conservation of our marine resources.

Though the new MSA mandates may be the recipe for good conservation, the agency has utterly failed to properly manage our marine resources and is causing short-term hardship. Many outside the agency are rightfully irate at potential closures for popular species. However, they've misdirected their anger at the new provision of MSA, rather than the agency. The fault lies with an agency that has failed to competently discharge its duties under the law.

The NOAA Fisheries lack appropriate data and appropriate effort in managing recreational fisheries. This will cause a trainwreck between the NOAA Fisheries and the recreational angling community in the upcoming months unless a reasonable, workable solution is implemented to address the root problem in federal fisheries management.

Among the issues CCA has identified that must be addressed in the next reauthorization:

- Hard quotas and annual catch limits based on infrequent stock assessments are not the tools to manage robust recreational fisheries;
- Rebuilding targets and timelines should be based on biological criteria that is tied to the biology of the species rather than tied to an arbitrary time frame;
- Allocations between the recreational and commercial sectors remain a critical component of fisheries management that is virtually ignored by current federal managers;
- State-based fishery management has proven to be far more effective than federal fisheries management in many fisheries and it would be highly productive to develop procedures for inter-jurisdictional coastal state management of marine species where appropriate and beneficial.



Center For Sustainable Fisheries

115 Orchard Street, New Bedford, Massachusetts 02740 | 508-992-1170 | Fax 508-993-8696
info@centerforsustainablefisheries.org | www.centerforsustainablefisheries.org

A science based non-profit organization devoted to the conservation of our fisheries resources and the economic development of our fishing communities.

ADMINISTRATION

Brian J. Rothschild, PhD

President and Chief Executive Officer

Kate Kramer, Esq., M.M.A.

Chief Operating Officer

Julie Peterson, Esq.

Counsel

May 5, 2014

ASFMC

1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Dear Commissioners:

The Center for Sustainable Fisheries (CSF) envisions the MSA reauthorization as a significant opportunity to improve recreational and commercial fishery management performance.

We (and our cosponsors, National Fisherman magazine) have discussed this opportunity with interested public in Seattle, Baton Rouge, and Boston, under the co-sponsorship of National Fisherman Magazine. Our discussions have generally been based on documents that we have written that have are available on our website (<http://centerforsustainablefisheries.org/calendar/>). These documents include a discussion (and a rewrite) of the National Standards, the House Discussion Draft (HDD) and the Senate Discussion Draft (SDD).

After traversing the Nation we have come to the opinion that there are widely diverging views relative to the details of any rewrite and that these divergent views arise from a need to discuss the fundamental principles associated with any reauthorization and a need to develop a core understanding of practical fisheries management tools. To this end we believe that viewpoints on reauthorization will converge from a more in-depth national discussion that focuses on principles and technical issues.

Regarding the principles our candidate list includes, 1) accommodating regional differences while addressing core national concerns; 2) recognizing importance of bottom-up decision making; 3) maximizing council flexibility; 4) avoiding one-size- fits -all solutions, 5) focuses on "real science", not science that has evolved as a result of seemingly unlimited deference by courts to the management agency.

CSF feels that a successful reauthorization needs to devolve from an explicit articulation of principles. Omitting this approach will result in piecemeal adjustments and accretion of problems, rather than elimination of chronic difficulties.

It is important at the outset to point out that the CSF's approach to reauthorization is different than either the HDD or the SDD. The major difference is that the CSF approach focuses on the ten National Standards, the SDD does not consider the National Standards, and the HDD changes the term "overfished" to "depleted."

Taking the principals that we have developed along with viewpoints that we have heard, we have addressed what we think are major problem areas. The intent of our analysis is to identify opportunities for reauthorization language. We realize that these opportunities might not be considered by some to be feasible. However, it would be unwise to dwell only on the feasible without taking into account the possibilities that may avail themselves at a future date.

For the purposes of this communication, we have organized our analysis into three main issues. The first issue relates to developing a well-organized process for input on principles and technical issues. The second issue involves developing a coherent policy direction for the national standards, which at the present time consist of a multiplicity of difficult to interpret (let alone follow) goals. The third issue involves clarifying in a technically satisfactory way the tension between "overfishing" and "optimum yield" taking account of maximizing council flexibility and the need to include language on multiple species fisheries. And the fourth issue involves best science available a central problem that is difficult to legislate and articulate in plain language, yet is a chronic concern among fisheries managers.

ISSUE 1: CSF urges the development of a timeframe for reauthorization.

Without a timeframe, it is virtually impossible to arrange reasoned input and have a full discussion of the complex issues that comprise fisheries management.

ISSUE 2: CSF notes that fisheries management goals have diverged considerably from the intent of congress expressed in the legislative history and in the early implementation of the MSA (FCMA 1976). The current de facto goal is to "prevent overfishing", virtually ignoring "optimum yield" and the other nine NS. Accordingly, the various virtues of the extant NS(e.g. safety at sea, best available science, well-being of fishing communities) should be combined into a single NS or a few(the CSF rewrite is based on five rather than ten NS) that give a coherent sense--which does not now exist--to the required properties of a fishery management plan.

ISSUE 3: It is our view that the extant MSA target objective for fisheries management is vague and ambiguous. As such, it ignores critical performance indicators such as *underfishing* which can be substantially more costly than overfishing. The CSF rewrite changes NS1 from, "*conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery...*" to "*conservation and management measures shall maximize or optimize yield (or some economic function of yield) subject to the constraint of keeping fishing mortality at or below a level specified by the council*". The CSF version is a manifold improvement in the sense that it 1) unifies the goal from a mix of overfishing and optimum yield to optimizing yield 2) suppresses the use of the scientifically ambiguous term "overfishing" while emphasizing a single relatively well defined objective maximizing the yield; 3) accommodates multiple species(i.e. multiple species can be in the objective function while the extant version takes account of only one species at a time; 4) preserves limiting fishing effort, 5) maximizes flexibility of the council in the sense(recognizing that not all stock assessments are perfect) that

it is up to the council to determine based on science and common sense the appropriate fishing mortality target for each stock and 6) blends the extant NS1 NS2 and NS8.

ISSUE 4 It is important to address the many aspects of “best science available”. It is the CSF view that a more transparent process is needed that involves more inclusive mechanisms. A unifying framework would involve, specifically identifying in any fisheries management plan 1) data sets used; 2) data sets that are available, but not used; 3) alternative reference points that are preferred; and 4) reference points that are available, but not preferred. The main idea is to share with the Council the rationale for choices made by analysts in selecting data sets and choosing reference points.

There needs to be a better way of resolving disputes. One such approach might be that in the case of major differences on data, conclusions arising from data, or interpretation, NMFS would form a panel composed of representatives of the Agency and those external to the agency who challenge either the data or the conclusions to reach an agreement. This would hopefully obviate litigation, which almost always does not really address “best science available”.

CONCLUSION. To conclude, an articulation of principles, leads to suggestions for rewriting the extant MSA. CSF contributes its consideration of principles and issues that arise from the principles as part of the national discussion on reauthorizing MSA.

Sincerely,

/s/ Brian J. Rothschild

Brian J. Rothschild
President and CEO

Center For Sustainable Fisheries

115 Orchard Street, New Bedford, Massachusetts 02740 | 508-992-1170 | Fax 508-993-8696
info@centerforsustainablefisheries.org | www.centerforsustainablefisheries.org

“A science-based nonprofit organization devoted to the conservation of our fisheries resources and the economic development of our fishing communities.”

Rewriting the Magnuson-Stevens Act

Brian J. Rothschild¹

The 2013 Pacific Marine Expo
Seattle, Washington
November 20, 2013

Keynote Address

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¹ I would like to extend recognition and thanks to Catherine B. Kramer, Scott W. Lang, Julie K. Peterson, and Emily Keiley who assisted in researching and writing various sections of this keynote address. The analysis in this paper is a New England perspective that will undergo national evaluation.

I. INTRODUCTION

The Magnuson-Stevens Act (“MSA” or “Act”) is up for reauthorization in 2014 and the opportunity to fix what is broken and improve what has not worked well should not be missed. At many governmental hearings and public meetings, it is said that all we need to improve the MSA is “flexibility.” Words like “flexibility” mean different things to different people, and such a cursory debate will not produce a functioning law for the complex issues we face in this early part of the 21st century.

While various interests may recommend different means of improvement, there is widespread agreement that in certain key areas the MSA as interpreted and implemented falls short of our nation’s needs. These include an inability both to develop accurate and timely science regarding fish and people, and to use that science to benefit both when and where it is needed. Major issues are laid out in this paper, which is intended as an introduction to a series examining in more detail suggested modifications to the MSA. Identification of the major issues come from working in the field of fisheries management science and hearing over time the concerns of fishermen, fisheries scientists, community leaders, lawyers and many others.

These major issues can be addressed by focusing on two main principles. First, the MSA’s language must be rewritten to strengthen the scientific basis for all conservation and management measures, including not only the biological or fishery-related sciences, but the much-neglected socio-economic or people-related sciences. Second, all 10 National Standards must be balanced to reflect an appropriate symbiotic focus, rather than one that has narrowed over the years to a preoccupation with only one concern: “overfishing.” Rewriting the National Standards to ensure these goals are consistent with the intent of the MSA and its predecessor legislation has the potential to bring greater balance and scientific justification to fisheries management.

Mere reauthorization without thoughtful changes to achieve these goals will fail to achieve balance in fisheries management, and endanger the sustainment of our nation’s fisheries resources. Thoughtful change requires that the MSA be rewritten.

II. ORIGINAL INTENT OF MSA VERSUS MSA AS IMPLEMENTED TODAY

The MSA was originally passed as a means to protect U.S. fishing resources exclusively for the United States’ fishing industry. Congress’ intent was to create a fisheries management system that allows Regional Councils made up of local and regional fisheries experts to exercise primary responsibility for managing the resource. The Secretary of Commerce (“Secretary”) was charged with overseeing this management to ensure that the MSA’s provisions, including the 10 National Standards, are followed by the National Marine Fisheries Management Service (“NMFS”). However, the Act has proven to be very different in practice from what is written, with perhaps the most serious gaps appearing in the difference between the intentions and expectations of the Act and the practice in reality. These differences have led to much controversy and dramatic tension throughout the United States between the regulators and the fishing industry.

Some of the controversy stems from: the government’s interpretation and equivocation of MSA provisions and statutorily defined terms; the use of sometimes outdated survey data and stock assessments to set Annual Catch Limits (“ACLs”); the accuracy of survey data due to the frequency and methods by which that survey data is collected and assessed; the allocation of resources in the industry; and a management system that is based on single-species rather than multi-species management when appropriate. At the core of and particularly concerning gaps between the MSA’s mandates and actual practice is the failure to realize the critical requirement in National Standard 2 that all management be

based on the “best available scientific information” (MSA § 302(h)(1)). The Agency has often taken the position that the best data can only come from its own staff. Failure to fully implement this part of the law is the source of many other issues, such as controversy over what is the “best available science,” what studies should be included in deciding which is “the best,” and who has the final say over what is “the best.” This narrow interpretation of the “best available science” has led in many cases to the acceptance of something far less than the “best” science. Another critical departure from congressional intent is a doctrinaire emphasis on sustainability of fishery resource over fishery communities and families. As under current law the Agency is deemed the sole arbiter of these questions, scientific research and ideas have been unfortunately restricted to the views promulgated by the governmental bureaucracy. In many ports throughout the United States, the end result of the current MSA and fisheries management system is an underperforming system, and the destruction of the fishing industry and the communities they support. Litigation from both conservation groups and the fishing industry cannot fully correct these problems and leads to a constant chaotic discourse among stakeholders. Improvements to -- and thus rewriting -- the MSA is necessary.

III. THE DEVELOPMENT OF TODAY’S MSA

There have been several amendments to the MSA, with those of 1996 and 2007 making the most significant changes. The 1996 reauthorization resulted in a fundamental shift from the Act’s primary domestic purpose being promotion of economic development of the fishing industry to: conservation of fishing resources, reducing bycatch, and protecting essential habitat; the addition of the terms “overfishing” and “optimal yield;” and defining optimum as meaning “as reduced by” maximum sustainable yield (“MSY”) rather than “as modified by.” While regulation aimed at conservation is necessary to ensure the continued availability of this valuable resource, the dangers of rigid government regulations and the unintended or unforeseen adverse consequences of government regulation multiply whenever regulations increase in number, complexity, scope, and enforcement. The current system exemplifies this maxim.

The 2006 reauthorization, and current version of the Act, mandates that the Council utilize ACLs to manage the fisheries and supports a market-based management system through the utilization of catch-shares. The reauthorization of 2006 also called for unscientific, hard deadlines to end “overfishing” and emphasized utilizing Ecosystem-Based Fisheries Management (“EBFM”). The insertion of such terms as “immediately”(16. U.S.C. § 1854(e)(3)(A)); the inclusion of rigid, arbitrary deadlines with no scientific basis whatsoever for rebuilding stocks that have been determined to be “overfished”; and the new requirement that Regional Councils not be allowed to set catch levels above those recommended by a Science and Statistical Committee (“SSC”)(MSA § 302(g)(1)(A)), which sometimes includes employees or staff of the Agency, are just a few of the 2006 changes that were well-intended, but have in practice hobbled our ability to manage fisheries in a way that is based on the “best available science,” and that is responsive to changing conditions.

Fisheries management performance must be improved upon. Improved performance and accountability for performance means that performance standards must be redefined. Mere reauthorization is unlikely to achieve the much-needed balance in fisheries management. A reauthorization that incorporates thoughtful amendments is critical to sustaining our nation’s fisheries resources

IV. PERFORMANCE STATISTICS

The MSA’s effectiveness and results have varied among different regions, but there are also many similarities, including problems in the consideration of performance statistics. The New England region serves as a good example to demonstrate this.

Currently, fisheries management performance in New England focuses on the narrow issue of whether stocks are “overfished” and the use of outdated economic statistics. The resulting performance statistics for the New England groundfish fishery are not encouraging. Despite intensive management and reductions in fishing effort, 13 out of 20 stocks are overfished and eight are subject to “overfishing” (the number overfished and subject to “overfishing” has not changed since 2007). Additionally, between 2007 and 2011, groundfish trips have declined about 30 percent, days absent have declined by about 25 percent, and number of vessels has declined about 30 percent. From 2007 through 2010, crew positions also declined from 1,700 to 1,200 positions, or by approximately 30 percent. Also, between 2007 and 2012, Total Allowable Catches (TACs) and/or ACLs declined by about 50 percent and landings/catch declined by 30 percent. Finally, price per pound has increased about 50 percent, and as a result gross revenue has stayed constant.

It is plain from these statistics that the so-called “overfished” condition of the stocks remains high, even though fishing intensity has declined by a considerable degree. There is a material job loss in the producing sector, which presumably generates job loss in the processing sector, and spreads throughout the fishing economy and the port itself. The overall job loss and the uncertainty and delays in the regulatory process contribute to the loss of fishing industry infrastructure in port communities and unaccounted for welfare costs in coastal communities. Other indicators of the adverse impacts to the nation are shore-side losses in fuel and repair (correlated with the reduction of trips and vessel loss), and a decreased supply of fish and increased prices for consumers. Indeed, the situation is so dire that the government has declared the New England groundfish fishery to be a “disaster,” and we now import over 90 percent of our seafood from countries that, in many instances, have little or no quality inspection guidelines or conservation measures in place.

These performance statistics give only a partial picture of the poor state of fisheries management and bring to light the considerable waste created under it. The waste includes: substantial underfishing, signaled by not attaining the OFL; unnecessary 25 percent buffers that constrain catch; continuing irrational, unnecessary and disgraceful discarding; and losses in yield incurred by attempting to rebuild stocks that have zero potential to be rebuilt. The waste caused by underfishing, discarding, etc., can amount to 10 of millions of dollars lost each year.

V. A NEED TO SEPARATE MSA FROM ITS IMPLEMENTATION

It is difficult to constructively criticize the MSA in a vacuum because, as implemented by the National Oceanic and Atmospheric Administration (“NOAA” or “Agency”) it reflects not the MSA by itself but a combination of the Act and both formal (i.e. Fishery Management Plans) and informal actions and rulemaking undertaken by NOAA.

The MSA has several purposes, including:

to take immediate action to conserve and manage the fishery resources[,] ... to promote domestic commercial and recreational fishing under sound conservation and management principles, including the promotion of catch-and-release programs in recreational fishing[,] ... to provide for the preparation and implementation, in accordance with national standards, of fishery management plans which will achieve and maintain ... optimum yield ...[, and] to establish Regional Fishery Management Councils to exercise sound judgment in the stewardship of fishery resources through the preparation, monitoring and revision of such plans under circumstances ... which take into account the social and economic needs of the States. (MSA § 2 (b)(1),(3)-(5))

To carry out the purposes of the Act, Congress mandated that:

“[a]ny fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with 10 National Standards, as laid out in the Act.” (MSA § 301(a)).

By merely reading the MSA, it would seem that National Standards 1 and 8 must be balanced with each other. However, NOAA in its implementation has not interpreted the Act in this way. Instead, NOAA, in its National Standard Guidelines has interpreted that they were laid out by hierarchy, with Standard 1 being the most important and superseding all others. Under the case law that has developed pursuant to the principles of administrative law that allows great deference to an agency that is presumed to be the “expert,” there is no check on this interpretation unless the MSA is modified by Congress to clarify this balance.

As a practical matter, there are two National Standards that create most of the controversy in fisheries management: Standards 1 and 8. However, much of this controversy would be eliminated or mitigated if they were more properly balanced and combined, and if National Standard 2, which requires that all conservation and management measures be based on “the best available scientific information,” was strengthened to clarify that, yes, indeed, all conservation and management measures MUST truly be based on the “best available scientific information.”

A. Restoring the Principle of National Standards Balance

A plain reading of National Standards 1 and 8 reveals that they are complementary and interrelated.

Standard 1 reads:

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. MSA § 301(a)(1).

And Standard 8 reads:

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities and (B) to the extent practicable, minimize adverse economic impacts on such communities. MSA § 301(h).

Taking into consideration that every National Standard must achieve two things -- conservation and management -- it should necessarily follow that every standard has equal weight and all must be balanced to achieve both conservation and management. NOAA, however, has, primarily through the National Standard Guidelines and informal rulemaking, chosen to interpret and implement the National Standards in a way that in practice places conservation for conservation’s sake above all other goals, despite this interpretation and implementation being in direct conflict with the MSA and congressional intent. Conservation includes protecting the various species and habitats of the ocean environment. However, conservation for conservation’s sake alone does not serve the MSA’s goals of feeding the nation and promoting its fishing industries and communities. The MSA was never intended to protect fish merely so that they may die of old age in great rotting piles on the ocean floor. Management includes deciding how to use the fisheries resources to achieve several goals, including economic growth and stability for those who depend on the resources for their livelihood, in order to benefit the nation.

Management for any other purpose has become an afterthought; a box to check to show that it was “considered,” without being given any substantive weight. Worse, there is no incentive to get the number of fish necessary to meet these conservation goals “right.” In fact, there is strong incentive to apply excessive “buffers” to artificially reduce the allowable catch and overstate the number of fish needed to remain in the ocean. Why? Because the courts have required that these numbers must provide at least a 50% chance of meeting whatever conservation goal an SSC may choose. *See NRDC v. Daley*, 209 F.3d 747, 754 (D.C. Cir. 2000) (Court ruled that ‘to assure’ the achievement of the target F, to ‘prevent overfishing,’ and to ‘be consistent with’ the fishery management plan, the TAL must have at least a 50% chance of attaining a chosen conservation goal. *Citing*, MSA § 302).

As a result, courts will overrule the agency when the agency sets a number that has less than a 50% probability of meeting a conservation goal. However, the judicial system does not apply a similar rule to situations where the agency sets a conservation goal that has a less than 50% chance of being accurate. As the agency seeks to avoid being overruled in any court challenge, it will err in favor of conserving fish without regard to accuracy. This is why we see layers of excessive buffers that are cumulative and that unnecessarily reduce the number of fish allowed to be harvested. The layers of unduly ample buffers may be unnecessary and inaccurate. However, there is no penalty for erring in favor of conservation. If a 50% chance of being certain to achieve the selected conservation goal is acceptable, then under the current regime, choosing the conservation measure that is 90% certain to achieve that goal is even better.

In a system where socioeconomic harm is rarely adequately identified, and not even allowed to be considered unless two proposed alternatives have the same chance of meeting the chosen conservation goals, socioeconomic considerations will rarely, if ever, be considered a strong enough reason to reject a measure with a greater likelihood of certainty in meeting the conservation goal, regardless of the socioeconomic impacts. *See Lovgren et al v. Locke et al*, 701 F.3d 5, 35 (1st Cir. 2012) *citing*, *NRDC v. Daley* at 753 and stating further that adverse economic impacts on communities are subordinate to the MSA's overarching conservation goals.). Accuracy is unlikely to be achieved, as accuracy is not the goal and is not rewarded. These incentives must be viewed in light of the fact that as this paper details, the SSC often uses data that is too little, too late, and not entirely relevant in identifying and choosing conservation goals. In short, there is no check on the system for erring in favor of conservation, regardless of accuracy, and no incentive to obtain and use accurate and timely data.

Standard 8's relationship to Standard 1 has become one where socio-economic considerations are an afterthought. Yet, most would say, this National Standard was pre-eminent in the minds of the original drafters of the Fisheries Conservation Management Act (“FCMA”). Considerations associated with Standard 8 should place this objective in a central position, along with conservation, as a goal of management. The Agency has interpreted Standard 8 to mean that as long as the Council merely “considers” or “looks at” what the socio-economic impacts are, the Standard is satisfied. NOAA's implementation has placed an extremely low burden on the Council, and has drastically decreased the importance of Standard 8 and the real-life economic consequences that management decisions have on the local fishing industry and communities. The end result is that the adverse economic impact and hardship an ACL might create is of no real concern to the Agency and no cause for any action, regardless of how devastating.

There is no reason why the Agency could not implement the National Standards in a simple and straightforward manner. Rather than being bound by an extensive set of formulaic rules that do not necessarily make sense in specific fisheries management settings, a balancing and simple plain-language approach will maximize the flexibility and allow the Council to adapt and innovate FMPs on a case-by-case basis.

B. Enforcing the Mandate of National Standard 2

National Standard 2 forms the basis and backbone of Standards 1 and 8. Standard 2 is very clear and unambiguous:

“Conservation and management measures shall be based upon the best available scientific information available.” MSA § 301(a)(2).

Despite this seemingly clear mandate, there is much controversy over what the “best available science” is and who should decide what assessments should be used.

In the MSA, Congress did not define the location or from whom the “best available science” would come. The MSA does state that the Council’s ACLs:

“may not exceed the fishing level recommendations of its scientific and statistical committee or [a specific] peer review process.” MSA § 302(h)(6).

In its implementation, the Agency has interpreted that the best data would only come from their own internal data collection and analysis. Under dispute are not only the frequency of survey data collection, but also whether the assessment methods used are the best available. The Agency rarely, if ever, considers presenting or recommending data from other sources. The end result is that in setting ACLs the Council almost never considers any assessments outside of science center reports.

Congressional intent was to have the SSC and multiple other scientists present their studies and recommendations to the Council, and the Council then determines which scientific study is the best and sets ACLs based on the most reliable science. The MSA does not state that in order for an FMP to be consistent with the National Standards that the SSC report is the only fishing level recommendations that an ACL can be based on. There are instances where a Council member will point out that there is another peer-reviewed assessment that conflicts with the outcome of the SSC report. However, due to the Agency having interpreted National Standard 2’s “best available scientific information” to unequivocally mean only the SSC’s own data and analysis, if the Council were to approve an FMP that is based on a peer-reviewed assessment, it is almost certain that the Secretary would deny the FMP and reason that it is not consistent with Standard 2. Interestingly, Standard 2 limiting science to the “best available” puts a low ceiling on the scientific data available. The end result is that rather than being presented with various methodologies and the pros and cons of each, the Council only considers information from one source: research centers vetted by the SSC, including some government scientists. The result: Decisions are often based on less than the best science. To correct this, the MSA Section 302(h)(6) could be rewritten to state:

develop annual catch limits for each of its managed fisheries that are in accordance with the review process and requirements of the National Standards.

Another issue with Standard 2 is the limiting and narrowly defined interpretation of “science.” In its implementation, the word “science” in the MSA has been interpreted as meaning primarily biological information. The economic and social science information about the impacts on fishermen and fishing communities has gone by the wayside and has not been significantly studied. If the purpose of the SSC is to provide all relevant scientific evidence to the Councils to aid them in making their decisions, then how could the Councils possibly make sound and just decisions based on all the relevant facts about a fishery’s total value -- as Congress intended -- without all the information?

The Standard 2 science requirement demands a detailed review. Recently, the National Academy of Science’s National Research Council (“NRC”) released a report on fisheries management and stock

rebuilding plans that focused on a small part of the issue. Primary concerns relate to determining optimum yield in a transparent and balanced manner, taking into account the present methodology for establishing ACLs, particularly proxies used to set reference points and the buffers that are contrived to prevent “overfishing.” In a positive action, the New England Fishery Management Council created the Risk Policy Advisory Panel to begin to improve upon the economic and social science measurements. This is a step in the right direction.

VI. DISCUSSION: REWRITING THE MSA

In viewing MSA modifications, the trade-off between desirability and feasibility is always paramount, with debate often relating to cost and political correctness. It may not be politically correct to consider changing the “overfishing” definition, but without doing so, the ability to achieve a balanced approach in implementing our National Standards and science-based fisheries management is unrealistic. The following discussion issues should be used as a partial agenda and starting point for a national debate on MSA improvement.

A. National Standards 1, 8, and 10 Must be Combined, Amended, and Balanced

Congress must assert that National Standard 10 is superior to all other concepts in the fishery management system. Human safety in the fishing industry cannot be compromised. Congress reasonably intended National Standard 10’s mandate to “promote the safety of human life at sea” to be the most important of the 10 Standards. MSA § 301(a)(10). Surely no one can argue that ensuring the safety of our nation’s fishermen, who risk their lives to provide healthy food, is not of the utmost importance. Rewriting the MSA to incorporate human safety into National Standard 1 is necessary to ensure that safety is superior to both conservation of the resource and socio-economics when developing and implementing FMPs.

In order to properly balance National Standards 1 and 8 and clearly indicate Congress’ intent to factor in socio-economic impacts when setting ACLs, Congress must combine those two standards into a single National Standard. By combining them, Standard 8 will have greater force and effect and result in the needs of the fishing community being a centerpiece of the MSA. In order to effectively combine the two, the adoption of new objectives is necessary.

Standard 1 needs to be modified in language and practice to take into account optimum yield and to provide, or to be based on, a realistic interpretation of “overfishing.” The term “overfishing” is a misleading and discriminatory term that has been misconstrued, evident by its pejorative nature and its scientific imprecision. The origin of the pejorative aspect of “overfishing” relates to the false assumption that all declines in fish stocks owe to fishing, when in fact there are other causes such as climate change and pollution impacts. However, over the years the term has been narrowly and incorrectly construed to relate depleted populations solely to the effects of fishing. This in turn makes the term discriminatory in nature because it implies that if a stock is not healthy, fishermen are to blame. To accurately reflect all the factors that affect a fishery, the term “overfishing” should be replaced with a cause-neutral term such as “stock decline.”

From the point of view of scientific precision, the term “overfishing” is scientifically equivocal and ambiguous. For the term “overfishing” to be used as a scientific concept, it has to have a precise meaning similar to the temperature of boiling water being fixed at 100 degrees Celsius. The theoretical models used to define “overfishing” do not correspond with data and would require that the defining models exhibit maxima to make an “overfishing” declaration; however, these maxima do not generally exist. Additionally, there is no unique definition of “overfishing.” “Overfishing” can mean both growth overfishing and stock overfishing, but in both instances, the individual using the term is using it in two

different ways. Furthermore, theories not following equilibrium settings but real stock are almost never in equilibrium. Lastly, theories of “overfishing” ignore the ocean environment and species-to-species interactions, both of which are critical sources of variation.

First, consider the requirement to attain MSY for every stock. Many fisheries in the United States are multiple-species fisheries. In other words they consist of several or many species simultaneously. It is impossible to adapt to a management regime that requires MSY simultaneously for each species in the fishery.

Second, consider the fact that the difference between yield, fishing mortality, or biomass in an overfished and an underfished stock can be negligible, thus reducing to absurdity the “overfishing” concept as a practical tool. Let us say that we have two stocks, A and B. The B_{msy} of stock A is 100 and the B_{msy} for stock B is 50. Let’s say that in Scenario 1, stock A biomass is 99 and stock B biomass is 49. Let’s say that in Scenario 2, stock A biomass is 101 and stock B biomass is 51. Then the fishery under the first scenario is doing well. But under the second scenario, both stocks are overfished and would require a 10-year rebuilding program. On top of this, the yield for the underfished stock (Scenario 1) is materially no different than the yield for the overfished stock (Scenario 2) (recognizing this point is justification for the mixed-stock exception).

Third, economists and optimization experts will recognize the reconfigured National Standard 1 as adapting to a well-defined and well-known programming problem. Maximizing an economic function of yield satisfies the socio-economic component of the standard. Replacing “overfishing” with keeping fishing mortality below a particular level has the same function as setting F_{msy} except that the Council would have more flexibility and discretion in setting the “overfishing” level. The added utility of this approach is that it is easily adaptable to the reality of multiple species fisheries.

B. National Standard 2

National Standard 2 needs to be amended to have real force and effect. Good scientific practice is when decision makers are presented with multiple analyses and the pros and cons of each analysis. For fisheries management to follow good scientific practice, the Councils must be presented with multiple scientific analyses and an analysis of the pros and cons of each. The SSC should have increased input on various scientific methodologies, and particularly, data collection taking particular account of cost effectiveness. Currently, the Council considers for each stock one assessment method “recommended” by the SSC and sets catch limits based on each assessment. The SSC “recommendations” are presented to the Council, and due to the political culture, the Council follows the “recommendations.” In effect, the SSC is setting catch limits. The role of the SSC needs to be reconsidered so that it can focus more on scientific methodology, presenting all relevant assessments -- even if from outside the SSC -- to the Council, and less on setting catch limits, which is the Council’s function.

The rationale for increasing Council responsibility relates to the level of understanding of fish-population dynamics. In actuality, predictive understanding of fish population dynamics is limited. Put another way, scientific understanding is limited. Because of the limitation in scientific understanding, it makes sense to weigh more heavily on the competence of the Council, using information from the SSC, to set catch limits.

Additionally, in order to put teeth into the “best science” dictum, stocks need to be assessed on an annual basis, or at least on a more frequent basis than in current practice. Stock assessment should concentrate on the simplest methodologies and provide for technologically advanced methodologies for gathering real-time data. Lastly, innovative scientific leadership within the Agency needs to be rewarded, which ensures that the best science available is used and that there is incentive to improve upon analysis and processes. The main conclusion is that putting teeth into National Standard 2 requires institutional reform.

VI. REWRITTEN NATIONAL STANDARDS

The 10 National Standards should be combined and incorporated into five tenets, which will allow for a scientific-based fishery management system that balances conservation and sustainability for the fisheries, and for the people and port communities that comprise the industry.

These Five National Standards should be rewritten as follows:

(a) IN GENERAL — Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the following, equally paramount, national standards for fishery conservation and management:

(1) Conservation and management measures shall not compromise the principles of safety of human life at sea. Conservation and management measures shall maximize yield (or some economic function of yield) subject to the constraint of keeping fishing mortality at or below a level specified by the Council. Conservation and management measures shall take into account and balance the importance of fishery resources to fishing communities with fishing mortality goals, by utilizing economic and social data that meet the requirements of National Standard (2), in order to (A) provide for the sustained vitality of such communities, and (B) minimize adverse economic impacts on such communities.

(2) Conservation and management measures shall be based upon the best scientific information available. The best available science shall be derived by a collaborative effort of government, educational institutions, and private and non-profit scientists coordinated by NMFS and NMFS's regional SSCs. The best scientific information available shall be determined by the Council after a comprehensive review of multiple analyses and the pros and cons of each analysis, as presented by the SSC in conjunction with other fisheries scientists. Advanced technological mechanisms shall be utilized in every instance to gather and analyze samples and data.

(3) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. An individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. Conservation and management measures shall, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, account for and allow the bycatch to enter the marketplace.

(4) Conservation and management measures shall not discriminate among residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation and maximize yield as specified in National Standard 1; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

(5) Conservation and management measures shall not have economic allocation as its primary purpose.

Condensing into a logical format, the five interrelated standards will enable NOAA, the NMFS and the Council to more effectively implement the Congressional intent of MSA. Let the debate begin, but let's have an honest debate on how to rewrite and reauthorize this most important statute. The clear purpose of our efforts should be to ensure that the fisheries management system is effective, fair, transparent, and responsive to the ever-changing natural environment and socio-economic needs of the fishing communities.

VIII. OTHER DRASTICALLY NEEDED IMPROVEMENTS IN THE MSA REWRITE

A. Congress must Clearly Define What it Intends the Agency's Role to Be

Deference to the Agency on scientific matters needs to be reduced or eliminated. Under the MSA, the Secretary does not have the power to create FMPs. His or her power is limited to promulgating FMPs developed by the Councils after reviewing them, only to ensure that they conform to the Act. MSA § 304(a)(1)(A). Under the MSA, the National Standard Guidelines "shall not have the force and effect of law;" and therefore, are not enforceable as if they are statutory provisions or any other law. MSA § 301(b). However, the Secretary's power over the years seems to have increased. By evaluating whether the FMPs are approved, partially approved, or denied based on their conformity to the National Standard Guidelines, the Secretary has essentially made the National Standard Guidelines mandatory.

The extension of NOAA's unchecked authority is illustrated by the fact that the few lines of Standard 1 in the MSA have been expanded to 35 pages of acronym-dense material in the Guidelines. NOAA has stated therein that the relationship of Standard 1 to other standards is that "National Standards 2 through 10 provide further requirements for conservation and management measures in FMPs, but do not alter the requirement of National Standard 1 to prevent overfishing and rebuild overfished stocks." See 50 C.F.R. 600.310(l) (2009). Not only is NOAA's approach in conflict with the original intent of the MSA, it is also inflexible and does not give maximum discretion and flexibility to the Councils to balance the standards, as Congress intended.

The Secretary's role and power has increased and become much stronger than Congress seems to have intended, resulting in a top-down management regime where the local Councils have vastly less authority than what Congress intended. In the upcoming reauthorization of the MSA, Congress must clearly define and limit the reach of the Secretary and the Agency's power and give the power back to the Councils as the primary body that develops FMPs because of their local knowledge and expertise.

B. The Adoption of Performance Measures

Performance measures need to be adopted and delivered in real time. More effectively utilizing the SSC and creating multiple Committees may be one means to achieve this goal. By creating multiple committees, such as a socio-economic committee, information about the economic and social science impacts to the fishermen and fishing communities will be studied and the Councils will have all relevant information about the fishery value and the trade-offs among various fishery management measures.

Regarding the biological SSC, there are still many areas that can be improved upon. The biological SSC should increase stock assessments to an annual basis and include waste indicators -- such as discards and underfishing -- in its performance measures. The standard of frequency and thoroughness should be carried through to other Committees as they are created.

The adoption of real-time, frequent performance measures and annual stock assessments are a prerequisite to improving fisheries management performance. With real-time performance measures that cover all areas of science, not only will the Councils have all relevant information, but they will also be able to make more informed decisions about how an ACL and FMP will affect the natural environment and the

fishing industry's economy.

C. The Arbitrary 10-Year Rebuilding Period Must be Amended

Under the MSA, the Council must develop a rebuilding plan for every overfished fishery, and in doing so, the Council must:

“specify a time period for rebuilding . . . that shall be as short as possible . . . and not exceed 10 years.” MSA § 304(e)(4)(A)(i)-(ii).

It is said that a congressional staffer, not a scientist, established the 10-year rebuilding timetable by counting the fingers on his two hands. He could have just as easily counted his fingers and toes, but that approach would have produced a nonsensical, non-scientific result as well. The mandate is completely arbitrary and not based on any scientific reasoning. Additionally, the cause of the stock depression may have nothing to do with fishing, so a cessation of fishing will have economic consequence but probably no effect on the fish stock. Perhaps the most ironic aspect of this is that the recent NRC report displayed the lack of science (contrary to National Standard 2's mandate) in a 10-year rebuilding schedule, while virtually omitting a discussion of the effects of the ocean environment or the fact that it is not certain whether an “overfished” stock is actually “overfished.” Congress must rewrite this section to allow the Council to be able to have the ability to consider both biological and economic information to allow for the time frame for the rebuilding of stocks to be done on a case-by-case basis, using scientific facts, rather than a rigid and completely arbitrary counting of fingers or toes.

D. Cooperative Research Must Increase

Revision of data collection is also needed. Emphasis needs to be on utilizing fishing boats as scientific laboratories to sample fisheries and oceanographic data. Government research vessels might be repurposed to collect data on climate change.

It is likely that fishermen and vessel owners would volunteer their time, equipment, and log books to participate in cooperative research if there were an incentive for them to do so. However, there are concerns about their economic state, and whether the data will be considered by the Council.

If boats are allocated only so many days at sea, fishermen must use those days to fish and bring income into their small business. Thus, in order to ensure that fishermen are not penalized economically for helping complete research, Congress must mandate funds toward cooperative research and mandate the development of programs where a fisherman's days at sea to harvest fish are not reduced or otherwise affected by his or her aiding in research efforts.

As noted above, the Council receives limiting information. If there were a greater guarantee that research the fishing industry participates in and facilitates will be considered by the Council and Agency, then fishermen would certainly participate.

E. Congress Must Develop a National Scientific Working Group or Board

A national scientific working group needs to be established to hear complaints and appeals. A separate, small, independent agency that does not report to the executive office might be considered to provide oversight, checks, and balances. A solution might be to create a division within the Inspector General's Office that looks at managing the fisheries from a scientific and legal perspective.

F. Accountability for the Management Process

Mechanisms need to be developed to identify and improve underperforming entities. An independent audit committee should be established to evaluate NMFS efficiency in achieving the mandate of gathering the “best available scientific information” and utilizing the “best available science” to analyze the data and formulate conclusions that become the basis for FMPs. Such audits must include a review of both biological fisheries science and the science of socio-economic impact.

G. Congress Must Develop National Institutes

There is a need for National Institutes. Many of the recommendations for improving MSA are scientific or technical. It seems that because they are technical, they are subject to only brief and inadequate consideration, which will greatly constrain the quality of the reauthorization. The critical issues of fisheries management science need a national focus and national and regional programs. In order to motivate such an approach, NOAA might form several National Institutes to give adequate attention to developing new and innovative approaches to fisheries management. Potential institutes are: 1) fish management, population dynamics, and stock assessment; 2) ocean climate fish interactions, and; 3) fisheries economics.

IX. CONCLUSION

It is necessary to observe again that extensive discussion on these important issues is required. If we do not have detailed, cooperative discussions, we arrive at the lowest common denominator.

There are several points mentioned in this paper that not only need further formal research, but also must be discussed both locally and nationally with all stakeholders. Cooperation among all stakeholders, including the fishing industry, regulators, public, and environmental groups, must occur in order to improve fisheries management law. We must find a way forward and collaborate. The end result of the current MSA and fisheries management system is a seriously underperforming management system. Our management system cannot continue to underperform, the adverse consequences to our nation’s fishing resources and industry are too severe and likely permanent.



Center For Sustainable Fisheries

115 Orchard Street, New Bedford, Massachusetts 02740 | 508-992-1170 | Fax 508-993-8696
info@centerforsustainablefisheries.org | www.centerforsustainablefisheries.org

A science based non-profit organization devoted to the conservation of our fisheries resources and the economic development of our fishing communities.

REVIEW OF DISCUSSION DRAFT: “STRENGTHENING FISHING COMMUNITIES AND INCREASING FLEXIBILITY IN FISHERIES MANAGEMENT ACT”

Submitted to the U.S. House of Representatives on January 14, 2014

This document reviews the Discussion Draft “Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act” published by The House of Representatives on December 18, 2013. The Discussion Draft makes a positive contribution to reauthorization of the MSA and sets the stage for a national dialogue on reforming fisheries management.

The Discussion Draft identifies several opportunities for positive change of the MSA. The Center for Sustainable Fisheries (“CSF”) proposes further discussion should occur around components of the Discussion Draft.

Among the opportunities for positive change, the Discussion Draft identifies the following emendations:

- 1) Replace the term “overfished” with the term “depleted.”
- 2) Make membership on the New England Fisheries Management Council (“NEFMC”) and the South Atlantic Fishery Management Council (“SAFMC”) more representative of fishing communities.
- 3) Require transparency and public input into SSC advice and findings.
- 4) Require live broadcasts of Council meetings on Council websites.
- 5) Rewrite Section 304 “Rebuilding Depleted Fisheries” to eliminate the arbitrary rebuilding schedules and to recognize that stock depletion owes to factors other than fishing.
- 6) Take into account (section 304) the need to build mixed stock exceptions and socio-economic factors into rebuilding strategies.
- 7) Promulgate electronic monitoring objectives, performance standards, and regulations.
- 8) Allowing 80% of the Asset Forfeiture Fund to be obligated for data collection and cooperative research.

CSF believes that further detailed discussion on various sections of the Discussion Draft will achieve the goal of “strengthening fishing communities and increasing flexibility in fisheries management.” More detailed discussion is necessary in the following sections:

- 1) Modification of the National Standards, taking into account problems identified after 40 years of fisheries management to achieve the purposes of fisheries management as identified in the MSA. These problems are centered on a failure to implement the national standards as a coherent package.
- 2) Define “overfishing,” “Maximum Sustainable Yield,” and other terms to reflect scientific justifications.
- 3) Clarify the intended relationship between Sections 302(h)(6) and Section 302(m).
- 4) Replace “rebuilding” with the concept of maximizing yield subject to constraints on fishing mortality.
- 5) Promulgate regulations to substitute electronic monitoring for human observers, provide an opportunity for the public to comment on regulations, and clarify the Council’s authority to utilize electronic monitoring in Fishery Management Plans.
- 6) Clearly define Congress’ intent to eliminate a divergence of implemented fisheries management from Congress’ apparent intent.

1. Modify the National Standards

The Act’s central conceptual foundation is the Ten National Standards. At present, the Ten National Standards are narrowly implemented in a manner that focuses on only part of the first National Standard (prevention of overfishing). This results in policies that ignore concerns of Congress such as the impact of fishing regulations on the economic and social fabric of fishing communities. As discussed in more detail in CSF’s paper “Rewriting the Magnuson Stevens Act,¹” much controversy and debate over Congress’ intent stems from the interpretation and implementation of the National Standards.

The focus on only a part of the first National Standard means that a major component of the National Standards is virtually ignored; resulting in a diffuse focus on ensuring that optimum yield is obtained, best science is being used, stocks are treated as a unit through out their range, safety at sea is taken into account, and economic and the social fabric of fishing communities is considered.

CSF believes that the current National Standards must be rewritten (See Appendix A) to make clear and explicit Congress’ evident intent to take a balanced approach to the National Standards. CSF’s proposed National Standards ensure a balanced approach to fisheries management and development of explicit interactions among the National Standards. To achieve balance and development of explicit interactions, CSF proposes reducing the number of National Standards from ten to five.

As an example, CSF believes that National Standard 1 should be changed from,

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

¹ “Rewriting the Magnuson-Stevens Act” is available at <http://centerforsustainablefisheries.org/rewriting-the-magnuson-stevens-act/>

To accurately reflect Congressional intent, as follows:

Conservation and management measures shall, promote the safety of human life at sea. Conservation and management measures shall maximize yield (or some economic function of yield) subject to the constraint of keeping fishing mortality at or below a level specified by the Council. Conservation and management measures shall, take into account and balance the importance of fishery resources to fishing communities with fishing mortality goals, by utilizing economic and social data that meet the requirements of National Standard (2), in order to (A) provide for the sustained vitality of such communities, and (B) minimize adverse economic impacts on such communities.

The rewritten National Standard 1 will have multiple functionalities. First, by maximizing yield, the rewrite changes the objective of fisheries management from the patently abstract and pejorative concept of “preventing overfishing” to a concrete meaning (i.e. optimum yield), well understood by economists, optimization theoreticians, conservationists, and the public. Second, by qualifying “maximizing yield” with the phrase “an economic function of yield,” the rewritten National Standard 1 ensures that National Standard 8, the economic and social fabric of fishing communities, and National Standard 10, ensuring human safety at sea, are explicitly brought to the forefront as primary objectives of fisheries management. Third, the rewritten National Standards constrain fishing mortality in a way that enables the Regional Councils to set rational judgment-laced limits on the quantity of fish caught. This gives the council maximum flexibility to set conservation-meaningful catch limits, rather than being constrained by the current thirty-five pages of unintelligible Federal Register guidelines that may have little connection with reality. Of particular importance, CSF’s proposal will give the Councils the flexibility to deal with the commonplace but theoretically ignored, multiple-stock fisheries.

Addressing the issue of balancing of the National Standards in this Reauthorization has the potential to facilitate and intensify such action by NOAA. In order to strengthen our fishing communities and increase flexibility, rewriting the National Standards is imperative.

2. Replace “Overfishing” and Define Both “Maximum Sustainable Yield” and “Best Science Available”

The Discussion Draft changes the word “overfished” to “depleted.” Additionally, the discussion draft also makes a considerable departure from the current MSA by recognizing that relatively low or depleted stocks can result from causes other than fishing. Both are positive and necessary changes needed to strengthen our fishing communities and ensure effective science-based conservation measures are implemented.

The Discussion Draft must also eliminate all ambiguous terminology -- such as “overfishing,” “maximum sustainable yield” (MSY), and “best science available” -- that exists in the current version of the Act.

By failing to address all of the current Act’s ambiguous terminology, the Discussion Draft perpetuates NOAA’s flouting the clear intent of Congress to attain optimum yield as defined by best

science available. A great deal of the current turmoil of fisheries management results from the ambiguous and equivocal language in the Act and the guidelines that attempt to interpret the Act resulting in multiple and confusing interpretations, political uncertainty, and conceptual vertigo regarding optimal goals for fisheries management.

a. “Overfishing” and “Maximum Sustainable Yield”

The current Act’s ambiguous terminology (e.g. “subject to overfishing” or “attaining MSY,” etc.) is not clarified in the Discussion Draft.

To exemplify the problem of ambiguous and equivocal language, the Discussion Draft does not change National Standard 1; in other words, it retains the ambiguous concept of “overfishing.” The Act defines overfishing as “a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustained yield (MSY) on a continuing basis.” It is clear that to determine whether or not overfishing is occurring, it is first necessary to determine the level of MSY.

But here is where the system breaks down. There are many different ways to calculate MSY and its related overfishing level. For example, there are different definitions of overfishing; there are different models for calculating overfishing; and there are different constraints on interpreting overfishing condition (e.g. maxima and equilibrium versus non-equilibrium stocks).

Because MSY and overfishing can be ambiguous, two investigators using the same data for the same stock can very easily obtain very different results as to the level of overfishing and MSY. Failure to explain the sometimes very different results challenges the veracity of the science.

These observations bring into question the practical effect of changing “overfished” to “depleted” in the Discussion Draft. Depleted is defined in the Act as “... the stock is of a size that is below the natural range of fluctuation associated with the production of maximum sustained yield (MSY).”

Bringing these observations together, we can easily see that the terms “overfished” (or “depleted”) and “overfishing” depend on defining MSY. But as discussed, there is no unique definition of MSY. So under the current MSA and Discussion Draft both “depleted” and “overfished” depend on MSY, and MSY is ambiguous. This means that “depleted” is operationally no different than “overfished.” If MSY is not further defined, the problems will erode the future of fisheries management performance.

b. Best Science Available

At present, “best science available” has been implemented as “NOAA’s scientific findings.” As discussed, in “Rewriting the Magnuson Stevens Act,” CSF identifies why Congress in this Reauthorization should further define “best science available” to broadly include scientific studies outside of NOAA. Furthermore, under CSF’s rewritten National Standard 2 what is “best” should be determined by the Councils after being presented with all reputable, relevant, and dependable studies and the pros and cons of each study.

Eliminating ambiguity will lead to less confusion and more efficiency in fisheries management because Congress’ intent will be clear.

3. Clarify Intended Relationship Between Sections 302(h)(6) and proposed Section 302(m)

Increasing the Council's flexibility to set annual catch limits ("ACLs") is important to ensuring that fishery management plans ("FMPs) are in compliance with the National Standards. The Discussion Draft's "Considerations for Modifications to Annual Catch Limit Requirements" allows the Council to "consider changes in an ecosystem and the economic needs of the fishing communities." The Discussion Draft should clarify the effect this provision has on Section 302(h)(6), which mandates that the annual catch limits not exceed the recommendations of the SSC or the peer review process.

Further clarification concerning which provision is superior will ensure that conflict and confusion does arise. A Council may find that the SSC's recommendation will have severe economic impact on a fishing community and utilizing Section 302(m) may modify an ACL by citing the economic needs of a fishing community. However, the Council's action will be in violation of Section 302(h)(6).

Increasing the Council's flexibility is important, but provisions meant to increase flexibility, must be coordinated with existing clauses of the current MSA. CSF proposes that the Council's ability to change ACLs recommended by the SSC be superior to Section 302(h)(6) if the economic needs of the fishing community are such that not changing the ACL is likely to lead to an economic disaster.

4. Replace "rebuilding" with the concept of maximizing yield subject to constraints on fishing mortality.

As the Discussion Draft points out, under the current MSA, the rebuilding concept is specious because depletion may owe to factors other than fishing. In these cases, reducing fishing will not cause the stock to rebuild.

Causes for depletion are not generally understood by the scientific community. CSF's proposed National Standard 1 includes the objective "maximize yield or an economic function of yield subject to constraining fisheries mortality to a level determined by the Council." Replacing the concept of "rebuilding" with maximizing yield will help to ensure fisheries regulations are promulgated on scientific methodology and principles that take into consideration economic impacts on the fishing communities.

5. Mandate the Secretary promulgate regulations to substitute electronic monitoring for human observers, provide an opportunity for the public to comment on regulations, and clarify the Council's authority to develop regulations if the Secretary fails to do so

The use of electronic monitoring is a positive step forward towards utilizing modern technology to improve long term efficiency of both funding and data collection.

CSF proposes that the Discussion Draft must be amended to also require that the Secretary "implement objectives for Councils to develop plans to substitute electronic monitoring for human observers." By stating a preference for the use of electronic monitoring will ensure that widespread, serious use of electronic monitoring occurs.

Additionally, under the Discussion Draft's proposed language the Secretary must "provide an opportunity for the fishing industry to comment before the regulations are finalized." Allowing public comment for regulations is necessary, important, and aligned with the Administrative Procedures Act's ("APA") formal rulemaking process. The Discussion Draft should not limit comments to merely the fishing industry. To ensure an all inclusive process and consistency with the APA and formal rulemaking norms, inclusiveness of all individuals that may be able to offer expert or alternative comments and advice is necessary. The Discussion Draft should be amended to read "provide an opportunity for the public to comment before the regulations are finalized."

Lastly and of great importance, the Discussion Draft allows the Councils to promulgate regulations only if the Secretary "fails to develop such regulations" within the statutorily mandated 6 month period. The Council's ability to utilize electronic monitoring in FMPs should not be contingent upon the Secretary failing to complete a statutorily mandated action. The Council should be authorized to utilize electronic monitoring in conjunction with a FMPs and individual fishery in its jurisdiction, just the same as the Council currently has the authority to implement observer coverage with a FMP. CSF proposes that Section (a)(3) be amended in the Discussion Draft to state:

- (3) ACTION BY COUNCILS. – The Council may implement plans to substitute electronic monitoring for human observers for fisheries under the jurisdiction of such Council that are subject to a fishery management plan, if,
 - (A) electronic monitoring will provide a similar level of coverage as a human observer; and
 - (B) plans comply with objectives, performance standards, and regulations set by the Secretary pursuant to paragraph (1).

Electronic monitoring is a provision that must be written into the MSA. Drafting the provision to consider the current and historical structure of agency authority and to support the replacement of human observers with electronic monitoring will lead to greater long term success of electronic monitoring.

6. Clearly define Congress's intent to eliminate a divergence of implemented fisheries management from Congress's apparent intent

An issue of considerable concern is divergence of fisheries management from the apparent intent of Congress as inferred from the National Standards incorporated in the original MSA. The divergence of fisheries management from the apparent intent of Congress as inferred from the ten National Standards incorporated in the Act must be addressed in the rewriting of the MSA. In all fairness it is difficult to bring these issues into a discussion draft in the sense that many of these issues arise from the implementation of the Act. Presumably this issue will naturally arise if the MSA is redrafted in such a way as to include a serious analysis and amendments to regulations and agency policy. When this discussion takes shape it will need to include the National Standards and what is known and what is not known about fish population dynamics and the interactions of population dynamics with fishing.

Improving public policy associated with fisheries management will require a discussion of the extent of our knowledge. It is fair to say that a lot less is known about population dynamics than is implied by the language of the existing Act. The scientific cupboard is bare. For example, our understanding of single-population dynamics is as far as it can go. Our understanding of single species dynamics explains only a small part of the variability of fish populations and the interaction of fish populations with fishing. There are huge lacunae in our knowledge regarding ecosystems, multiple species interactions, recruitment variability, and the general multi-scale ocean environment. In order to deal with the abstraction of overfishing (and ecosystem management), we will need to understand these many phenomena.

CSF concludes with the following observations. First, the Discussion Draft is a platform to begin a needed national dialogue on fisheries management. Second, the discussion draft usefully focuses on the need to provide flexibility for fishery managers and stability for fishermen. CSF believes that in addition in order to reach these goals it is imperative to obtain a balance among the National Standards and to eliminate ambiguous and equivocal language from the Act. And third and most important, institutional structural changes in of fisheries management are needed so that our resources are conserved while optimum yield contributes to our economy and employment.

CSF looks forward to a robust and dynamic dialogue and legislative process to move fisheries management into the 21st Century.

APPENDIX A

Proposed National Standards as Rewritten

The Ten National Standards should be combined and incorporated into five tenets which will allow for a scientific based fishery management system that balances conservation and sustainability for the fisheries, and the people who, and the port communities that comprise the industry.

These Five National Standards should be rewritten as follows:

REWRITTEN NATIONAL STANDARDS

(a) IN GENERAL.—Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the following equally paramount national standards for fishery conservation and management:

(1) Conservation and management measures shall, promote the safety of human life at sea. Conservation and management measures shall maximize yield (or some economic function of yield) subject to the constraint of keeping fishing mortality at or below a level specified by the Council. Conservation and management measures shall take into account and balance the importance of fishery resources to fishing communities with fishing mortality goals, by utilizing economic and social data that meet the requirements of National Standard (2), in order to (A) provide for the sustained vitality of such communities, and (B) minimize adverse economic impacts on such communities.

(2) Conservation and management measures shall be based upon the best scientific information available. The best available science shall be derived by a collaborative effort of government, educational institutions, and private and non-profit scientists coordinated by NMFS and NMFS's regional SSCs. The best scientific information available shall be determined by the Council after a comprehensive review of multiple analyses and the pros and cons of each analysis, as presented by the SSC in conjunction with other fisheries scientists.

Advanced technological mechanisms shall be utilized in every instance to gather and analyze samples and data.

(3) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. An individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. Conservation and management measures shall, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided account for and allow the bycatch to enter the marketplace.

(4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation and maximize yield as specified in National

Standard 1; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

(5) Conservation and management measures shall not have economic allocation as their primary purpose.

Condensing in a logical format into five interrelated standards will enable NOAA, the NMFS and the Council to more effectively implement the Congressional intent of MSA. Let the debate begin but let's have an honest debate as how to rewrite and reauthorize of this most important statute. The clear purpose of our efforts should be to ensure that the fisheries management system is effective, fair, transparent, and responsive to the ever changing natural environment and socio-economic needs of the fishing communities.



Center For Sustainable Fisheries

115 Orchard Street, New Bedford, Massachusetts 02740 | 508-992-1170 | Fax 508-993-8696
info@centerforsustainablefisheries.org | www.centerforsustainablefisheries.org

A science based non-profit organization devoted to the conservation of our fisheries resources and the economic development of our fishing communities.

DRAFT 4/16/14

THE CENTER FOR SUSTAINABLE FISHERIES INITIAL NOTES ON SENATE DISCUSSION DRAFT SUMMARY

INTRODUCTION

The Center for Sustainable Fisheries (“CSF”) is actively interested in the reauthorization and rewriting of the MSA. CSF has written a “white” paper (cite) on the reauthorization as well as a constructive critique of the house discussion draft (cite).

As part of CSFs continuing involvement, we are providing our notes on the document, “Section by Section Summary of the Discussion Draft: Magnuson-Stevens Fishery conservation and Management Reauthorization Act of 2014” (SDDS).”

Our notes are organized into the following sections:

- 1) The scope of the SDDS,
- 2) The feasibility of new initiatives,
- 3) What constitutes the “best available science”,
- 4) Other matters of importance.

THE SCOPE OF THE SDDS

The extant MSA comprises several sections. The section containing the National Standards (see box) is critically important because it sets out Congressional intent regarding fisheries-management- plans content.

However, to date, despite many changes proposed in the SDDS, the National Standards have not been rewritten or changed.

This suggests that the intended scope of the rewrite is constrained to matters not related to the NS. This suggests that the SDDS is constrained by not taking into account the problems associated with the

National Standards as they presently exist. These problems were enumerated in a white paper written by CSF, which explained how adopting a new set of National Standards would better address the needs of U.S. fishery management.

The new language on National Standards drafted by CSF focuses on constructing more direct criteria for the Act, which results in reducing the number of National Standards from 10 to 5, and clarifying terms in the National Standards that are ambiguous or equivocal.

CSF on Appropriate Re-organization and Reduction of Number of National Standards

The CSF proposed changes are intended to create a more natural grouping of objectives and minimize the opportunity by regulators to emphasize a single objective at the expense of the broader intent of Congress. The reduction of the number of National Standards from 10 to 5 reflects the need to correct the current imbalance in fisheries management which focuses on only the first part of NS1, that concerning the prevention of overfishing. Agency implementation of the MSA in the past several decades has virtually ignored the other 9 (and 1/2) National Standards. For example, the focus on prevention of overfishing has trumped the issues of safety at sea, the best science available in fishery management, and the economic well-being of the fishing communities. The emphasis on overfishing has also drawn attention away from other important aspects of fisheries management such as under-fishing which is extensive in some regions.

CSF on clarification of Objectives Of Fisheries Management--A key component of the CSF rewrite involves National Standard 1 in which the unspecific “prevent overfishing” notion is replaced with the specific performance “maximize yield subject to... “. This change solves many management problems that relate to the extant version of NS1. For example, it....

The CSF rewrite addresses several of the criticisms that have been leveled at fisheries management. First, it changes the key objective from the prevention of overfishing to the achievement of optimum (or maximum) yield. Second, it gives the Fishery Management Councils the opportunity to link economics with yield. Third, it sets up a framework for multiple species management by including all stocks of several stock fisheries in the format of an objective function. And fourth, it gives the Councils discretion and flexibility in setting criteria for fishing levels and the magnitudes of fishing levels.

CSF on clarification of terms that are ambiguous or equivocal—the CSF rewrite of NS1 suppresses the terms overfished and overfishing. These terms are not compatible with National Standard 2 as they do not meet scientific standards of an invariant metric. There are many practical problems associated with the terms “overfished” or “overfishing”. These include 1) each term has multiple definitions, 2) fishery management models containing overfishing definitions often do not estimate well-defined optima 3) models containing these definitions concern nature in equilibrium even though nature is seldom, if ever, in a state of equilibrium, 4) the models often do not fit the data, and 5) the models do not include information on environment variation.

Given the shortfalls in data and models, it is clear that the terms overfished and overfishing are metaphorical at best.

THE FEASIBILITY OF NEW INITIATIVES

The SDDS contains several new initiatives. These include forage fisheries management, ecosystem planning goals, ecosystem planning authority and electronic monitoring. The consideration of the efficacy of these new issues must be placed in the context of what we know and don't know. The operational context of these initiatives is that the current scientific state of marine fisheries management is primitive relative to these initiatives. As a consequence their implementation will be yet another source of ambiguity and contention in fisheries management..

Management decision models as explained above are ambiguous or equivocal. It is important to remember that present management capability is limited to one species and ignores environmental effects. Extending primitive single species management into multiple species management including the variability of the ocean environment is a major research undertaking. The issues of forage fisheries management, ecosystem-planning goals, ecosystem planning authority should be suppressed until information is acquired to begin to meaningfully implement these concepts. This will take major research effort. (See CSFs suggestions for national institutes to implement research).

In what follows we address specific "new initiative" topics by section: requirements for SSCs to take account of ecosystem planning goals, requirements of SSCs to take account of forage fisheries management; including forage fish in fisheries management; use of fisheries dependent data and electronic monitoring; and creating ecosystem planning authority.

Title 1; Sec.101. Regional fishery management councils--This requires SSCs to include "fishery ecosystem planning goals and objectives" and "forage fishery management" in its advice given to councils. The fact that both of these subject areas is in scientific terra incognita needs to be taken into account. Formal incorporation of these research areas into management at present levels of knowledge will result in uninformed public policy decisions.

TITLE 1—CONSERVATION AND MANAGEMENT Sec. 102. Contents of fishery management plans. Here there is a concern for forage fish which seems to make sense. However, it needs to be recalled that all of our present stock assessments and fishery management techniques are based on single species approaches. One of the biggest reasons for this is that we cannot measure the many ways species interact. This is why single species management plans but not two species or three species or ecosystem management plans are used today. Incorporation of forage fish into management plans is a research topic right now.

In the latter part of Section 102, assessing fishery dependent data is discussed. We support increased emphasis on fishery dependent data. We also support the principle of electronic monitoring where

appropriate. We also support advancing acoustic and optic monitoring of fish abundance, as current techniques using fishing nets for this purpose give limited information.

TITLE 1—CONSERVATION AND MANAGEMENT Sec. 103. Fishery ecosystem planning authority. This section raises the option of developing an ecosystem planning authority. Again the six requirements for an ecosystem planning authority are conceptually good ideas, but the present level of knowledge indicates this activity should be implemented through a research program

TITLE II—FISHERIES INFORMATION, RESEARCH, AND DEVELOPMENT

Sec 201 Electronic monitoring. We support advanced technology where appropriate and cost effective. This means increased observations on fishing boats facilitated by electronic monitoring, but it also means the development of enhanced acoustic and optic techniques of fish in water.

WHAT CONSTITUTES THE BEST SCIENCE AVAILABLE

The question of what is the “best science available” has been a lightning rod for concerns about the quality of fisheries management in the U.S. The problem exists in two parts. The first part concerns whether the science being conducted by the agency is the best possible. The second part has to do with the deference given to NOAA by courts.

Neither of these problems—which are the problems considered to be the most critical by many--are addressed directly in the SDDS, as evidenced by the fact that NS2 is not included in the rewrite.

Our discussion above reflects that the present level of science becomes ever more primitive relative to the increasing complexity of questions being addressed (e.g. the population dynamics of forage fish relative to predator fish). CSF believes that NOAA science needs to be restructured to address recent concerns regarding fishery management particularly issues such as forage fish and climate change.

Regarding deference, our legal system is imbued with the informal logic flaw, “appeal to authority”. If an agency scientist said the world was flat then the judge would agree. We need additional language to avert deference when it does not make sense. Additional language could be crafted by refining what we mean by data, conclusions derived from data, and incorporating new language dealing with alternative data , conclusions, analyses and hypotheses.

OTHER MATTERS

Sec 3. Changes in findings, purposes and policy. Subsection (a) “...number of natural and human caused effects on ecosystems have resulted in a diminished capacity of fisheries to support existing fishing levels”. This statement needs to be clarified because it is basically incorrect. It is not true that when a stock declines, that exploitation rate or rate of removal would need to decline.

TITLE 1—CONSERVATION AND MANAGEMENT Sec. 104. Action by Secretary.

Subsection(d)

A classic unsolved problem in fisheries science is determining whether stock increases or decreases owe to the effects of fishing or the effects of the environment. Many believe that we do not have enough information to make this determination. So, not being able to separate the effects of the environment from the effects of fishing, how can the Secretary indicate whether a stock is “overfished or otherwise depleted”?

Sec 105. Other requirements and authority.

This is an important provision. It is reasonable to assume that fish caught in the U.S. under provisions of the MSA are sustainable. Why should the taxpayer and consumer suffer the extra costs associated with MSC certification? This should be specifically addressed.

TITLE II—FISHERIES INFORMATION, RESEARCH, AND DEVELOPMENTS
Sec 204. Fisheries Research and Sec 205 improving science.

CSF believes stock assessments and or stock assessment information should be delivered on an annual or even more frequent basis.

**Written Statement of David Krebs
President, Ariel Seafoods, Destin, Florida
Representing the Gulf Seafood Institute
Before the
House Natural Resources Committee
“H.R. ____ Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act”
Feb. 4, 2014**

Chairman Hastings, Ranking Member DeFazio, and Members of the Committee, my name is David Krebs and I am pleased to be here to testify before you today on the Committee’s draft reauthorization of the Magnuson Stevens Fishery Conservation and Management Act (MSA). I am a lifelong commercial fisherman and owner of Ariel Seafoods based in Destin, Florida. For purposes of today’s hearing, I will be speaking as a Board member of the Gulf Seafood Institute (GSI), a broad-based group representing all facets of the Gulf of Mexico seafood distribution chain.

The mission of the Gulf Seafood Institute (GSI) is to protect the Gulf’s unique culture and environment while elevating the Gulf seafood brand with consumers, customers and policy leaders through advocacy, education and science. The GSI’s board of directors represents every Gulf state as well as every aspect of our industry – both commercial, charter for hire, and recreational – and is positioned to be a leading voice on key issues including sustainability, seafood safety, disaster mitigation and recovery, and data collection. Additionally, GSI seeks to bolster fisheries science and research to help preserve the Gulf seafood resource and contribute to the longevity of the industry overall. The GSI came together in July 2013 and is currently taking the steps necessary to organize under the laws of the state of Louisiana and will then seek approval of the IRS for determination of approved 501(c)(6) status.

Today, I will highlight several areas of the discussion draft that GSI sees as improvements to current law, I will outline a few additional measures for you to consider, and I will give you our perspective on Section 10, “Gulf of Mexico Cooperative Research and Red Snapper Management” which drastically modifies Sec. 407 of the current statute.

Overall, GSI maintains that the process outlined under MSA is working. The Department of Commerce, the National Marine Fisheries Service (NMFS) and the eight Regional Fishery Management Councils work together to monitor, manage and enforce a program that has led the United States to its position as a global leader in responsibly managed fisheries and sustainable seafood. Guided by 10 National Standards of sustainability, these agencies monitor, manage and legally enforce all marine fisheries in the United States under the most restrictive regulations in the world. As a result, U.S. fish populations are rebuilding and overall fish abundance is improving. Since 2000, thirty-two fish stocks in the U.S. have been rebuilt meaning that routine stock assessments conducted by fishery scientists indicate that the abundance of the stock is above the maximum sustainable yield.

Prior to seeing the Committee’s discussion draft, GSI had already outlined a platform for reauthorization that included the following:

Flexibility in Rebuilding Timelines:

- Timelines for rebuilding fisheries must be relaxed to enhance flexibility for fishery managers. The current MSA requirement for rebuilding overfished fisheries within ten years, with certain exceptions, is an arbitrary time frame and totally unrelated to the biological needs at hand. Similarly, the requirement to end overfishing immediately considers no other factors. These

strict, arbitrary timelines for rebuilding fisheries lead to significant disruptions for the seafood community while the fishery is usually capable of a far more gentle transition.

- A recent National Research Council (NRC) report issued in September 2013¹ addresses the existing rebuilding needs and realities.¹ GSI is in full agreement with NRC's recommendations, which include support for a biologically-based approach to rebuilding plans. We urge incorporation of those recommendations into the revised MSA. Recognition of the need for establishing a biological basis to rebuilding strategies is a fundamental change to achieve success for the fish stocks and the populace.

Annual Catch Limits:

- The process for establishing ACLs should be revised to increase flexibility, particularly in cases where a fish stock lacks enough data to make sound management decisions.
- In order for fishery managers to set appropriate ACLs, data collection must be improved by accounting for actual "take," both retained and discarded. While the current consideration of revision of National Standard 1 Guidelines might well address this concern, it should be explicitly defined in MSA.

New Funding Sources:

- Monies collected from marine enforcement actions and permitting fees should stay within the region in which they were collected and **not** be transmitted to the general fund. These funds should be managed by the relevant Regional Fishery Management Council.
- Balance should be incorporated into MSA's enforcement language to ensure that the collection of fines does not drive the process, but instead helps to achieve the true objective of 100% compliance and \$0 in fines.

Role of Science and Statistical Committees:

- In today's fast-moving world, we should be able to react swiftly by calling SSC and other Council meetings in a more timely manner. The notice period for meetings should be more flexible to help address very time-sensitive matters quickly and efficiently. The process is overly long and needs better integration with the demands of NEPA requirements to achieve a balance in time, public access, and reasonable deliberation.

Regional Fishery Management Council Accountability:

- Strict accountability measures must be established for the Councils and their actions. Measures should include a revision of the Council membership and appointment process to ensure fair and equitable representation from both the commercial and recreational communities as well as consumers. One way to achieve this important goal would be to revive language from Section 302(b)(2)(D)(i) of the 2006 MSA reauthorization that required governors from states participating in the Gulf of Mexico Fishery Management Council to include at least one nominee each from the commercial, recreational and charter fishing sectors and at least one other individual who is knowledgeable regarding the conservation and management of fisheries resources when making appointments to the Council. Unfortunately, this provision of the 2006 bill has since expired,

1

¹ National Research Council. Division of Earth Life Sciences. Ocean Board. *Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States*. Washington, D.C.: U.S. National Academies Press, 2013.

leaving the balanced makeup of the Gulf Council in jeopardy. GSI strongly recommends that this language be renewed and made permanent.

The GSI is pleased to note that several of these priority issues are adequately addressed in the discussion draft and we thank you for seeing our concerns were met. For example, on the issue of **rebuilding timelines**, the Committee draft vastly improves current law by allowing for three years to end overfishing for highly dynamic fisheries and provides that rebuilding times must be as short as “practicable” as opposed to short as “possible” which we feel gives more appropriate consideration for human needs.

Regarding **Annual Catch Limits (ACLs)**, the draft bill provides for consideration of the economic needs of fishing communities when establishing and modifying ACLs which GSI believes is a step in the right direction. We are also pleased to see language providing for 3 year ACLs which is an improvement over the current one year requirement. One area that could still be improved would be to require fishery managers to incorporate actual “take,” both retained and discarded, when setting ACLs as suggested in our list of recommendations.

Further, the GSI supports language in Sec. 6 requiring the Science and Statistical Committees (SSCs) to develop their advice in a more **transparent** manner that allows for greater public involvement.

Regarding **catch share programs**, Section 7 would require a referendum by a majority of the permit holders prior to the Gulf of Mexico Fishery Management Council submitting any new catch share program for approval by Commerce. GSI would appreciate some clarification on whether this new requirement would impact pilot programs and, if so how? Also, Section 7(b)(1)(D)(i) provides that in order to be eligible for the referendum, you must have fished in the past 5 years, yet Section 7(b)(1)(D)(iii) provides that you must have fished in 3 out of the 5 last years. It should be made clearer as to what the exact eligibility requirements are. Further, is a petition required before any catch share program can be considered? If a petition by the majority is required, then a potential catch share program is given a thumbs up or a thumbs down before it is even designed and its ramifications determined, effectively shutting down consideration of catch share programs before the Council can thoroughly evaluate them. This may pose a serious challenge to Councils as they work on a regional basis to implement management programs that may make sense in their areas.

With regard to **data collection**, Sec. 8 requires the Councils to work with the fishing industry to develop regulations to govern the use of electronic monitoring for data collection within 6 months of enactment. GSI strongly supports the use of electronic monitoring and has already been working independently with the charter boat fishery in the Gulf to establish similar, voluntary programs. Electronic monitoring has come a long way in recent years with the introduction of smartphone and tablet apps that can be available to all fishers in the industry. We believe electronic monitoring is an important part of the data collection process and programs that encourage its use should absolutely be supported wherever possible.

Section 8(d) provides for the use of the asset forfeiture fund to pay for surveys on **data-poor fisheries**. GSI supports this concept as many of our stocks are considered data-poor and any additional funding to increase science in those areas is appreciated. We also support the concept of making fisheries that have not been surveyed in the preceding 5-year period a top priority. However, given that many species in the Gulf would meet that requirement, we may have a very long list of priorities and conducting surveys on such a broad list might be unrealistic.

RED SNAPPER/ Section 10

Section 10 of the discussion draft addresses management of the red snapper fishery in the Gulf of Mexico, an issue that has become fairly volatile in the Gulf seafood community in recent years. This section will uniquely impact GSI, our customers and all those that depend on a healthy Gulf seafood supply chain. I know this Committee held a hearing on red snapper management in June of last year and GSI's interim Chairman, Harlon Pearce, was a witness at that hearing. During his testimony, Harlon outlined the importance of preserving a healthy, commercial red snapper fishery for the benefit of consumers nationwide and I fully support that position. I would ask that the Committee revisit his written testimony while deliberating this section as it outlines some very important concepts of importance to GSI and the commercial seafood community broadly.

While there have been management challenges in the recreational red snapper fishery in recent years, the current program on the harvest side is working. Yes, there have been challenges with overfishing of the stock in the past, however the species is no longer undergoing overfishing and it is now being managed under a rebuilding plan which will allow the species to rebuild back to target population levels. The Commercial red snapper Individual Fishing Quota (IFQ) program, which began in 2007, has reduced the number of vessels and improved the operation of this fishery. The IFQ program now provides the harvesting sector with flexibility to fish during times that suit their needs and the needs of the market resulting in less pressure on the fishery and less pressure on the resource. Unfortunately, the recreational red snapper sector has yet to adopt a similar solution and federal management of the recreational side of the business is in turmoil. Fishery managers, still relying on the antiquated "days at sea" model for management, have drastically reduced fishing days for recreational red snapper leading to serious economic implications for the Gulf coast economy. While I agree that Congress should take steps to improve management of recreationally-caught red snapper, any solution that upsets the success of the commercial red snapper program is not a solution at all and would only harm the industry, seaside communities and the millions of consumers who depend on the year-round availability of red snapper.

Section 10(f) of the discussion draft simply extends state seaward boundaries in the Gulf to 9 miles which would have the effect of turning management of red snapper over to the five Gulf states. While this seems like a simple, straightforward solution, the devil is in the details.

Most importantly, we need to clarify that this section **only** applies to the recreational red snapper fishery. Simply inserting the word "recreational" before the term "red snapper" in this section should meet this important goal. Management of the commercial red snapper fishery is working and to throw that program into turmoil would be detrimental to communities and to consumers who might lose access to the resource. Of equal importance to the future of the fishery would be to ensure that the sustainability standards required by MSA be preserved in any new state-run red snapper management program. It is in all our best interests to maintain strong federal oversight of these new state programs to ensure a positive long-term prognosis for the species and those who rely upon it to make a living. Finally, we would like clarification on the seaward boundary lines. Section 10(f) seems to extend the seaward boundary for red snapper to 9 miles two separate times so it is unclear if the final boundary is 9 miles or 18 miles. A final boundary of 9 miles is acceptable and would be comparable to the territorial sea boundaries of Texas and the west coast of Florida, while 18 miles is not and would be inconsistent with the boundaries of Texas and Florida.

Of further concern is the impact of the extension of state water boundaries on the commercial fleet if they are excluded from operating in traditional areas. For example, In Florida, commercial vessels are

prohibited from harvesting reef fish in state waters and currently, those waters extend to 9 miles. So, if the boundaries are extended to nine miles in Alabama, Louisiana and Mississippi as well, the vibrant commercial red snapper fishery that has been operating in those areas traditionally will suddenly be shut out causing serious challenges to our community. Congress must ensure that traditional fishing grounds for the commercial red snapper fleet are maintained.

The Committee should also take this opportunity to reassess language found in Sec. 407(d)(1) of the current MSA that mandates the shut-down of the entire recreational fishery, which currently includes charter boats, when that sector's quota is met. Under the current MSA, charter boats are considered part of the recreational fishery, despite the fact that the Gulf Council is moving forward with some innovative new management programs that apply to charter boats only. If the broader recreational community exceeds their quota, under current law, the shut down of that sector would also handicap the charter boats. One way to address this might be to remove language in Sec. 407(d)(1) that states that the term "recreational " shall include charter boats for purposes of this subsection. The GSI would appreciate an opportunity to discuss this concept in more depth with the Committee as this reauthorization moves forward.

Some other questions that you should consider before moving forward with this section include questions of state enforcement capabilities, state scientific data collection capabilities, state funding ability, and the enforcement of interstate boundaries at sea. Despite the usual procedural challenges, the Council management process works as intended and to throw one fishery into a state-run model might set a misguided precedent that threatens to undermine the great successes MSA has had overall.

While GSI has reservations about the state boundary language of Section 10, the remainder of the section addressing research is very positive. We strongly support the development of a real-time reporting and data collection program, increased frequency of stock surveys, and the use of updated fisheries information in red snapper stock assessments. In fact, it would be helpful if these concepts were expanded to all fisheries in the Gulf of Mexico, not just red snapper. We look forward to working closely with the Committee to see these priorities are enacted.

With this testimony, I hope I have provided the Committee with more clarity on how the proposed changes to MSA will impact the Gulf of Mexico seafood community and consumers who depend on us. Again, maintenance of the federal framework for sustainability and the preservation of the current IFQ program for the commercial community is imperative to any plan designed to eliminate confusion in the red snapper fishery. Our consumers and the American public depend on it. Further, I hope I've given you some food for thought with regard to additional modifications to the draft bill that might benefit our nation's fishery management system overall.

I look forward to working with the Committee on these important issues and I welcome any questions you may have.

TESTIMONY OF VITO GIACALONE
GLOUCESTER FISHERMAN
&
POLICY DIRECTOR, NORTHEAST SEAFOOD COALITION

BEFORE THE

COMMITTEE ON NATURAL RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES

REGARDING DRAFT LEGISLATION:

*“Strengthening Fishing Communities and
Increasing Flexibility in Fisheries Management Act”*

FEBRUARY 4, 2014

WASHINGTON, DC

Thank you Mr. Chairman and distinguished Members of the Committee.

Let me begin by expressing our profound appreciation to all those Members of Congress and their exceptional staff who worked on and supported the fishery disaster funding included in the FY 2014 Omnibus Appropriations.

With that assistance in place, we can now fully focus on those aspects of US fishery policy that could be improved to ensure the long term biological and economic sustainability of our fishery and many others nationwide.

With that in mind, I would like to highlight several measures set forth in your draft bill that I believe would greatly contribute to achieving that objective. I note that there are so many provisions that we view as positive and progressive that it was difficult to choose which to highlight today.

- 1) Section 3(a)(3) would add a new paragraph (8) to the rebuilding provisions of the Act that provides authority for the Councils to implement alternative rebuilding strategies that are based on fishing mortality rate targets such as Fmsy.

This represents perhaps the most important move in the direction of basing rebuilding strategies on the actual biological, ecological and environmental realities that drive the population dynamics of fish stocks. I note this provision reflects the very specific recommendations of the NRC in their recent report to Congress. This policy allows the Councils to develop rebuilding plans that will by definition achieve the dual primary biological goals of the Act—to prevent overfishing and to rebuild overfished stocks. But it will do so in a timeframe and to a biomass that is a product of prevailing ecological and environmental conditions rather than man's arbitrary goals. This approach will also by definition achieve the full suite of elusive Congressional objectives set forth in National Standard 8 – including in particular, to minimize-- to the extent practicable --adverse economic impacts on fishing communities.

That said, an equally important and necessary component of implementing this approach is to ensure the Councils have the authority to adapt their management responses to drastic fluctuations in the results of stock assessments. We have suggested one such authority which is to revise the current definition of overfishing to accommodate multiyear evaluations of overfishing as a means to smooth the management responses to these fluctuations. A strategy structured around Fmsy will instead provide the space to effectively smooth management responses to drastic fluctuations in stock abundance estimates. While some have argued that authority already exists for the Councils to employ such smoothing

techniques, we reiterate our request for the Committee to consider making that explicit in the overfishing definition.

- 2) Section 3 (a) would eliminate the arbitrary 10-year rebuilding timeframe and the discontinuity between stocks that can be rebuilt in less than ten years and those that cannot. We appreciate your proposal to instead provide a consistent biological basis for setting the rebuilding period based on T_{min} plus one mean generation for all stocks. We see this as a major step forward in managing fisheries based on biological and ecological realities rather than arbitrary statutory goals.
- 3) Section 3(a) further sets forth a number of important scenarios under which the Council can both phase-in and extend the rebuilding timeframe to reflect a range of realities and circumstances that are beyond the Councils' control. While again, this approach would still involve setting a specific rebuilding timeframe and biomass target, these provisions will provide the needed flexibility for the Councils to make common sense management decisions. They will enable the Councils to avoid the kind of prescriptive management responses that have achieved little if anything biologically in our fishery but which have been catastrophic to the economics of our fishery and communities.

I note that one of the scenarios recognizes the difficulties faced in managing internationally shared stocks through informal transboundary agreements. One such agreement with Canada has a profound impact on our fishery for our valuable Georges Bank cod, haddock and yellowtail flounder stocks. Another scenario contemplates "*unusual events that make rebuilding within the specified time period improbable without significant harm to fishing communities*" which is certainly near and dear to our hearts.

Thank you again for this opportunity to provide some input on these incredibly important and positive proposals in your bill and many more too numerous to address in this short time frame. We have learned the hard way in New England that US fishery policy under the current statute is simply too narrow and too prescriptive to embrace the dynamics of our fisheries and ecosystems. This policy needs more flexibility to be realistic and effective – and so we greatly appreciate this effort and look forward to working further with you and your fine staff on this excellent draft.

**Testimony of
Mark Fina, Ph.D., J.D., Senior Policy Analyst
United States Seafoods**

**Before the
Committee on Natural Resources
United States House of Representatives**

February 4, 2014 in Washington, D.C.

Good morning Chairman Hastings, Ranking Member DeFazio, and Members of the Committee. I am Mark Fina, a policy analyst for United States Seafoods and President of the Alaska Seafood Cooperative. My company and the cooperative, which includes four other companies, fish in the non-pollock multispecies groundfish fisheries off Alaska. We are substantial participants in the flatfish, rockfish, Atka mackerel, and Pacific cod fisheries in the Bering Sea, Aleutian Islands, and Gulf of Alaska. We participate in both catch share fisheries, in which portions of the total allowable catches are allocated for exclusive harvest by the cooperative, as well as limited access, derby fisheries, which are governed by limits on entry and in-season monitoring of harvests of total allowable catches. I am not representing my employer, the cooperative, or any other group today. I appreciate having the opportunity to offer comments to the Committee on its Draft Discussion Bill and the Reauthorization of the Magnuson Stevens Fishery Conservation and Management Act. While I have some knowledge of fisheries throughout the country, I am most familiar with the fisheries in the North Pacific and therefore limit my comments to issues in the North Pacific.

Overall, I believe that the Magnuson-Stevens Fishery Conservation and Management Act (the Magnuson-Stevens Act), in its current form, is serving its intended purposes well. The Act and its interpretation and administration by the Regional Fishery Management Councils (the Councils) and the National Marine Fisheries Service (NMFS) provide for the sound conservation and management of our valuable National fishery resources and promotes domestic commercial and recreational fisheries as intended. In the North Pacific, we have sustainable stocks as demonstrated by years of catches consistently between 1.5 and 2 million metric tons and no overfishing. Given these circumstances, only limited and focused, carefully considered modifications to the Act would seem merited at this time. One area addressed by the Committee's draft discussion bill is confidentiality of information. The majority of my comments will be focused on that subject.

Data confidentiality

Before joining US Seafoods last year, I worked for 11 years as the Senior Economist at the North Pacific Fishery Management Council (NPFMC or North Pacific Council). In that position, I routinely worked with confidential fisheries data preparing reports to be used by the North Pacific Council to guide their decision making. In considering data confidentiality issues, the two primary questions that should be considered are:

1. do policymakers have adequate information to make informed decisions and
2. do stakeholders and the public have adequate information to support their participation in that decision making process.

Based on my experience under the existing rules as they were interpreted when I worked as an analyst, the answer to both of these questions is ‘yes’.

General information concerning fisheries is readily accessible in standardized reports that are publicly available and posted on NMFS and Council websites. These include weekly and annual catch and bycatch reports, fishery allocations, and closures. In addition, annual Stock Assessment and Fishery Evaluations are available, which include detailed biological, social, and economic analyses of all fisheries and stocks under the North Pacific Council’s management. In the most recent year in the North Pacific, the Bering Sea and Aleutian Islands report alone exceeded 2,500 pages, including an economic section that exceeded 300 pages and an ecosystem section that exceeded 200 pages. In addition, tens of thousands of pages of analysis and large volumes of data are available from the analyses of all previously adopted or considered measures. These documents, together with experience in or related to the fisheries, provide stakeholders with the foundational information needed to decide whether management changes should be advocated. If the North Pacific Council wishes to pursue a management action, staff prepare additional information and analyses examining specific aspects of the fisheries that might be affected by the proposed management changes. These reports and analyses provide ample information for decision making and stakeholder participation in the Council and regulatory process.

Aggregating under the rule of three

Analyses of fishery management measures tend to be data intensive. Stakeholders and policy makers are often interested in examining several alternatives and several different views of data that illuminate various aspects of the effects of those alternatives. For example, a Council considering a change in allocations may consider a variety of historical periods, each of which will result in different allocational distributions. Under the Magnuson Stevens Act and current confidentiality rules, data may only be disclosed in “aggregate or summary” form to “not directly or indirectly disclose the identity and business” of the submitter. Analysts can comply with this requirement by showing the distribution of possible allocations applying a “rule-of-three” under which each data point is an aggregation of the data of at least three submitters. This rule effectively allows analysts to show fishing data to assess a variety of measures. Data can be aggregated spatially to examine management measures such as area closures intended to protect habitat or bycatch. Historical catches can be allocated across groups of vessels to examine allocative measures or across vessels that deliver to a particular community to examine the effects of a fishery on a community. At times, analysts can be challenged to develop aggregations across submitters’ activities to display data. For example, if only a single vessel fishes in a geographic area during a week, aggregations across multiple weeks or a larger area would be needed to mask data at the weekly level. The interest of policy makers and stakeholders in a variety of displays of data can challenge analysts, but under the rules and

practices that I applied as a Council staff member, Council members and stakeholders are able to understand the implications of alternative management actions in all but the rarest of instances.

NMFS Proposed Rule on Data Confidentiality

In May of 2012, NMFS released a proposed rule implementing the Act's current data confidentiality provisions for public comment. For the most part, the proposed rule simply formalizes current data confidentiality practices (see attached Department of Commerce, National Oceanic and Atmospheric Administration, Proposed Rule on Confidentiality of Information 77 FR 30486-30496, May 23, 2012). Most importantly, the proposed rule clearly establishes the requirement that any disclosure of data be in "aggregate or summary" form to "not directly or indirectly disclose the identity and business" of the submitter. This provision is intended to clearly establish the "rule-of-three" aggregation requirement. The proposed rule also clarifies the breadth of protection of confidentiality rules by replacing the word "information" with "statistics", ensuring that all "information" submitted to under a Fishery Management Plan (FMP) is subject to confidentiality protection. A variety of other clarifications are included in the proposed rule, including the development of more specific rules governing access to confidential information by NMFS, State, and Marine Fishery Commission employees and observer employees for fishery management purposes. These provisions all are consistent with the spirit of the current rule and formalize the requirement to continue current practices.

The rule also addresses the Act's exception to confidentiality protections for information required to be submitted for "any determination under a limited access program". Currently (and in the proposed rule) "limited entry program" is interpreted to mean any catch share program (meaning any program which "allocates privileges, such as a portion of the total allowable catch, to a person") and "determination" is interpreted as "grant, denial, revocation of privileges, approval or denial of a transfer of a privilege". Under this rule, any catch share allocations or transfers of those allocations are not subject to confidentiality protections. In my mind, this relatively narrow disclosure of information improves the workings of markets by ensuring that participants are aware of the distribution of shares to facilitate transfers. In addition, the disclosure is consistent with current practices, as NMFS routinely makes share allocations public through webpage postings.

Some comments to the proposed rule have suggested a broader interpretation of the term "determination" should be applied, under which any information used to make any decision under a catch share program should be disclosed. Other comments have suggested that any and all fishing information should be disclosed. These comments argue for the disclosure of all catch and observer data (including all catch amounts and fishing locations) in a disaggregated form with identification of the submitter. Applying this broad definition would be very compromising of proprietary information.

What fisheries data are proprietary

Proprietary information is often thought of as financial information and market prices. Proprietary information often extends into many other aspects of a business, most importantly

operational information. In the fishing industry, fishing locations and catch amounts are among the most sensitive business information. Location and timing of fishing drive costs and often determine a person's position in markets. Fish quality and catch rates often change with timing and location of catch. Because of these factors, timing of fishing, catch rates, and catch amounts can have significant implications for market success and competition.

Contrary to the belief of some people, catch share programs often increase the proprietary value of this type of information. In most limited access fisheries, timing of catch is dictated by regulatory openings and closings. Fishing locations can be limited in a derby fishery by proximity to landing locations. Catch share programs, by providing exclusive access to a specific quantity of catch that may be harvested any time during an extended season, often provide participants with much greater latitude to decide when and where to fish. This greater flexibility increases the competitive effects of choices of fishing time and location. Participants can use proprietary operational information to increase their catch rates, improve product quality, and time deliveries of products to markets. Broadening the definition of "information used to make determinations under a catch share program" in a manner that divulges data and information revealing timing of fishing and location choices would compromise valuable proprietary information.

For the most part, fishery participants are satisfied that the masking effect of aggregating data under the "rule of three" protects their propriety interests in business information; however, some participants remain concerned that in cases where data are aggregated across only a few submitters, competitors will be able to glean information concerning their markets and operations. For example, estimates of catch amounts of competitors can be generated, if only a few other vessels are in a fishery during a period. Despite these concerns, the current rule and its aggregation requirement strike a reasonable balance between the interests of industry in maintaining confidentiality of this proprietary information and the public interest in obtaining information to participate in the effective management of fisheries. Councils receive adequate information for decision making and a minimal level of protection is provided for fishing industry proprietary information.

Data confidentiality rules under new catch share management structures

The development of new management structures, such as cooperatives in the North Pacific, and NMFS recent application of data disclosure limitations to these structures have unnecessarily complicated implementation of data confidentiality protections. Recently, NMFS made an internal decision to consider a cooperative a "submitter" of data for purposes of administering data confidentiality protections. If a cooperative is interpreted to be a submitter of data when applying the "rule-of-three" to data aggregations, some meaningful restrictions on the release of data can arise. For example, no data can be revealed in a fishery with only two cooperatives, if data from three cooperatives must be aggregated for disclosure. Such an interpretation shows a fundamental misunderstanding of the operations of cooperative management structures and data reporting. Under NMFS management, cooperatives are organizations that are formed for the purpose of coordinating harvest of annual allocations. NMFS and the cooperative members can achieve efficiencies by having a single quota allocation made to the cooperative. Under harvest

agreements, which are not filed with NMFS, quota holders can easily move the allocation among vessels to efficiently harvest their collective allocation. To ensure that quotas are not overharvested, each cooperative member must agree to be jointly liable for any overharvest of their collective allocation. NMFS reduces administrative costs by overseeing a single allocation to several vessels.

In considering how to treat data of cooperative members for confidentiality purposes, it is useful to consider how cooperative data are collected. **Catch data submitted to NMFS are transmitted by vessel operators, who are employed by cooperative members (not the cooperative).** The cooperative is not liable for failure to submit these data, the vessel operator is. Under most cooperative agreements, the cooperative will be provided access to landings data by each member, but typically the cooperatives access to a vessel's data is limited to those data needed to oversee harvest of the allocation. A cooperative typically does not have access to each vessel's fishing locations or detailed catches by specific location. Those data are only shared within the cooperative for limited purposes, such as identifying bycatch hotspots.

Cooperatives are not price setting entities and often do not even know the price paid to members for their catches. If cooperative members wish to share price information among members and negotiate prices collectively, they must take care to abide by antitrust laws, ensuring that members qualify for an exemption, most likely under the Fishermen's Collective Marketing Act. If a cooperative (or for that matter, any fishermen in any fishery) chooses to avail itself of an antitrust exemption, NMFS is unlikely to know. Even if and when a cooperative negotiates pricing under the exemption, members may have side agreements with processors and buyers that include price adjustments or other types of compensation, which the cooperative may be unaware of. For these reasons, NMFS collects price data from vessel operators, not cooperatives, and any enforcement action for failure to submit data are pursued with the vessel owner, not the cooperative.

Given that cooperatives do not submit data to NMFS and often do not even have access to most of a member's proprietary data, it is clear that a cooperative should not be considered to be a data submitter for purposes of data confidentiality protections and applying "rule-of-three" aggregations when implementing those protections. Applying the aggregations at the vessel level ensures that Councils, stakeholders, and the public have reasonable access to data for management and conservation purposes. Furthermore, only if "submitter" is interpreted as being a cooperative, is there even an argument that a broad release of data under the "catch share determination exemption" is needed for fishery management purposes. In short, maintaining the rule of three aggregation requirements at the vessel level and a narrow definition of "determination under a catch share program" for purposes of administering the exemption to confidentiality protections provides a reasonable balance between the interests of Councils, stakeholders, and the public in information for fishery conservation and management decision making and fishery participants' interest in protecting proprietary information.

From a practical standpoint, I can say that in working for the North Pacific Council for over 10 years I prepared thousands of pages of analysis that relied extensively on confidential data. In preparing those documents, I routinely applied the "rule-of-three" at the vessel level, and not the

cooperative level. Not once during that time did any industry stakeholder express concern that aggregation at the vessel level compromised proprietary information. Given this state of things and the reality that cooperatives do not submit these data to NMFS, it is unclear why anyone would choose to interpret the term “submitter” to mean the cooperative.

The importance of data confidentiality to maintaining data quality and existing data management programs

The satisfaction of industry with current confidentiality protections provides management benefits by increasing the willingness of industry to improve fishery management information. In the North Pacific, industry representatives have worked extensively with the Council and NMFS in the development of new data collection initiatives, including programs to collect data concerning bycatch management and economic and social information. Although the Magnuson Stevens Act provides the Council with authority to dictate these data collection initiatives independent of any industry cooperation, the effectiveness of the programs are often increased greatly by industry participation in their development. For example, bookkeeping discrepancies across submitters and differences in interpretation of survey questions can often lead to errors and biases in data. Working with industry can ensure that questions and responses are accurate and correctly interpreted by analysts. It is not an overstatement to say that over half of the questions on the crab economic data collection forms were revised from their original form after discussions with industry. The importance of the NMFS/Council/industry working relationship is clearly described in the letter from the North Pacific Council in its October 14, 2013 letter to NMFS Assistant Administrator, which states:

...any further relaxation of these [confidentiality] provisions could undermine the cooperation and goodwill of the fishing industry we have worked hard to cultivate. This cooperation, including numerous biological monitoring and economic data collection programs associated with North Pacific catch share programs, is essential to the effective management of our fisheries. Through these programs we collect sensitive cost and other operational information from industry participants. We need to ensure that such information remains confidential, except where Congress expressly intended otherwise. (see attached letter)

A separate issue with respect to any revisions to data confidentiality protections, which may be specific to the North Pacific, concerns data sharing arrangements between NMFS and the State of Alaska. Currently, the State and NMFS jointly collect in-season management data under a data sharing agreement. To maintain this system NMFS must maintain data confidentiality to the extent required by State law. The proposed rule is consistent with the data protection agreement between the State of Alaska and NMFS and is consistent with the requirements of the State law. Further relaxation of confidentiality protections (such as providing for broader release of data under the catch share determination exemption, however, could jeopardize the existing relationship and require extensive restructuring of data collection in the North Pacific. As noted by the North Pacific Council in its letter to NMFS Assistant Administrator:

potential conflicts with State confidentiality statutes...would inhibit the ability of the State to share State fishery records with NMFS, and thus severely undermine the existing data collection system used for inseason management of federal fisheries. Releasing information that

the State deems to require aggregation would be in violation of both State statute and the existing data sharing agreement between the State and NOAA.

In concluding, I will concede that under the “rule-of-three”, it is possible that Councils and stakeholders may benefit from additional information that cannot be released under the current confidentiality rules. For example, in a fishery with only a few participating vessels or processors, it is possible that community landings cannot be revealed. This need, while important, should not provoke a large scale abandonment of data confidentiality protections. Any modification to address this shortcoming should be focused with a well-defined process for determining 1) if a broader disclosure is necessary for sound management 2) the appropriate scope of that disclosure, and 3) any limitations on the disclosure to protect confidentiality. In considering this data needs, it should be noted that these needs arise in both catch share and non-catch share fisheries and a simple provision exempting catch share data from confidentiality protections will not address the issue. Only carefully considered and developed exemptions that focuses directly on specific data needs and balances those needs against the need to protect proprietary data should be developed..

Specific comments on the discussion draft bill

Section 3 – Flexibility in Addressing Rebuilding Stocks

Modification of rebuilding timelines - The proposed modification of the timeline for rebuilding would remove the current 10 year rebuilding requirement, replacing that requirement with a more flexible timeline. The proposed modification seems to appropriately accommodate the influences of other factors (such as non-fishing environmental effects) on rebuilding the time.

Relief from rebuilding requirement if stock is not depleted – Provision to relieve requirements for rebuilding if it is determined that a stock is not depleted is important, as it relieves the stress of rebuilding plans when improved stock information shows that a rebuilding plan was unnecessary in the first place.

Section 4 – Modifications to the Annual Catch Limit (ACL) Requirement

Ecosystem components – The provision for the exemption of stocks from ACL requirement by inclusion as an ecosystem components provides effective protection to nontarget stocks that are unlikely to be affected by fishing.

Scientific and Statistical Committee fishing/overfishing recommendations – The bill would allow a Council to set an ACL for a stock above the recommended fishing level of its SSC. The North Pacific Council’s policy of maintaining its ACLs at or below its SSC’s recommended fishing level predates development of the provision of the current Magnuson-Stevens Act provision. Although a need for removing this requirement may exist in other regions, it is our hope that the North Pacific Council maintains its current policy of setting ACLs at or below the SSC recommended fishing level.

Section 5 – Distinguishing between Overfished and Depleted Stocks

Distinguishing overfished stocks from depleted stocks could be important in the future, if some stocks are depleted for reasons other than fishing. Adopting a revised definition of “depleted” could have some implications for the development of rebuilding plans depending on how that definition is interpreted. For example, a stock might be determined to be “depleted” by dipping “below the natural range of fluctuation associated with the production of maximum sustainable yield”, without reaching an “overfished” state which occurs only if “a level that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis” is reached. The proposed definition of depleted will require that the “natural range of fluctuation associated with the production of maximum sustainable yield” be defined for all stocks. The current definition of overfished provides a more certain metric for assessing stock status. Maintaining the current definition (and applying it to the term “depleted”) or developing a more transparent revised definition may provide more certainty on when a stock will be considered depleted.

Section 6 – Transparency and Process

The procedural and analytical under the National Environmental Policy Act (NEPA) are somewhat redundant and at times difficult to reconcile with the procedural and analytical requirements of the Magnuson Stevens Act. Notwithstanding, NMFS and the Regional Fishery Management Councils have generally managed to reconcile these requirements. An explicit statement that actions prepared in accordance with the Magnuson Stevens Act are considered to comply with NEPA requirements would remove any uncertainty as to whether the reconciliation of the requirements has been fully achieved.

The requirements for video recording and broadcast and production of transcripts seem excessive. Currently, audio broadcasts and recordings and tape logs are available of North Pacific Council meetings and deliberations. These materials provide adequate information to the public without excessive costs. Maintaining the current process provides for adequate transparency and public participation in the North Pacific Council process.

Section 7 – Limitation on Future Catch Share Programs

This applies only outside the North Pacific; therefore, I have no comment.

Section 8 – Data Collection and Data Confidentiality

Electronic monitoring – The use of electronic monitoring will be important to gaining improved information in fisheries across the Nation. The timeline for developing standards and regulations seems aggressive, but the spirit of the measure seems appropriate.

To fully achieve the benefits of electronic monitoring, compliance monitoring should be permitted with electronic monitoring. In addition, several electronic technologies are currently used for compliance monitoring, such as Vessel Monitoring Systems. Continued use of these

existing electronic technologies for monitoring should be maintained by any electronic monitoring provision. Any legislation should clearly provide that electronic monitoring may be used for compliance monitoring. Throughout the consideration of electronic monitoring systems, attention should be given to avoiding redundancies with observer coverage to achieve the most cost effective monitoring.

Video and acoustic survey technologies – The support for further development of video and acoustic survey technologies is an appropriate measure for improving fishery information.

Data confidentiality – Under (c)(1)(B), the insertion limits the protection to being “exempt from disclosure under section 552(b)(3) of title 5, United States Code”. Depending on interpretation, as written this change could substantially broaden disclosures, since it only prevents disclosures under the Freedom of Information Act (FOIA). An alternative wording that provides the current protection could be: “shall be exempt from disclosure, including disclosure under section 552 of title 5, United States Code, except –“. This change would make it clear that FOIA disclosures are not permitted.

Under (c)(1)(B), the insertion at clause “(F)” disclosures “to a Council or State” are allowed with written authorization from the person submitting the data. The current rule allows disclosure of data to any person identified by the data submitter with written authorization. Industry has used the current exception to provide data to a third party for overseeing catches and bycatch, implementing bycatch reduction measures and area closures, and monitoring industry measures to reduce fishing impacts. Maintaining the ability of data submitters to release data to third parties, as permitted under the current exemption, is important to achieving the conservation benefits of these industry measures and poses no threat to confidentiality since disclosures are at the discretion of the submitter. Deletion of “to a Council or State” would clearly provide for the submitter to continue to release data to third parties.

Under (c)(1)(B), the insertion at clause “(G)” allows for the disclosure of information “required to be submitted to the Secretary for any determination under a catch share program.” This modification is consistent with the current interpretation of an exception that provides for disclosure of information “required to be submitted to the Secretary for any determination under a limited access program”. To date, NMFS has interpreted “limited access program” to mean “catch share program”. More problematic are the potential interpretations of the term “determination”. In the Proposed Rule of May 2012, NMFS suggests that a “determination” is limited to a “grant, denial, or revocation of privileges; approval or denial of a transfer of privileges; or other similar regulatory determinations by NMFS applicable to a person.” This interpretation adequately protects proprietary information of submitters. Including the specific definition of “determination” from the proposed rule in legislation could ensure that this protection is continued.

A provision for the release of bycatch information with and without vessel identification applicable only in the North Pacific is removed by the discussion draft. When first adopted, this provision provided important bycatch information that stigmatized poor bycatch performers and likely stimulated improved bycatch performance. Since that time, extensive regulatory bycatch

control measures have been adopted and fleets have developed cooperative arrangements to further reduce bycatch impacts. In some cases, it is possible that disclosures under the exemption could discourage experimentation or fleet coordination that might yield further bycatch reductions. In addition, expansive bycatch information is available without the exemption. Given the advances in bycatch reduction, the potential for disclosures to create a disincentive for bycatch reductions and the breadth of information available regardless of the exemption, the need for continued release of bycatch information under the current exemption should be explored.

Asset Forfeiture Funds – The use of forfeiture funds would be beneficial for developing information on data-poor fisheries. In developing a provision, it should be borne in mind that NMFS often contracts surveys with private vessel owners. As written, the provision allows the use of funds to contract State personnel and resources for data development. A similar provision for the continued contracting of private vessels for surveys should be included.

Thank you for the opportunity to present this testimony. I look forward to working with the Committee on the Magnuson Stevens Act reauthorization process to continue the sound conservation and management of our Nation's fisheries resources.

**Written Testimony of
Rick E. Marks
Robertson, Monagle & Eastaugh, PC
Reston, Virginia**

***H.R. ____ Strengthening Fishing Communities and Increasing Flexibility in Fisheries
Management Act***

**To the
Committee on Natural Resources
United States House of Representatives**

February 4, 2014

Chairman Hastings, Ranking Member DeFazio and distinguished Members of the Committee, I appreciate the opportunity to speak with you about the “Discussion Draft” legislation titled “Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act” (henceforth referred to as “Draft”).

I am Rick Marks, a Principal at Robertson, Monagle & Eastaugh, P.C. (“ROMEA”) of Reston, VA. Our extensive fisheries-related client base includes fishermen, fish houses, shore-based processors, fishing associations and fishing-dependent coastal communities in many states from several regions around the nation.

My background includes service on the Mid-Atlantic Fishery Management Council, as a supervisory marine fish biologist for the State of North Carolina and as a Fishery Reporting Specialist and Benthic Marine Field Technician for NOAA. I hold a Master of Science Degree in Marine Environmental Science and a Bachelor of Science Degree in Biology. I have authored several scientific papers in peer-reviewed journals regarding various aspects of marine finfish ecology and biology and have a professional certification in Environmental Conflict Resolution from the Morris K. Udall Foundation in Arizona.

My comments here today are my own as a Principal at ROMEA and advocate for the U.S. commercial fishing and seafood industry. However, in my preparation for this hearing I canvassed our clients extensively about specific contents of the “Draft” so in large part my testimony reflects feedback on issues critical to many of our clients operating in Alaska, Washington, Oregon, California, Florida (Gulf Coast, East Coast, and the entire FL Keys), New Jersey, New York, and Rhode Island.

The 2006 Amendments and subsequent implementation fundamentally altered the way domestic fishery resources are managed. The core concept was to separate fish politics from science. The new provisions focused on ending overfishing immediately, accountability, rebuilding stocks as quickly as possible, reducing fishing capacity through limited access programs -- all in the context of a more intensive reliance on science in the decision-making process.

In 2009 NOAA revised the National Standard One Guidelines (NSG1) requiring the Regional Fishery Management Councils (RFMCs) to consider both scientific and management uncertainty when setting quotas. For the 2006 reauthorization to work it required a heavy reliance on high quality scientific information. Unfortunately, this is information that in most regions we simply do not have. Juxtaposition of insufficient data on many stocks with consideration of uncertainty in the quota setting process has resulted in precautionary buffers and yields below MSY at the expense of the industry and our Nation. In addition, proliferation of unpopular catch share programs in some regions has intensified the call for reform.

The following points justify the idea that additional reform is necessary and to address the unintended consequences from 2006. These include but are not limited to: (1) the Committee considered no less than eight bills focusing on MSA reform in 2011; (2) you have convened 6 hearings with testimony from almost 100 witnesses in the 113th Congress; (3) NOAA is conducting a re-examination of NSG1 and data confidentiality standards; (4) in 2013 the GAO concluded that the 10-year rebuilding requirement was arbitrary and the mixed-stock exemption should be revisited; (5) many of the recommendations from the 2013 “Managing Our Nations Fisheries III” and from the Regional Fishery Management Councils (RFMCs) strongly support carefully targeted reform; (6) we are plagued by weak stock management and a requirement to have all stocks, incl. minor ones, at MSY in the same time/space; and (7) we are not meeting our objectives to maximize harvest to provide the greatest benefit to the Nation.

Whenever comprehensive changes are made to complex policies we don’t always get it all right. The time to begin discussing a responsible rebalancing of the Act is now and we appreciate the Committee’s attention to and leadership in this matter.

Comments on the “Draft”

SECTION 3: Flexibility In Rebuilding Fish Stocks

The title of the “Draft” reflects the interest from around the country in restoring some measure of flexibility to the stock rebuilding requirements without undermining conservation. This theme resonates with many in the fishing industry. RFMCs unanimously supported adding an element of stock rebuilding flexibility during the 2006 reauthorization and renewed those efforts in 2013-2014.

The change to section 304(e)(4)(A)(i) of the Act of “possible” to “practicable” in terms of rebuilding periods affects the existing 9th Circuit Court ruling in *NRDC v. Daley* which has been an issue for the Pacific Council and the subject of Council comments. If approved, this provision would provide the Council the option to choose between several rebuilding scenarios and not just the shortest and most harmful. The proposed change is viewed by the industry as beneficial to coastal communities without undermining stock rebuilding objectives.

The section also removes the 10-year rebuilding time frame and substitutes the time a fishery could be rebuilt without fishing, plus one mean generation (which is the current NSG1 for stocks that can't be rebuilt in 10 years). The 10-year requirement has long been considered by industry to be completely arbitrary but was touted by the environmental community as the gold standard.

The National Academy of Science (NAS) concluded in their report titled "Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the U.S." (NAS 2013) that the pre-set 10-year rebuilding requirement was indeed arbitrary and harmful, thus ending the debate. We need to replace this requirement with more scientifically valid metrics.

The "Draft" also provides several common-sense exceptions to the rebuilding time period which will be determined by the Secretary (not the RFMCs) including: (1) biology of the stock, environmental conditions or management measures under an informal international agreement; (2) the cause of depletion is outside the jurisdiction of the Council or can't be affected simply by limiting fishing; (3) if a stock is part of a mixed-stock fishery that cannot be rebuilt in the time frame if that causes another component to approach depleted status, or will lead to significant economic harm; (4) informal transboundary agreements that affect rebuilding; and (5) "Unusual events" affecting the stock and rebuilding and rebuilding can't be accomplished without significant economic harm to fishing communities.

Subsection (a) also adds helpful new flexibility requirements that rebuilding plans take into account environmental factors, including predator/prey relationships; a schedule for reviewing rebuilding targets and progress being made on reaching those targets; and consideration of alternative rebuilding strategies including harvest control rules and fishing mortality targets, things also requested by the RFMCs.

The "Draft" also includes a helpful flexibility provision allowing a RFMC the ability to terminate a rebuilding plan for a fishery that was initially determined to be overfished when updated science determines the stock is no longer overfished. This clarifies that once a stock is in a rebuilding period the process does not have to proceed to completion irrespective of stock response and condition.

The "Draft" omits a change to MSA Section 312(a) Fisheries Disaster Relief that was a provision in 2011 in Mr. Runyan's H.R. 1646 which requires the Secretary to render a disaster determination within specified time period after receiving a disaster request. Currently, Section 312 applies no time constraint for the Secretary to render a declaration. *We recommend the Committee consider a response time not to exceed 1-year.*

To illustrate, in May 2009 the Secretary closed the entire Gulf of Mexico snapper-grouper fishery to protect sea turtles for 5 consecutive months. The Governor of Florida issued a formal request to the Secretary for a fisheries disaster declaration along with 350 members of the Florida fishing industry. The Secretary did not respond to this situation

until early 2011, and determined that despite the hardship the industry survived the closure so no disaster declaration was necessary.

By comparison, it took the Secretary of Commerce just 90 days to respond to the most recent 2013 disaster request for a commercial fishery failure for Frazier River Sockeye in Washington State.

Subsection (c) allows increased flexibility by allowing a RFMC to phase-in rebuilding restrictions over a period of 3 years for healthy fisheries not subject to chronic overfishing and for which immediate restrictions will result in significant economic impacts to fishing communities. It is critical to note that overfishing will still need to end but that in certain circumstances, up to 3 years will be allowed to lessen economic harm.

SECTION 4: Modifications to the ACL Requirements

This section provides Councils with increased flexibility in setting annual catch limits (ACL). The ACL requirement is retained in the Act but the RFMCs could consider changes in ecosystem and economic needs of the communities when setting limits. In light of changing environmental conditions, these additions make scientific and common sense.

There are helpful targeted ACL exceptions for ecosystem component species that are not overfished or subject to overfishing or likely to become subject to those conditions. These species are defined in a manner that generally matches what is now in the NSG1. Since these non-targeted species are such minor components, it makes sense to retain them generally in the management context but not as species “in the fishery”. This allows for ecological monitoring but does not increase management complexity or negative economic ramifications. A potential example of this application is the Giant Grenadier in Alaska trawl fisheries in the BSAI/GOA.

The “Draft” allows setting multiple year ACLs and annual catch limits for a stock complex. We suggest “stock complex” be replaced with “mixed stock assemblage”. This provision will provide some limited flexibility for RFMCs to set a single ACL for a group of fish stocks that are commonly found in association with each other. Often, the availability of individual species within a mixed stock assemblage will fluctuate and may be inconsistent with species-specific ACLs. However, this provision does not really address the weak stock management problems inherent in mixed stock fisheries and should be further developed to address minimum stock biomass. This problem can be exacerbated as stocks rebuild, in data poor situations, and where monitoring is not timely.

The Act currently provides an exemption from the ACL control rules for stocks managed under international agreements and for species whose life cycle is approximately one year that is not subject to overfishing. These provisions are too narrow in scope and do not address species that are truly trans-boundary in nature that have an informal agreement (or no agreement) in place, or are species whose life history characteristics prevent NOAA from being able to apply the ACL control rules in an efficient manner. The “Draft” contains helpful provisions to address two of these three concerns.

For example, in the case of *Atlantic mackerel*, scientific evidence indicates the stock distribution is shifting into Canadian waters (Overholtz, 2011). Unfortunately, the U.S. has no formal trans-boundary sharing agreement and Canada takes what they can harvest. In this instance, unilateral U.S. management actions pursuant to MSA do not affect rebuilding or end overfishing but disadvantage our fishermen and weaken the U.S. negotiating position. While the U.S. opportunity to harvest mackerel was reduced by more than 80,000 metric tons since 2007 (from 115,000 mt to 34,907 mt) the Canadian government allowed their fishermen to harvest most of the available quota since their fishermen are under no obligation to fish under MSA rules. Due to the lack of a trans-boundary ACL exemption, rigid interpretation of MSA requirements, and application of layers of scientific uncertainty, the U.S. mackerel fishery (which is *not* overfished) has been severely restricted and it will prove difficult to rebuild quota levels under the new MSA standards.

The proposed ACL exception is also appropriate for *Atlantic butterfish*, a species that exhibits a short lifespan (1-3 years), an extremely high natural mortality rate, highly uncertain and variable survey indices, and an exceedingly variable catch level so that it is not possible to accurately determine the condition of the stock on a timely basis. Each of these uncertainties contributes to precautionary ACLs, essentially turning butterfish into a “choke” stock with negative effects on fishing for other robust species, undermining our ability to achieve Optimum Yield (OY) which is a requirement of National Standard 1.

However, Section (3)(B) in the Draft (Page 7) does not quite address the problems related to the *Spiny Lobster* fishery in the Gulf of Mexico. While valued at \$375M and supporting more than 3500 jobs in Monroe County, FL alone -- U.S. fishermen account for just 6% of the total harvest. Genetic evidence indicates that stock recruitment occurs entirely outside U.S. jurisdiction within the Caribbean Basin and waters of Southern Cuba, Brazil, Belize, Honduras and Columbia.

In 2011, NOAA’s Southeast Data Assessment Review (SEDAR) determined it was not possible to establish population benchmarks based only on the U.S. segment of the population (FKCFA 2011). There is no agreement (formal or informal) to manage this international stock.

Despite the true trans-boundary nature of this stock and insufficient data available to render a status determination, MSA requirements could force the RFMC’s to set precautionary ACL control rules for this species that will harm U.S. fishermen with no biological benefit to the stock. Considerations should be made in this particular instance where there is no transboundary agreement but the recruitment, distribution, life history and preponderance of fishing activities are transboundary.

SECTION 5: Overfished and Overfishing Defined

This section correctly defines “overfishing” and removes the term “overfished” from the Act, substituting the newly defined term “depleted”. The section also requires changes to the annual Status of Stocks report submitted by the Secretary to distinguish between

stocks that are depleted or approaching that condition due to fishing and those meeting that definition as a result of other factors. The industry supports the separation and clarification of the two terms and the requirement to differentiate vis a vis stocks status. However, we recommend the proposed definition of “overfished” be revised to include a minimum stock biomass level which reflects the current NSG1.

SECTION 6: Transparency and Public Process

This section requires RFMC Science and Statistical Committees (SSCs) to develop advice in a transparent manner and allow for public input. However, the 2006 MSA amendments ceded unprecedented authority to the SSC and the increased use of video/call conferencing/webinar technology has increased to where critical decisions can be made outside of the public eye. So, there is an elemental need to consider public access.

While each council operates differently, and the range of comfort in the regulated community varies from region to region based on those differences, there is no reason why we should not require RFMC, SSC and Council Coordinating Committee (CCC) meetings be widely available in some timely manner and archived for public access.

We note that subsection (b) requires the Council and CCC to provide a live broadcast only if practicable to do so, but does require an audio recording, video (if the meeting was in person or via video conference), and a transcript of each Council and SSC meeting on its website within 30 days. Note there are some concerns being expressed that 60 days may be a more appropriate timeframe. It will be the responsibility of the Secretary (not the RFMCs) to maintain and make available an archive of the Council and SSC meetings.

This concept of ensuring public access was raised originally in 2011 and generally supported by the fishing industry, especially in the Gulf of Mexico and South Atlantic regions as a provision in H.R. 2753: “*The Fishery Management Transparency and Accountability Act*” introduced by Rep. Walter Jones (NC-R).

Subsection 6 (c) stipulates that fishery management plans, amendments, and regulations implementing those plans and amendments are deemed to have met the requirements of the National Environmental Policy Act (NEPA). The provision also specifies that MSA timelines will be the controlling schedule.

In spite of clear direction given by Congress in 2006 (Section 304(i), as added by P.L. 109-479), NMFS and the Council on Environmental Quality have yet to adequately streamline the procedures for review under the two statutes. The results are unconscionable delays in conserving and managing our fish stocks due to duplicative mandates. This delays and hamstring the RFMC process and can harm the fishing industry.

For example, 2014 measures for West Coast Groundfish are based on data from 2010 to inform a regulatory process that began in 2011 in order to comply with environmental review timelines. At its November 2011 meeting, the Pacific Fishery Management

Council voted to maintain status quo on almost all ACLs through 2014 in spite of data showing markedly increased abundance on key stocks, simply because the environmental review time requirements would prevent the fishery from starting on time.

SECTION 7: Limitations on Catch Share Programs

Generally, the industry supports this comprehensive definition of the term “catch share”. We note the inclusion of the term “sector” which heretofore has been excluded from the limited access program concept and one that has different connotations. The term “sector” should include the system being used today to manage New England Groundfish.

My processors in Alaska, the West Coast, and New Jersey support retention of “processors” in the definition. Though this inclusion does not mandate that harvesting shares be awarded to processors, it is a continual recognition (along with recognition of cooperatives and communities), that in certain high volume fisheries where there is a heavy reliance on shore side processing capacity, investment and marketing capability, (such as Atlantic mackerel & pelagic squids, Alaska and Pacific groundfish), that consideration can be given to these critical elements of the infrastructure.

We note that Subsection (b) establishes a formal simple majority catch share referendum process applicable only to future catch share programs in New England, Mid-Atlantic, South Atlantic, and Gulf of Mexico regions. This is broad support across the fishing industry in the named regions for an iron-clad transparent referendum process. Now, there is no interest in my broad client base to dismantle existing catch share programs or remove the tool entirely from the system. However, what may not be widely known is a lack of consensus in the exempted regions about a referendum requirement for future programs. This is readily apparent in the small boat fishing-dependent communities in the Aleutians and on the West Coast.

There is a groundswell of opposition from the named regions against NOAA’s National Catch Share program that plays out annually in the Commerce-Justice-State appropriations process. It is important to note this widespread opposition is not against the policy but rather its implementation. Many in the fishing industry, particularly in the Gulf and South Atlantic, consider the catch share process to be a top-down process. NOAA indicated as early as December 2009 (in the initial stages of the *DRAFT* policy!) that “32 additional programs will begin development in FY 2012” (NOAA 2009). Many fishermen firmly believe the process to be tainted by foundation trust grants to NGOs who do not have the best long term interests of the U.S. commercial fishing industry in mind.

It is important to note here that in some regions, catch share programs are supported by industry, while in other areas they are flatly opposed and viewed not as conservation tools but as a means of social engineering and worse. NOAA clearly knows this, stating in the Policy that “Taken together, ACLs and LAPs [limited access privilege programs] combine the positive benefits of a firm cap on fishery removals with the additional benefits of achieving important economic and social objectives....” (NOAA 2010).

It is the darker side of social and economic implications of catch share programs that are the reason the fishing industry in many regions desires to have an honest transparent vote. Reforming the referendum process contained in Section 303(A) was first raised in 2011 by Rep. Runyan in H.R. 1646/2772. The current law does not protect fishermen, particularly small boat fishermen in New England and Gulf of Mexico, and there is no referendum provision for the South Atlantic and Mid-Atlantic, leaving the industry in those areas exposed to proliferation of catch share programs they mostly do not want and for which there is often insufficient scientific information.

Frankly, the only question before the Committee should be what definition of “Permit holders eligible to participate” is the most appropriate. Some of my fishermen in the named regions support the current proposed definition that requires holders of a permit with landings in 3 of most recent 5 years (with allowances for hardship considerations); while many others, particularly in the Gulf of Mexico and South Atlantic, believe that an active permit holder (with no or very low landing requirements) should be allowed to vote. There is agreement in all named regions that all catch share program specifics must be provided in advance to ensure a fully informed vote.

SECTION 8: Data Collection and Confidentiality

This comprehensive section constitutes a very large segment of the “Draft” and received mixed reviews from industry across regions, covering the gamut of issues. I also note here there is currently controversy surrounding the agency’s codification of practices pertaining to the protection of confidential data so the topic has relevance.

First, regarding Electronic Monitoring (EM) – the industry feedback was essentially that EM can be helpful in some targeted regional fisheries (some of our clients are experimenting with electronic logbooks to enhance reporting efficiency/accuracy; some fishermen see EM as a key to cost savings for observer coverage) but perhaps not as part of a national model. As such, there was some concern expressed by industry that developing EM programs at a regional level would be difficult enough and the Secretary should not be trying to develop national objectives, performance standards and regulations.

Also, perceptions exist that the development of a national EM program could be West-Coast centric. There was also concern that this section could be interpreted as a potential mandate for broad use of EM and about potential costs to industry. Many industry stakeholders oppose video cameras while some support it, and there are others that actually prefer human observers.

I fully recognize and appreciate the growing interest in EM being expressed by NOAA in the 2014 “Priorities and Annual Guidance” Report (NOAA 2013); in discussions at the recent CCC meetings; and for the work being done by the PSMFC, the PFMC, and some participants in the West Coast Groundfish IFQ program and in some small boat fisheries in Alaska as a potential cost savings option.

However, I am not convinced from the feedback I am receiving from industry that there is broad national acceptance for EM, esp. video cameras, in all regions/fisheries. Perhaps a more suitable approach for the “Draft” would be to limit EM to pilot projects in specific fisheries where the RFMC of jurisdiction and stakeholders can collaborate to develop/implement a program with objectives, standards, regulations and costs suitable to the specific needs of a given fishery.

Regarding confidentiality of information in Subsection (c), there is general industry support for clarifying and enhancing the current language regarding the collection and use of confidential information and providing a comprehensive definition of what constitutes “observer information”.

I noted earlier that NOAA is under pressure from the NGO community to relax confidentiality standards and increase the types of information made available to the public, including trade secrets and proprietary information. The “Draft” provides a clear indication that it is the intent of Congress to protect sensitive information.

The only concerns raised by industry (from the West Coast mainly) include: (1) the potential for an interpretation of the changes to Section 402(b) to mean that NOAA/observers could be prevented from informing fishermen of their catch, discards and MMPA interactions for an observed trip; and (2) the inability to release data *in the aggregate* to show the value of a fishery or a particular fishing area to help the industry defend its interests during National Ocean Policy implementation.

Subsection 8(d) focuses on Data-Poor fisheries by authorizing the use of area-specific money in the Asset Forfeiture Fund (AFF) to gather fishery independent data, to survey/assess “Data-Poor” fisheries, and to develop cooperative research to collect fishery independent data. It also requires the RFMCs to list and prioritize Data-Poor fisheries.

NOAA currently manages 528 stocks of fish. Of this total, roughly 114 are considered adequately assessed by the agency. Most of the 114 assessments (approximately 80) occur regularly on economically important stocks in Alaska and New England. In other regions, the assessment periodicity is far less - approximately 15 per year in the Gulf of Mexico, South Atlantic and Caribbean combined (Angers 2011). Thus, a large majority of fish stocks are Data-Poor or not adequately assessed at all with the result being uncertainty trumping opportunity for the achievement of OY.

There is widespread industry support for the improved data collection and focus on Data-Poor stocks contained in the “Draft”, especially in the Gulf of Mexico, South Atlantic and Mid-Atlantic regions where assessments occur less frequently compared to other areas.

I note here that Rep. Wittman introduced H.R. 3063 which contains a potentially useful provision pertaining to development of a national stock assessment plan under MSA Section 404(b). I have long been a proponent for a national, transparent, prioritized stock assessment and survey program to ensure that adequate assessments, supporting surveys

and cooperative research are conducted in each region to support healthy commercial/charter/sport fisheries. This provision should be considered in the context of the “Draft” and dovetail with current requirements specified in MSA Section 302(h)(7).

SECTION 9: Council Jurisdiction for Overlapping Fisheries

This section adds reciprocal voting rights to established council “liaison” positions between the New England and Mid-Atlantic RFMCs only. While fishermen in the Mid-Atlantic have not requested this action and do not wish to dismantle established council membership, fishermen in New England made the request. Since the provision establishes a limited reciprocal voting right and does not disrupt current council procedures, there is general agreement about this provision between fishermen in the two areas. Please note that H.R.3848 was referred to this Committee and provides the State of NY with a non-reciprocal, 3-vote seat on the NEFMC. This legislation is likely to meet with stiff opposition from fishermen in both regions and from States on both RFMCs.

SECTION 10: GOMEX Cooperative Research and Red Snapper Management

There is longstanding and widespread industry support in the Gulf of Mexico and South Atlantic for a requirement that the Secretary, working with States, GMFMC/SAFMC, and commercial/charter/sport stakeholders, develop and implement a cooperative research program for both regions with a priority on data-poor stocks.

I note here that industry comments from Alaska elucidated concerns that S-K funding proposed to be diverted for use in implementation of subsection (b)(2) could potentially pull funds from other regions.

Subsection (d) of the “Draft” outlines specific scientific requirements for timely surveys and stock assessments and task prioritization at the NMFS Southeast Regional Science Center; and adds a requirement to utilize any information generated from RESTORE ACT funding to be used as soon as possible in any fisheries stock assessment. There is widespread industry support in the affected regions for these requirements.

Regarding red snapper management and State seaward boundaries in the Gulf of Mexico in Subsection (f), the proposal to uniformly extend State jurisdiction 9 nautical miles has generated little comment from my constituents in Florida. Their state already has jurisdiction out to 9 miles so this represents little change for Florida fishermen. The comments that I did receive indicate the existing boundaries are historic and should remain as they are, and also that the federal government should not be dictating individual Gulf State authority.

SECTION 11: NPFMC Clarification

This section should be expanded to include extension (or removal) of the sunset date for authority over the West Coast Dungeness crab fishery (*See* 16 USC 1856 note).

SECTION 13: Consistency With Other Laws

This section clarifies that fisheries management activity impacted by the National Marine Sanctuaries Act (NMSA), the Antiquities Act, or the Endangered Species Act (ESA) be

accomplished under the MSA using the RFMC process. In instances where the MSA conflicts with these other laws, the MSA shall be the controlling process. This provision does not amend these other statutes.

Regarding Marine Sanctuaries, many stakeholders who fish in/around these areas believe there are definitely conflicting jurisdictions between the National Marine Sanctuary Act (*See* NMSA 16 U.S.C. 1434) and the MSA when it comes to fishing regulations. I hear most often about these conflicts (and the potential for increasing problems...) related to the Channel Islands, Olympic Coast and Florida Keys Sanctuaries.

The specific problem appears in Section 304(a)(5) of NMSA (16 U.S.C. 1434) whereby the Councils are afforded the opportunity to prepare draft regulations using the MSA as guidance only “to the extent that the standards are consistent and compatible with the goals and objectives” of the Sanctuary designation. This is the crux of the jurisdictional and philosophical conflict between NOAA/NMFS and NOAA/National Ocean Service (NOS).

The RFMC Chairmen adopted a unanimous position in 2006 to amend both the NMSA and the MSA to exclude fishery resources as sanctuary resources and to achieve jurisdictional clarity by vesting federal fisheries management under the MSA. The House Natural Resources Committee attempted to address this issue during the 2006 reauthorization but Members at the time deferred to the NMSA reauthorization.

The RFMCs did not resurface this as primary issue for the 2014 MSA reauthorization. None the less, I agree with the 2006 position and recommend the Committee consider at least supporting the provision contained in the “Draft” to ensure jurisdictional clarity under the MSA in instances of conflict between the statutes. This approach will help ensure that fishery resources are intended to be managed consistently throughout their range and under a transparent public and scientific process.

The potential for widespread adverse industry impacts from Antiquities Act authority increases during the latter part of every Administration. Creation of the Hawaiian Islands National Marine Monument was a case in point. The provision contained in the “Draft” will likely not protect the industry from expansive closures but could provide some level of protection with the application of MSA requirements.

Regarding conflicts with the ESA -- during the past 20 years, ROMEA’s clients in several regions have struggled to contend with intrusive ESA impacts in federally-managed fisheries involving a number of protected species. We assisted our clients with ESA decisions involving: Steller Sea Lions (Alaska trawl fisheries); Loggerhead Sea turtles (Gulf of Mexico longline fisheries); Atlantic Right Whales (South Atlantic gillnet fisheries); Atlantic Sturgeon (Mid-Atlantic gillnet fisheries); and Sea Turtles (Mid-Atlantic/NE Atlantic Sea Scallop dredge fishery).

Each one of these environmental conflicts represented extremely difficult challenges that mostly did not end well for industry. In many instances, fisheries were closed and

industry losses severe. These processes were often marred by NGO litigation (or threats thereof) but also by several key characteristics such as: (1) lack of a transparent process, (2) lack of adequate scientific data; (3) lack of adequate time to address the problem, and (4) lack of a clearly defined role for the RFMC.

The noted exception to this was the most recent 2013 situation with Atlantic Sturgeon. NOAA/NMFS leadership adopted a different model for the sturgeon, providing a Draft Biological Opinion and allowing input from the RFMCs, Atlantic States Marine Fisheries Commission, and the public. The adequate time and added transparency ensured that additional data were considered (a first ever stock assessment is underway) which has, so far, allowed for a more informed decision-making process.

The provision contained in the “Draft” specifying that the MSA process will be used to develop changes to federally-managed fisheries impacted by these statutes is widely supported by industry and should facilitate a less litigious, more transparent process, and signal it is the intent of Congress that this be the preferred approach.

Closing

Implementation of the 2006 MSA amendments exceeded our scientific capabilities and limited our flexibility. The NSG1 evolved to include precautionary decision-making leading to ACLs with safety buffers that effectively prevent the U.S. fishing industry from achieving OY. Furthermore, Data-Poor stocks persist and unwanted catch shares threaten fishermen in several regions. These are some of the weaknesses of U.S. fisheries policy yet achieving OY is a primary objective of MSA.

Mr. Chairman, thank you and Mr. DeFazio and the Members of this Committee for beginning this process in earnest. I and many of my clients view the “Draft” as a helpful, measured step in the right direction. I look forward to working with this Committee to refine the “Draft” and to seek constructive balanced improvements in our Nation’s fisheries policy.

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Written Testimony of Ellen K. Pikitch, PhD
Professor and Executive Director
Institute for Ocean Conservation Science
School of Marine and Atmospheric Sciences
Stony Brook University

U.S. House Committee on Natural Resources
Hearing on the Discussion Draft titled "H.R. ____ Strengthening Fishing Communities
and Increasing Flexibility in Fisheries Management Act

February 4, 2014

Good morning Chairman Hastings, Ranking Member DeFazio, and members of the Committee. Thank you for inviting me to appear before you today. I appreciate the opportunity to offer my perspectives on the discussion draft circulated by Chairman Hastings to amend the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and my recommendations for the next reauthorization of this critical law.

I am a Professor and the Founder and Executive Director of the Institute for Ocean Conservation Science at Stony Brook University.¹ The Institute conducts world-class scientific research in order to increase our knowledge about critical threats to the ocean and its inhabitants, provide the foundation for smarter ocean policy, and establish new frameworks for improved ocean conservation. A primary focus of our work is to advance ecosystem-based fishery management, or put another way, to support the progression of fishery science and management from its current species-by-species emphasis to a more comprehensive and realistic approach. Importantly, an ecosystem-based methodology accounts for the interactions among marine species, their habitat requirements and environment, and the people who depend upon them. There is a growing consensus among scientists that this approach to management is the necessary next step to ensure sustainable stewardship of our ocean resources.

As such, I am very concerned about the Chairman's discussion draft, as it roll backs many of the important provisions of the Magnuson-Stevens Act that have led to recent improvements in the health of the nation's fisheries. Rather than relapse to using policies and practices that were not successful when widely applied in the past, we should use this opportunity to move forward, adopt ecosystem-based fisheries management, and better equip our fishery managers to address future challenges facing our oceans.

Throughout my professional career, I have been deeply involved in fishery conservation and fisheries management science. As an Assistant Professor at Oregon State University in the early 1980s, I conducted cooperative research with the commercial fishing industry focusing on Pacific coast groundfish assessments and complex management issues (such as bycatch and discards) arising from the multispecies nature of the trawl fishery. Much of this work took place aboard commercial fishing vessels operating under commercial fishing conditions. Later, while on the faculty of the University of

¹ The views expressed in this testimony are mine. They do not necessarily reflect the views of Stony Brook University.

Washington, I directed the Fisheries Research Institute and expanded my research program into Alaskan waters. I served on the Pacific Regional Fishery Management Council's Scientific and Statistical Committee between 1989 and 1994, and chaired its Groundfish Subcommittee in 1993 and 1994. I also served as chairman of the New England Regional Fishery Management Council's Scientific and Statistical Committee from 1998 to 2000. I have been a member of several advisory panels convened by the National Academy of Sciences to research sustainable fishery management issues. I have conducted field research, in the United States and overseas, on many iconic fish species, including sturgeon, sharks, and several species of groundfish.

In the late 1980s and 1990s, I witnessed firsthand how regional fishery management councils used flexibility to avoid addressing the difficult problems affecting many of our nation's important fisheries. Scientific advice was often ignored. Political pressure was applied to delay action desperately needed to prevent overfishing and rebuild depleted fish populations. So, overfishing continued, even on stocks experiencing substantial population declines. In many areas along our nation's coastline, fishing-dependent communities faced economic hardships due to collapsing fish populations.

Congress took notice. In 1996 and 2006, a bipartisan group of Senators and Representatives, led by the late U.S. Senator Ted Stevens, amended the law to establish clearer provisions to prevent overfishing, rebuild fish populations, and ensure scientific advice provides a solid foundation for our nation's fishery management system. In 1996, Congress added a requirement that overfished fish stocks be rebuilt in as short as time as possible but not to exceed 10 years, with certain limited exceptions. A decade later, Congress amended the law to require science-based catch limits and accountability measures in order to restore and maintain fish populations.

Due to the hard work of managers, fishermen, scientists, conservationists, and others, we are turning the corner in fishery management. Although we certainly have more work to do, the state of our fisheries is improving – it is certainly stronger now than at any time during my professional career.

In December of 2013, the National Marine Fisheries Service reported that 34 fish stocks have been rebuilt since 2000.² These include Pacific Coast lingcod, Georges Bank haddock, Southern Atlantic black

² NOAA Fisheries. Status of U.S. Fisheries. 2013 Quarter 4 Update through Dec. 31, 2013. Available at <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>

sea bass, and Gulf of Mexico red grouper. In addition, the number of stocks experiencing overfishing has declined from 72 in 2000 to 28 by the end of 2013.³ Science-based catch limits, designed to prevent overfishing, are in place for all federally-managed fish populations.

According to National Marine Fisheries Service testimony submitted to this Committee last September, “U.S. commercial fishermen landed 9.9 billion pounds of seafood valued at \$5.3 billion in 2011, which reflects an increase of 1.6 billion pounds (20 percent) and \$829 million (18 percent) over 2010 figures. 2011 was the highest landing volume since 1997 and highest value in nominal terms ever recorded.” The agency went on to report that jobs generated by recreational fishing represented a 40 percent increase between 2010 and 2011.⁴

I proudly share these facts, along with stories detailing how much we have accomplished, with my students. The improvements we are making are not only benefitting fish populations and ocean ecosystems but also making important economic contributions through jobs and more profitable fisheries. The U.S. has one of the best management systems in the world thanks to our commitment to follow scientific recommendations, prevent overfishing, and rebuild fish populations. As we consider modifications to the Magnuson-Stevens Act, it is imperative that we maintain and build upon this recent progress.

Concerns with the Discussion Draft

Unfortunately, the draft proposal circulated in December would jeopardize the hard-earned progress the U.S. has made in recent years. It would undercut the very requirements of the Magnuson-Stevens Act that are largely responsible for the recent turn-around. It fully embraces and re-institutes many 20th Century management policies that, in the 1980s and 1990s, failed to promote sustainable fish populations and foster long-term productivity for fisheries and coastal communities. It is not the forward-looking vision we need to ensure our fishery management system can respond to and overcome challenges of changing oceans in the 21st Century. Among its shortcomings, the draft proposal would:

³ NOAA Fisheries. Status of U.S. Fisheries. Data from 2000 and 2013 updates. Available online at <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>

⁴ Rauch, Samuel D. 2013. Written Testimony by Samuel D. Rauch III, Acting Assistant Administrator for the National Marine Fisheries Service. For a Hearing on Magnuson-Stevens Fishery Conservation and Management Act before the Committee on Natural Resources. September 11, 2013.

- Weaken the Act's rebuilding requirements. The proposal would allow overfishing to continue by delaying the onset of rebuilding measures in a rebuilding plan for five, and perhaps up to seven years, once a population has been declared to be below healthy levels. There are both ecological and economic arguments to begin rebuilding overfished populations immediately. Allowing depleted fish populations to further decline may reduce survival of early life stages, decrease genetic diversity, and cause shifts in ecosystem structure and function. Extending overfishing will, at worst, increase the risk of severe collapse for some fish populations, and, at best, greatly delay their recovery – jeopardizing both the resiliency of the fish population and the long-term economic viability of businesses and communities that rely upon them.^{5 6} For species like forage fish, continued overfishing or extended periods of depletion jeopardizes not only the target species, but also the health of the entire food web of marine species.

In addition, the discussion draft would eliminate the target to rebuild an overfished stock within 10 years if biologically possible and add a number of new, broad exceptions for setting any timeline. My research and that of others concludes that it is biologically possible for the majority of fish species to recover in 10 years, even if they were significantly depleted at the start of rebuilding.^{7 8} Moreover, rapid rebuilding confers long-term economic benefits because the sooner a population approaches a sustainable level, the sooner catches (and hence revenues generated by the fishery) can increase.⁹ In a comparison of rebuilding strategies, my colleagues and I concluded that the best strategy to ensure healthy populations and economic returns was to employ both a 10 year rebuilding target as well as management strategies called harvest control rules that set varying levels of catch in accordance with the abundance (or size) of the fish population.¹⁰

⁵ Pikitch, Ellen K. 2003. The Scientific Case for Precautionary Management: Current Fishery Problems Traced to Improper Use of Science. In: *Managing Marine Fisheries in the United States*. Proceedings of the Pew Oceans Commission Workshop on Marine Fishery Management.

⁶ Babcock, Elizabeth A., McAllister, Murdoch K. and Pikitch, Ellen K. 2007. Comparison of Harvest Control Policies for Rebuilding Overfished Populations within a Fixed Rebuilding Time Frame. *North American Journal of Fisheries Management*. 27: 1326-1342.

⁷ Safina, Carl, et al. 2005. U.S. Ocean Fish Recovery: Staying the Course. *Science*. 309: 707-708. 29 July 2005;

⁸ Babcock, McAlister and Pikitch, 2007.

⁹ Babcock, McAlister and Pikitch, 2007.

¹⁰ Babcock, McAlister and Pikitch, 2007.

In addition, the discussion draft includes several broad exceptions that would give regional fishery management councils the option not to set any rebuilding target date. If these exceptions were to be used, I would be concerned that rebuilding a stock to a sustainable level could be delayed indefinitely. This would risk the long-term economic benefits associated with a rebuilt, sustainable fishery.

Current provisions of the Act already permit sufficient flexibility including the ability to deviate from the 10 year time frame in appropriate circumstances, such as if biological conditions of the stock would require a longer period. In fact, the majority of stocks currently undergoing rebuilding have plans that exceed 10 years.¹¹ The Natural Resources Defense Council (NRDC) analyzed 44 fish stocks that had been put in rebuilding plans since 1996 and had sufficient information to evaluate progress. In its 2013 report, NRDC found that the average rebuilding time periods for these plans is close to 20 years.¹²

- Reverse recent gains in better incorporating science in our fishery management system. The proposal would make significant changes to existing requirements for science-based fishery management. For example, it would allow regional fishery management councils to dismiss recommendations of the council's scientific and statistical committees in setting annual catch limits by providing them with opportunities to elevate short-term economic issues, jeopardizing the sustainability of fish populations and sacrificing long term economic benefits.
- Diminish the ability of managers to prevent overfishing of forage fish. The proposal includes provisions that would exempt forage fish species from the Act's requirements to establish science-based catch limits that prevent overfishing. As a food source of larger fish and other marine wildlife, forage fish play a critical role in marine ecosystems. Because of this, they contribute to many economically-important coastal activities, including commercial fisheries, recreational fishing, whale watching, and bird viewing. It would be a mistake to sideline consideration of this crucial link in the ocean food web by excluding forage fish from requirements to set science-based limits that would help manage their populations.

¹¹ NOAA Fisheries. Status of U.S. Fisheries. Available online at <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>

¹² Natural Resources Defense Council. Bringing Back the Fish: An Evaluation of U.S. Fisheries Rebuilding Under the Magnuson-Stevens Fishery Conservation and Management Act. 2013. Appendix A.

- Put basic fishery data, including information collected using taxpayer support, off limits to the general public. The proposal would reduce public access to data collected by on-board observers and through cooperative research projects involving fishermen and scientists. University and independent scientists rely on this data, typically shared in ways to maintain privacy and confidential information, to conduct research that helps improve knowledge of fish populations and efficacy of management measures. Keeping vast amounts of this information out of the public domain will not only be a set-back to fishery science but also undermines our nation's commitment to open government, particularly for managing public resources such as fish.

I am also concerned about provisions in the discussion draft that would weaken core environmental laws, including the National Environmental Policy Act, the Endangered Species Act, the National Marine Sanctuaries Act, and the Antiquities Act, as they would apply to fishery management decisions.

Recommendations for Magnuson-Stevens Reauthorization

Instead of these regressive changes, Congress, the Administration, and those of us involved in fishery management and science should be considering and implementing ways to build on the success of the Magnuson-Stevens Act. We have unfinished business, such as how to minimize bycatch, protect and restore fish habitat, and invest in science.

No fish is an island. A species may be in good shape from a single species perspective – but may be overfished from an ecosystem perspective.

We must shift our focus from managing fish as separate, individual species with a primary goal of maintaining populations of key target species, and move towards recognizing they are part of an interacting web of marine life, an ecosystem. We need to stop using scientific uncertainty as an excuse for inaction, and instead see it as an indicator that precautionary care is needed to sustainably manage the interconnecting parts of ecosystem. In addition, we must confront new challenges, such as the impacts of a changing climate on fish populations.

The concept of ecosystem-based fisheries management is not new. In fact, in 1996 Congress called for an expert panel to offer recommendations “to expand the application of ecosystem principles in fishery

conservation and management activities.”¹³ In its subsequently released report to Congress the Ecosystem Principles Advisory Panel set forth core recommendations for incorporating ecosystem principles in fishery management, including: that each regional fishery management council be required to develop a fishery ecosystem plan for the ecosystem(s) under its jurisdiction; that the Secretary of Commerce should establish guidelines for developing fishery ecosystem plans, and; that management measures consider predator-prey interactions, consider the impact of bycatch to the ecosystem, and minimize the impacts of fishing operations on essential fish habitat.¹⁴

In 2004, several colleagues and I further analyzed and outlined this approach.¹⁵ We identified several key components of Ecosystem-based Fishery Management including:

- Consideration of the overall state of the ecosystem, habitat, protected species, and non-target species when designing precautionary fishery management plans;
- Identification, restoration and conservation of essential habitat to ensure spawning and other crucial life stages of species are protected;
- Reduction of bycatch, or the killing of non-target species or undersized individuals;
- Accounting for direct and indirect impacts on endangered and protected species, including ecological processes essential for their recovery;
- Requirements that new and developing fisheries first prove that fishing pressure will have minimal direct or indirect effects on ecosystem function; and
- Management of forage fish with special consideration that accounts for their role as prey for marine predators.

Subsequent, peer-reviewed scientific papers have been published, exhibiting a strong and growing scientific consensus supporting a more integrated ecosystem-based approach to fishery management.

In addition, in 2003 the Pew Oceans Commission recommended that the principal objective of our nation’s fishery policy should be “to protect the long-term health and viability of fisheries by protecting, maintaining, and restoring the health, integrity, productive capacity and resilience of the marine

¹³ Magnuson-Stevens Fishery Conservation and Management Act, Section 406 (a) – (e) , 16 U.S.C. 1882.

¹⁴ Ecosystem-based Fishery Management, A Report to Congress by the Ecosystem Principles Advisory Panel as mandated by the Sustainable Fisheries Act amendments to the Magnuson-Stevens Fishery Conservation and Management Act 1996. 1998. pp. 3-5.

¹⁵ Pikitch, E. K. et al. 2004. Ecosystem-Based Fishery Management. *Science*. 305: 346-347. 16 July 2004.

ecosystems upon which they depend.”¹⁶ And, in 2004, the U.S. Commission on Ocean Policy, established by the U.S. Congress and appointed by President George W. Bush, called for managers to begin moving toward a more ecosystem based fishery management approach.¹⁷

Ecosystem-based fishery management will be our best tool for ensuring productive and economically-viable fisheries in the face of stressors like climate change, ocean acidification, pollution, habitat destruction, and the long-term consequences of fishing pressure. Using ecosystem-based fishery management, we can sustain the long-term socioeconomic benefits of fisheries without compromising the ecosystem. In fact – we are likely to be able to enhance socioeconomic benefits of fisheries as well.

I recommend that during this reauthorization of the Magnuson-Stevens Act, Congress firmly establish ecosystem-based fishery management approaches in the law. More specifically, this would include measures to:

- sharpen existing provisions in the Act to protect habitat needed for fish, including habitat adversely affected by non-fishing activities;
- enhance existing provisions to reduce bycatch;
- ensure that forage fish are managed to account for the important role they hold in our ocean; and
- require councils to prepare and implement fishery ecosystems plans.

Each of these elements is important, but due to my recent experience chairing an expert panel of 13 marine and fisheries scientists that examined the unique role of forage fish in sustaining ocean food webs, I would like to briefly discuss why these small fish matter so much to marine ecosystems and coastal economies. This project, conducted as the Lenfest Forage Fish Task Force, undertook a comprehensive worldwide analysis of the science and management of forage fish populations. Our findings were released in a report¹⁸ and a peer-reviewed paper in 2012.¹⁹

¹⁶ Pew Oceans Commission. *America’s Living Oceans: Charting a Course for Sea Change. A Report to the Nation.* May 2003. p.109

¹⁷ U.S. Commission on Ocean Policy. *An Ocean Blueprint for the 21st Century. Final Report.* 2004. p.295

¹⁸ Pikitch, E., Boersma, P.D., Boyd, I.L., Conover, D.O., Cury, P., Essington, T., Heppell, S.S., Houde, E.D., Mangel, M., Pauly, D., Plagányi, É., Sainsbury, K., and Steneck, R.S. 2012. *Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs.* Lenfest Ocean Program. Washington, DC. 108 pp.

¹⁹ Pikitch, E. K., Rountos, K. J., Essington, T. E., Santora, C., Pauly, D., Watson, R., Sumaila, U. R., Boersma, P. D., Boyd, I. L., Conover, D. O., Cury, P., Heppell, S. S., Houde, E. D., Mangel, M., Plagányi, É., Sainsbury, K., Steneck, R. S., Geers, T. M., Gownaris, N. and Munch, S. B. (2012), *The global contribution of forage fish to marine fisheries and ecosystems. Fish and Fisheries.* doi: 10.1111/faf.12004

Forage fish are small to medium-sized fish, such as sardines, anchovies, and menhaden, that provide a primary food source for marine mammals, sea birds, and larger commercially and recreationally important fish, such as cod, salmon, and tuna. Forage fish play a key function in transferring energy from the plankton they feed on to the larger animals that prey on them and thus are essential to ensuring productive, resilient ocean ecosystems. Scientists have estimated that the world's marine mammals consume up to 20 million tons of forage fish annually.²⁰ A 2011 study examining 14 species of seabirds, including puffins, penguins, and terns, in seven ecosystems around the world concluded that when the supply of forage fish drops to less than one-third its maximum historic level, seabird breeding success is greatly reduced which threatens the entire ecosystem.²¹ Because many marine ecosystems have predators highly dependent on forage fish, it is biologically imperative that we develop improved management strategies for these small but significant species.

Forage fish mature early, live short lives, and produce substantial numbers of offspring. But, because of their short life span, they are susceptible to significant population fluctuations. In addition, forage fish are often found in large shoals. These characteristics make these fish highly detectable and catchable. About one-third of wild marine fish caught globally are forage fish. However, most forage fish are not used directly as human food. Rather, an estimated 90 percent is processed as feed for fish farms, poultry, and livestock, as well as human nutritional supplement.²²

Our panel synthesized 72 Ecopath models representing marine and estuarine ecosystems from around the world. Our panel's final report concluded that, in most ecosystems, at least twice as many forage fish should be left in the ocean as typically are now in order to account for their critical role as food for fish, seabirds, and marine mammals. Our analysis found that conventional management approaches of forage fish species did not "adequately account for the population dynamics of forage fish and their role

²⁰ Kaschner, K., Karpouzi, V., Watson, R., and Pauly, D., "Forage fish consumption by marine mammals and seabirds," pp. 33-46. In: Alder, J., and Pauly, D. (Eds.). *On the multiple uses of forage fish: from ecosystems to markets*. Fisheries Centre Research Reports 14(3) (2006), Fisheries Centre, University of British Columbia. Centre, University of British Columbia.

²¹ Cury, Philippe M. et al. 2011. Global Seabird Response to Forage Fish Depletion – One Third for the Birds. *Science* 334: 1703-1706. 23 December 2011.

²² Tacon, A. G. J., and Metian, M. 2008. Global overview on the use of fish meal and fish oil in industrially compounded aquafeeds: trends and future prospects. *Aquaculture*, 285(1-4),146–158.

in the ecosystem,” thereby making these small species top candidates to lead the transition to ecosystem-based fishery management.²³

There are several examples of current management regimes that have taken the step to account for the essential role forage fish play in marine ecosystems. For example, in the Barents Sea, in order to ensure an adequate food supply for cod, Norway and Russia established a threshold to limit direct fishing on capelin if its spawning stock biomass, a strong indicator of the population, falls below 200,000 tonnes. In addition to using other standard management tools, such as minimum landing size and fishing seasons, managers have instituted conservative catch levels for capelin, and ecosystem and multispecies models are used as part of a comprehensive assessment methodology. As these measures have been put in place, capelin populations have not collapsed, as they have done in the past and the cod fishery is improving.²⁴ In fact, the cod fishery is the most valuable fishery in the Barents Sea and is the largest stock of cod in the world.^{25 26}

And, it is important to manage forage fish from a more holistic vantage point not only for the sake of the ecosystem – but for the economic vitality of our nation. Using the Ecopath models, our panel estimated the economic importance of forage fish to global commercial fisheries. We estimated the total ex-vessel value of forage fish to global commercial fisheries to be an impressive \$16.9 billion (2006 USD) annually, yet only about one-third (\$5.6 billion) of this value derives from catches of forage fish themselves. The value of the supportive role of forage fish as food for larger commercially important fishes (estimated at \$11.3 billion annually) is more than twice their value as direct targets of harvesting.²⁷ In other words, we estimated that forage fish are worth twice as much when left in the water as they are taken out in a net.

²³ Pikitch, E., Boersma, P.D., Boyd, I.L., Conover, D.O., Cury, P., Essington, T., Heppell, S.S., Houde, E.D., Mangel, M., Pauly, D., Plagányi, É., Sainsbury, K., and Steneck, R.S. 2012. Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs. Lenfest Ocean Program. Washington, DC. 108 pp. At 86.

²⁴ Pikitch, E., Boersma, P.D., Boyd, I.L., Conover, D.O., Cury, P., Essington, T., Heppell, S.S., Houde, E.D., Mangel, M., Pauly, D., Plagányi, É., Sainsbury, K., and Steneck, R.S. 2012. Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs. Lenfest Ocean Program. Washington, DC. 108 pp. At 31, 36-37.

²⁵ Pikitch, E., Boersma, P.D., Boyd, I.L., Conover, D.O., Cury, P., Essington, T., Heppell, S.S., Houde, E.D., Mangel, M., Pauly, D., Plagányi, É., Sainsbury, K., and Steneck, R.S. 2012. Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs. Lenfest Ocean Program. Washington, DC. 108 pp. At 37.

²⁶ The IndiSeas Project. Indicators for the Seas. <http://www.indiseas.org/>

²⁷ Pikitch, E. K., Rountos, K. J., Essington, T. E., Santora, C., Pauly, D., Watson, R., Sumaila, U. R., Boersma, P. D., Boyd, I. L., Conover, D. O., Cury, P., Heppell, S. S., Houde, E. D., Mangel, M., Plagányi, É., Sainsbury, K., Steneck, R. S., Geers, T. M., Gownaris, N. and Munch, S. B. (2012), The global contribution of forage fish to marine fisheries and ecosystems. *Fish and Fisheries*. doi: 10.1111/faf.12004

The economic impact of wildlife viewing provides another compelling reason to ensure management of forage fish accounts for their vital ecological role. A recent report by Audubon Florida and The Pew Charitable Trusts examined the importance of forage fish to Florida's coastal waterbirds. The report cited Florida Fish and Wildlife Conservation Commission figures estimating the economic impact of bird watching and other wildlife viewing in Florida to be \$4.9 billion in 2011.²⁸ This is another example of how conservation of little fish translates into large economic gains.

Conclusion

My work has taken me to many countries around the globe, conducting research and helping to establish best practices for conserving and sustaining fisheries. But I love these shores like nowhere else in the world and it is my urgent concern that our nation's fisheries and oceans, and all the families who depend upon them, remain healthy and strong, now and for generations to come.

It is plain – without fish, there are no fishermen. In recent years, our nation has taken steps to implement science-based fishery management and there is considerable progress to report. We are rebuilding fish populations and providing more opportunities for fishermen. Unfortunately, we still have work to do to and are facing new trials, such as changing ocean conditions due to warmer oceans and ocean acidification. We need a Magnuson-Stevens Act that can help us confront these challenges.

That is why I am so concerned about the Hastings draft proposal. It would roll back the progress we have made in recent years and endanger the long-term health, sustainability and productivity of our oceans. Instead, we should be adopting an ecosystem-based fishery management approach, that includes enhancing protections for habitat, reducing bycatch, requiring fishery ecosystem plans, and ensuring we manage forage fish to account for the vital support they provide to ocean ecosystems and national and global economies.

Let's not undo the work we have accomplished that is widely regarded as a great success story. We must ensure the health of our fisheries – It is good for fishermen, it is good for the nation, and we should be moving forward not retreating backwards. Thank you again for the opportunity to share my views.

²⁸ Florida Fish and Wildlife Conservation Commission. Overview – Fast Facts. Updated Oct 2013. Available online at <http://myfwc.com/about/overview>

**Testimony of Chris Dorsett,
Director, Ecosystem Conservation Programs, Ocean Conservancy
before the U.S. House of Representatives,
Natural Resources Committee**

September 11, 2013

Introduction

Over the past decade, significant progress has been made in ending overfishing and rebuilding overfished populations in the United States.¹ This progress, important from both ecological and economic standpoints, resulted from the rebuilding requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the work of fishery managers in implementing the law, and the efforts of fishery stakeholders. The MSA provides an adaptable framework that includes the essential elements for success found in a global analysis of rebuilding program performance while providing flexibility for incorporating social and economic needs. The rebuilding provisions of the MSA are showing signs of success in achieving the goal of returning fisheries to levels that support healthy and sustainable fish populations and fishing communities.

The recent report from the National Academy of Sciences, *Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States* (NAS Report), came to a similar conclusion finding “demonstrated successes in identifying and rebuilding overfished stocks.”² For stocks that were placed under a rebuilding plan, fishing mortality has generally been reduced, and stock biomass has generally increased. The long-term net economic benefits of rebuilding have also proved generally positive.³ The report highlights the challenges and complexities of trying to evaluate science, and make decisions about catch limits and other management measures. In the face of those challenges, the report underscores the historic progress that has been achieved under the current law in ending overfishing and rebuilding fish populations.

Overview and Analysis of the Rebuilding Requirements of the MSA

While rebuilding was mentioned in the original 1976 Act, it was the 1996 Sustainable Fisheries Act (SFA) amendments, supported by a bipartisan group of Congressional members, that developed provisions to ensure rebuilding success and established specific mandates for rebuilding overfished populations. These changes were driven, in part, by the significant depletion of key groundfish species in New England. To address this issue, major revisions that now form the basis of the federal rebuilding program include:

- An explicit requirement to rebuild overfished species;⁴

¹ National Marine Fisheries Service, *2012 Report to Congress, Status of U.S. Fisheries* (May 2013).

² National Academy of Sciences, *Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States*, (Sept. 2013) at 81 (hereinafter NAS Report).

³ NAS Report at 10.

⁴ 16 U.S.C. § 1853(a)(1), (10).

- Secretarial identification of overfished species and official notification to the Regional Fishery Management Councils (RFMCs);⁵
- A time limit for RFMCs to develop and implement a rebuilding plan once notified;⁶
- A requirement that populations are rebuilt in a short a time as possible but not to exceed ten years, with limited exceptions;⁷ and
- A requirement that conservation and management measures (including rebuilding) take into account the importance of fishery resources to fishing communities and, to the extent practicable, minimize adverse economic impacts;⁸

The law, as interpreted by the courts, includes the essential attributes for restoring overfished populations as identified by a recent assessment of global rebuilding programs. These include (in part):

1. Well defined objectives;
2. Finite time scales;
3. Rebuilding plan established in an open and transparent process;
4. Credible, consistent and transparent scientific monitoring of progress;
5. Simple and easily understood metrics of status and success;
6. Predefined rules for triggering corrective management action; and
7. Substantial, measurable reductions in fishing mortality at the onset of the plan.⁹

In recognizing the demonstrated success in identifying and rebuilding overfished stocks, the NAS Report concludes that:

The strong legal and prescriptive nature of rebuilding forces difficult decisions to be made, ensures a relatively high level of tractability, and can help prevent protracted debate over whether and how stocks should be rebuilt.¹⁰

While the NAS Report describes “inefficiencies” of this management framework, it is important to remember why these provisions were enacted and strengthened by Congress. Repeated delays and weak action are precisely what prompted Congress to institute the rebuilding requirements in 1996, and to tighten them in 2006. As noted by the NAS Report in citing a 1993 paper,

U.S. fisheries management was problematic because of “continued overfishing of some stocks; lack of coordination between councils and the NOAA/National Marine Fisheries Service in setting research agendas; conflicts among users; the vulnerability of the fishery management process to delays and political influence; lack of accountability;

⁵ *Id.* § 1854(e)(1), (2).

⁶ *Id.* § 1854(e)(3) (modified in the 2006 MSRA amendments).

⁷ *Id.* § 1854(e)(4).

⁸ *Id.* § 1851(a)(8).

⁹ Murawski, S.A. 2010. Rebuilding depleted fish stocks: the good, the bad, and, mostly, the ugly. *ICES Journal of Marine Science*, 67:1830-1840.

¹⁰ NAS Report at 185.

inconsistency in state and federal management measures; and adoption of unenforceable management measures.”¹¹

Since then, as the NAS Report and National Oceanic and Atmospheric Administration (NOAA) Status of the Stocks reports have found, the track record of rebuilding in the U.S. has been positive with record rebuilding of overfished populations over the past two years and overfishing at an all-time low.¹² Due to the MSA’s rebuilding mandate, rebuilding is more and more a problem of the past, as the annual catch limit (ACL) and rebuilding system continues to work to prevent overfishing and depletion.

To address these challenges and ensure the long-term health for our ocean, the prosperity of our nation’s fishing industries and associated businesses, and the opportunities for world-class recreational fishing, we offer a number of recommendations described in further detail below: First, build on the successful legal framework provided by the MSA by ensuring the proper application of ACLs and accountability provisions to avoid the need for rebuilding programs in the first place. Second, set criteria for when a population is considered overfished in a manner that avoids significantly depleted populations and lengthy rebuilding timelines. Third, use management procedure and management strategy evaluation (known as MSE) to improve management. Fourth, take an ecosystem approach to rebuilding. Finally, implement a monitoring, observation and research program for our nation’s large marine ecosystems to provide additional information for successful management.

Benefits of the MSA Rebuilding Requirements

There are significant economic, social and ecological reasons for fully restoring overfished populations. From an economic standpoint, while a full accounting of increased profitability for commercial and recreational fisheries does not exist, rebuilding is estimated to at least triple the net economic value of many U.S. fisheries.¹³ NMFS estimates that rebuilding U.S. stocks would increase the current ex-vessel value by an estimated \$2.2 billion (54%) annually, from \$4.1 billion to \$6.3 billion annually. Rebuilding would generate an additional \$31 billion in sales and support an additional 500,000 jobs.¹⁴ From an ecological standpoint, benefits of rebuilding include helping to restore ecosystem structure, function and resilience. These improvements ensure continued production of ecosystem goods and services beyond just fisheries benefits. As described below, the ecosystem benefits of rebuilding could be increased if a broader view of rebuilding is adopted.

¹¹ *Id.* at 24 (citing Parsons 1993).

¹² National Marine Fisheries Service, *2012 Report to Congress, Status of U.S. Fisheries* (May 2013).

¹³ Ussif Rashid Sumaila, *et al.* “Fish Economics: The Benefits of Rebuilding U.S. Ocean Fish Populations,” Fisheries Economics Research Unit, October 2005.

¹⁴ Testimony of Steven A. Murawski, Ph.D. Director, Scientific Programs and Chief Science Advisor, National Marine Fisheries Service, on Implementation of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act before the House Subcommittee on Insular Affairs, Oceans, and Wildlife, Washington, D.C. (October 27, 2009).

Unprecedented Progress in Restoring U.S. Fish Populations

The MSA rebuilding requirements are achieving the stated goals of recovery for the benefit of the environment and coastal economies. In recent years, unprecedented progress has been made in ending overfishing and rebuilding overfished species. According to the recent NAS Report, of the 85 stocks declared overfished since 1997, 42 are no longer classified as overfished: 31 have been designated as rebuilt, and 11 are rebuilding.¹⁵ Furthermore, a recent evaluation of all 44 stocks subject to rebuilding plans to comply with the 1996 Sustainable Fishery Act amendments and with sufficient information to assess progress under the plans found that 64% had been rebuilt or had made significant rebuilding progress (defined as achieving at least 50% of the rebuilding target and at least a 25% increase in abundance) since implementation of the rebuilding plan.¹⁶

Attachment 1 shows the decline in the percentage of managed stocks subject to overfishing and in an overfished condition from 1997-2011. Rebuilding success stories include Atlantic sea scallops in New England, bluefish in the Mid-Atlantic; lingcod in the Pacific and blue king crab in the North Pacific. The addition of science-based ACLs and accountability measures to the law in 2007¹⁷ strengthens the management framework to achieve not only continued success in rebuilding overfished species but also significant safeguards against future fishing-related depletion.

Avoiding the Perils of Depleted Fish Populations

The MSA rebuilding framework is essential to the health of our ocean and the economic and social well-being of our nation's coastal communities. Aside from the obvious loss of yield and accompanying socio-economic benefits that cannot be realized from a depleted population, maintaining fish populations at low abundance levels poses significant risks, in particular to fishery stability. Fishing generally alters the age and size structure of a population by removing the older, larger individuals from the population.¹⁸ Depleted populations are often made up predominantly of younger fish with population dynamics dominated by recruitment variability that is largely influenced by environmental factors. This leads to greater fluctuations in biomass and fishery yield, instability and unpredictability in the fishery.¹⁹ Increased variability combined with low population size is a factor in increased extinction risk.²⁰

¹⁵ NAS Report at 59.

¹⁶ Natural Resources Defense Council (NRDC), *Bringing Back the Fish: An Evaluation of U.S. Fisheries Rebuilding Under the Magnuson-Stevens Fishery Conservation and Management Act* (2013).

¹⁷ 16 U.S.C. § 1853(a)(15).

¹⁸ Berkeley, S.A., et al. 2004. Fisheries sustainability via protection of age structure and spatial distribution of fish populations. *Fisheries* 29:23–32.

¹⁹ Hsieh, C., et al. 2006. Fishing elevates variability in the abundance of exploited species. *Nature* 443:859-862; Shelton, A.O. and Mangel, M. 2011. Fluctuations of fish populations and the magnifying effects of fishing. *Proceedings of the National Academy of Sciences* 108:7075-7080; and Brunel, T and GerJan, J. 2013. Is age structure a relevant criterion for the health of fish stocks? *ICES Journal of Marine Science* 70:270-283. See also, NAS Report at 133.

²⁰ Johst, K and Wissel, C. 1997. Extinction risk in a temporally correlated fluctuating environment. *Theoretical Population Biology* 52: 91–100. See also, NAS Report at 133.

An additional peril of delayed rebuilding is that the likelihood of fishing-induced regime shifts increases when key populations are highly depleted. A regime shift in marine ecosystems occurs when ecological systems and the services they provide are transformed from one stable state to an alternative state. Examples of this can be found in several North Atlantic large marine ecosystems where trophic cascades due to fishing-induced changes in top predator abundance (most notably cod) have led to an increased abundance of lower trophic species.²¹ The best way to prevent such sudden and catastrophic ecosystem changes is to maintain ecosystem resilience by maintaining large, stable populations and maintaining biodiversity.²²

Ample Flexibility to Incorporate Social and Economic Considerations

A popular criticism of the MSA is that it provides little flexibility to managers for incorporating socio-economic concerns into rebuilding programs. A key part of this criticism is aimed at the selection of a ten year rebuilding limit (with limited exceptions) which is considered by some to be arbitrary. *U.S. Ocean Fish Recovery: Staying the Course* published in *Science* in 2005 found that the ten year limit is reasonable and beneficial. It noted that the drafters of the 1996 SFA amendments to the MSA balanced the advice of population dynamics experts that many depleted marine organisms were capable of rebuilding to target levels within about five years in the absence of fishing, socio-economic concerns and the desire for successful rebuilding and sustainable fisheries in deciding upon a ten year limit.²³ The article notes that “[t]his optimizing balance was deliberate and compassionate, not arbitrary.”²⁴

The other key part of the criticism is that this ten year rebuilding limit does not allow for adequate incorporate of socio-economic concerns. In reviewing rebuilding plans from 1997-2011, the NAS Report found that the ten year limit on rebuilding determined the target year for thirty-one of the seventy stocks for which rebuilding plans with a defined timeframe were implemented. Thus, the MSA and NS1 guidelines provide ample flexibility to incorporate socio-economic concerns.²⁵

In March 2013, Ocean Conservancy analyzed rebuilding timelines of the sixty-five stocks currently subject to rebuilding plans which were included in the *2011 Status of Stocks Report to Congress* “Fish Stocks in Rebuilding Plans” trend analysis in order to determine what level of flexibility is afforded to the regional fishery management councils (RFMCs) and National Marine Fisheries Service (NMFS).²⁶ Overall, our analysis (Attachment 2) shows that the RFMCs

²¹ See, for example, Frank, K.T., et al. 2005. Trophic cascades in a formerly cod-dominated ecosystem. *Science* 308(5728)1621-1623; and Österblom, H., et al. 2007. Human-induced trophic cascades and the ecological regime shifts in the Baltic Sea. *Ecosystems* 10:877-889.

²² Folke, C., et al. 2004. Regime shifts, resilience, and biodiversity in ecosystem management. *Annual Review of Ecology, Evolution, and Systematics* 35:557-581; Scheffer, M., et al. 2001 Catastrophic shifts in ecosystems. *Nature* 413:591-596.

²³ Safina et. al., *Science*, Vol 309, at 707 (July 29, 2005).

²⁴ *Id.*

²⁵ NAS Report at 81.

²⁶ NMFS, *Fish Stocks in Rebuilding Plans: A Trend Analysis* (2011), available at http://www.nmfs.noaa.gov/sfa/statusoffisheries/2011/RTC/2011_RTC_TrendAnalysis.pdf. (We analyzed all stocks reviewed by NMFS in the analysis except those 1) that have been rebuilt, 2) for which a formal rebuilding program had not been submitted under the MSA (Atlantic salmon), 3) for which a rebuilding plan was not required (South

and NMFS have interpreted and applied the MSA’s rebuilding requirements with ample flexibility in establishing target rebuilding dates upon which to base annual catch limits. In only one of the nineteen rebuilding plans in our analysis for which T_{MIN} information was available did the T_{MIN} estimate actually come close to the ten-year rebuilding limit (Pribilof Island blue king crab managed by the North Pacific Fishery Management Council (NPFMC)).²⁷ In five of the nine stocks to which the ten-year rule applied, RFMCs set target rebuilding timelines at the maximum legally permissible limit, even though shorter rebuilding timelines were possible.

In summary, the drafters of the ten year rebuilding requirement of the MSA carefully considered the tradeoffs associated with action forcing provisions to restore the health of U.S. fisheries and the need to consider important socio-economic concerns in rebuilding programs. Our analysis shows that the RFMCs and NMFS have utilized the flexibility of the law and NS1 guidelines in setting recovery dates for overfished species.

Future Considerations and Recommendations

While the overall rebuilding trend is positive, challenges remain. The NAS Report found that poor performance for some stocks could be attributed to the combined effects of delays in implementing rebuilding plans and difficulties implementing reduced target fishing mortalities.²⁸ In other cases, the failure of rebuilding plans to end overfishing has been due to difficulties to reduce overall fishing mortality when a species is caught as bycatch of a different fishery.²⁹ To address these challenges and to deliver on the sustainable fishery goals of the MSA, we recommend that any future changes to the law, national or regional policies either build upon or improve implementation of the current legal framework for successful rebuilding as described below.

The NAS Report makes a strong case that the best option is to avoid depleting populations in the first place and calls for taking corrective action sooner—when stocks are heading in the wrong direction—rather than waiting until they are officially classified as “overfished.” Once fish stocks are depleted there are limited options for minimizing the reductions in fishing necessary to rebuild the population.

The addition of requirements for setting science-based ACLs and accountability measures (AMs)³⁰ in the MSA in 2006 has profoundly impacted rebuilding success and the future need for

Atlantic pink shrimp), 4) that did not have reliable estimates of biomass and/or fishing mortality (all Caribbean and Western Pacific complexes and species identified as overfished), and 5) that are highly migratory species. We also did not include West Coast salmon rebuilding plans. For the remaining thirty-seven plans, we requested T_{MIN} (the rebuilding timeframe in the absence of all fishing), T_{MAX} (the maximum amount of time allowable for rebuilding under the protocol set forth in the national standard guidelines) and T_{TARGET} (the target date chosen for rebuilding) information from NMFS and the RFMCs in order to assess the amount of flexibility used in setting rebuilding targets.)

²⁷ As noted in the NAS Report at pg. 131, it appears that regimes in the Bering Sea and Gulf of Alaska have shifted to a state less conducive for crab productivity. As such, even in the absence of fishing mortality for over a decade, the population has not recovered.

²⁸ NAS Report at 69.

²⁹ *Id.* at 71.

³⁰ 16 U.S.C. § 1853(a)(15).

rebuilding plans in a positive way. With ACLs and AMs now in place for all managed species, NMFS recently declared that the United States has turned the corner on ending overfishing.³¹ A review of the past NOAA *Status of the Stocks* reports shows that indeed RFMCs with a history of science-based catch limits that are monitored closely against actual catch and bycatch have fewer species classified as subject to overfishing. These new management requirements, if implemented properly, should end the serial depletion of fisheries by preventing overfishing and by achieving established management targets, thus negating the need for rebuilding.

Importance of Proper Catch Accounting and Monitoring of Stock Recovery

One important aspect of success is ensuring that catch accounts for all types of mortality—both directed landing and bycatch mortality—given the significant role that bycatch mortality can play in overfishing. As interpreted by the NS1 Guidelines, ACLs and AMs must account for “the total quantity of fish . . . taken in commercial, recreational, subsistence, tribal, and other fisheries . . . as well as mortality of fish that are discarded.”³² The MSA provision requiring a standardized bycatch reporting methodology to assess the amount and type of bycatch occurring in the fishery³³ is also a critical component of long-term success. For those RFMCs lacking an adequate methodology, factoring management uncertainty into the catch-setting process becomes especially important.

Another important aspect of success is carefully tracking progress in preventing overfishing and recovery of overfished species. The review requirements of the law and NS1 Guidelines, which focused on assessing adequate progress and incorporating new information into rebuilding trajectories,³⁴ are important provisions that must be fully embraced in the regions to ensure rebuilding success. As noted by the NAS Report, the MSA requires review of the progress of rebuilding plans every two years but the frequency of updated, qualitative stock assessments varies widely both within and among regions. The report concludes that more frequent assessments might lead to more frequent but less extreme changes in rebuilding plans and closer adherence to fishery management providing greater long term stability for fishing communities.³⁵ Furthermore, more frequent stock assessments can help better refine estimates of long term biomass associated with management benchmarks like maximum sustainable yield to ensure recovery is achieved.

Recommendations: Better implementation of the MSA focused on revising processes for setting annual catch limits and accountability measures consistent with the “one in four rule” contained in the NS1 Guidelines as needed; ensuring that annual catch limits adequately address bycatch; establishing adequate standardized bycatch reporting methodologies; and ensuring that Secretary

³¹ NOAA Press Release, “U.S. ‘Turning a Corner’ in Ending Overfishing (March 8, 2011), available at http://www.noaanews.noaa.gov/stories2011/20110308_endingoverfishing.html.

³² 50 C.F.R. § 600.310(f)(2)(i) (defining “catch”) (emphasis added); *Oceana, Inc. v. Locke*, 831 F. Supp. 2d 95, 115-16 (“Since the ‘catch’ limited by [annual catch limits] includes both fish that are retained (landed) and bycatch that are discarded at sea, see 50 C.F.R. § 600.310(f)(2)(i), the [annual catch limits for the stocks at issue] may be exceeded by accumulation of bycatch alone.”).

³³ 16 U.S.C. § 1853(a)(11).

³⁴ *Id.* at § 1854(e)(7); 50 C.F.R. Part 600.310(j)(3)(ii).

³⁵ NAS Report at 5.

of Commerce review of rebuilding plans is conducted to assess progress, incorporate new information, and guide plan modifications.

Proper Setting of Criteria for When a Population is Overfished

Minimum Stock Size Threshold (MSST) is a key benchmark used by RFMCs to determine when a fish population is overfished and requires a rebuilding plan. The Technical Guidance on the Use of Precautionary Approaches to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act (Technical Guidance) offers a number of suggestions for setting MSST correctly. In order to avoid perceived conflicts with the MSA's ten-year rebuilding limit, MSST must be set in a manner that best ensures a short rebuilding timeline. This kind of thinking is already incorporated into the existing Technical Guidance in the recommendation that natural mortality be taken into account when setting MSST.³⁶ Following this recommendation means that species with low natural mortality rates, or that exhibit evidence of compensatory natural mortality (such as cod, haddock and Alaskan walleye Pollock),³⁷ which generally take longer to recover from an overfished status, will have MSSTs set closer to the biomass level at MSY (B_{MSY}) than species with higher resilience.

In cases where the acceptable biological catch (ABC) is set such that fishing mortality declines when biomass falls below B_{MSY} , it is somewhat less critical to properly define MSST, as those management procedures, in theory, are self-correcting. However, not every region employs such a control rule. We therefore support the finding of the NAS Report related to better use of harvest control rules to promptly but gradually reduce fishing mortality rates once a population falls below MSY based thresholds in order to prevent populations from becoming overfished and in need of a rebuilding plan.³⁸

Recommendation: Better implementation of the MSA via use of existing information like life history, catch and bycatch to set MSST at a level that will avoid lengthy rebuilding timelines. For species with low resilience or in cases where information is lacking, set MSST close to MSY to rebuild more quickly and buffer against uncertainty. Furthermore, more widespread use of harvest control rules that require prompt but gradual reductions in fishing mortality rates to avoid fish populations from becoming overfished and in need of rebuilding plans.

Rebuilding Directly to Biomass at Optimum Yield

Optimum yield (OY), as defined by the MSA, is the maximum sustainable yield (MSY) as reduced by economic, social, and ecological factors.³⁹ This means the biomass at optimum yield levels (B_{OY}) is greater than B_{MSY} to incorporate important social, ecological or economic considerations. These considerations include desired management targets (for example, a focus

³⁶ Restrepo, V., et al. 1998. Technical Guidance on the Use of Precautionary Approaches to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act. NOAA Technical Memorandum NMFS-F/SPO-40.

³⁷ Keith, D.M. and Hutchings, J.A., 2012. Population dynamics of marine fishes at low abundance. *Canadian Journal of Fisheries and Aquatic Sciences* 69:1150-1163.

³⁸ NAS Report at 2 and 5.

³⁹ 16 U.S.C. § 1802(33)(B).

on larger fish as opposed to maximizing total pounds landed for recreational fisheries) and ecosystem health and resiliency (managing population levels above those at MSY to best fulfill roles in the ecosystem). There is currently an inconsistency in MSA objectives with regard to fish population levels, depending on whether or not stocks are in an overfished condition. For the management of stocks that are not overfished the goal is OY, which occurs at B_{OY} , and is greater than B_{MSY} .⁴⁰ However, the goal for overfished stocks is to rebuild to B_{MSY} .⁴¹ Thus, MSY is treated as both a limit and a target, depending on whether or not a stock is overfished. Given that the goal of NS1 is to achieve optimum yield on a continuing basis, the goal of a rebuilding plan should also be to rebuild directly to a population level supporting OY, as opposed to rebuilding to B_{MSY} and then having to take subsequent management action to achieve B_{OY} .

Recommendation: Amend the MSA to specify that the rebuilding biomass target is the biomass at optimum yield, where OY occurs at some level below MSY and consequently at a biomass level above B_{MSY} .

Use of Management Strategy Evaluation/Management Procedure Approach

We strongly agree with the recommendation of the NAS Report to advance the use of management strategy evaluation (MSE) to entertain a broader spectrum of ecosystem dynamics and possible outcomes than is typically considered in single-species rebuilding projections⁴². The “traditional” approach to managing fisheries consists of evaluating the status of the resource via the stock assessment process. Scientists’ advice to managers about current stock status and allowable future catches, including rebuilding trajectories, is usually based on a “best” model run, chosen to be the most likely representation of reality from a number of possible configurations of one or more model families. There are a number of problems with this approach that can lead to poor performance of the fishery management system and failed rebuilding plans. First is the variability in catch level advice that can result from one assessment to the next due to the addition of new data, change of modeling environment or change of model configuration. These types of assessment changes can also lead to significant changes in rebuilding targets which can throw off rebuilding progress. Second is an inability to properly evaluate long-term trade-offs among alternative rebuilding strategies, including proper consideration of risk, which directly impacts rebuilding success. Third is the political haggling that arises over setting management benchmarks such as ABC that provide the upper limit for ACLs. In the absence of a proper risk policy that determines acceptable risk of overfishing in light of all the proper trade-offs, RFMCs have the ability to reject their scientific advisers’ ABC recommendations on the basis that they would like a different risk level.⁴³

⁴⁰ National Standard One, 16 U.S.C. § 1851(a)(1) (“Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.”).

⁴¹ 16 U.S.C. § 1802(33)(C).

⁴² NAS Report at 138.

⁴³ An example for this can be found in the current Gulf of Mexico ABC Control Rule which gives the Council the ability to set risk on an *ad hoc* basis: “The indicated default risk of exceeding overfishing limit for Tier 2, or default acceptable biological catch buffer levels for Tier 3a and 3b, are to be used unless specified otherwise by the Council on a stock by stock basis.” GMFMC. 2011. Final Generic Annual Catch Limits/Accountability Measures

Management strategy evaluation (MSE) or the management procedure (MP) approach present alternative ways to manage a fishery.⁴⁴ MSE and MP are able to deal with the above issues inherent in the “traditional” approach and therefore have the potential to result in increased success of rebuilding plans. These methods employ catch control rules that specify how ABC is calculated from available data on an annual basis, but unlike the traditional approach, these catch control rules are thoroughly evaluated against alternative options via simulation testing before they are implemented. The simulations determine which of the alternative catch control rules perform best in terms of achieving management goals (such as rebuilding by T_{TARGET} with a certain probability) while avoiding undesirable outcomes (such as falling below a minimum biomass threshold or exceeding some pre-specified socio-economic limit reference point). Candidate control rules or rebuilding strategies are tested against factors like observation error, model misspecification, management uncertainty, and environmental variability. Where the MSE/MP approach has been applied successfully, there has been a more thorough evaluation of risk, less inter-annual catch variability, and less scientific and management debate about catch limits. MSE and MP also allow evaluation of simpler ABC-setting methods that are not necessarily model-based, which can save time and resources in the long-run. Although these methods may take time to develop initially, the benefits of implementing the resulting more robust management and rebuilding strategy generally outweigh the cost of the initial investment in the long run.

Recommendation: NMFS, RFMCs and Scientific and Statistical Committees (SSCs) should make better use of MSE and MP in making management decisions, including specification of biological reference points and evaluation of alternative rebuilding strategies against management goals in rebuilding plans.

Taking an Ecosystem Approach to Rebuilding

In a world of increasing environmental variability, we face greater uncertainty today about how fish populations and ecosystems respond to human activities, including rebuilding measures. In addition, fishing itself has broad ecosystem impacts that can compromise the health of natural populations, the fishery that depends on them, and the services ecosystems provide. Fishery models that rely on the single-species theory of fishing, and do not take into account ecosystem factors when trying to explain trends in population biomass and dynamics, may predict stock recovery rates that are much higher than subsequently observed in the fishery. The classic example of this phenomenon is Atlantic cod.⁴⁵ Similarly, rebuilding strategies that focus solely on attaining single-species fishing mortality and biomass goals fail to recognize the importance of rebuilding ecosystem structure, diversity, and processes which are crucial to maintaining or

Amendment for the Gulf of Mexico Fishery Management Council’s Red Drum, Reef Fish, Shrimp, Coral and Coral Reefs, Fishery Management Plans.

⁴⁴ Butterworth, D. 2007. Why a management procedure approach? Some positives and negatives. *ICES Journal of Marine Science* 64:613-617.

⁴⁵ Murawski, S.A., et al. 2001. Impacts of demographic variation in spawning characteristics on reference points for fishery management. *ICES Journal of Marine Science* 58:1002-1014 and Murawski, SA. 2010. Rebuilding depleted fish stocks: the good, the bad, and, mostly, the ugly. *ICES Journal of Marine Science* 67:1830-1840.

rebuilding resilience of ecosystems and the coastal communities that rely on revenue from fish stocks and ecosystem services.⁴⁶

An ecosystem based approach that accounts for the uncertainty of changing environmental conditions and the broader impacts of fishing will be critical to rebuilding success for U.S. fisheries. This approach will likely require the development of new rebuilding metrics and management reference points that go beyond the traditional biomass and fishing mortality thresholds and address other factors vital to proper fisheries management such as population demographics, ecosystem characteristics and services, and socio-economics. One reference point that should be further evaluated is fishery selectivity pattern, which determines population age and size structure on the single-stock scale and community properties such as the size-spectrum slope on an ecosystem level.⁴⁷

Recommendation: The MSA should be strengthened in a manner that supports an ecosystem based approach to management, including rebuilding overfished species. This includes improving the law by better incorporating ecosystem considerations into management through the development of fishery ecosystem plans and strengthening current implementation of the rebuilding requirements of the law to include aspects of ecosystem rebuilding and resiliency to changing environmental conditions such as restoring population demography, habitat, ecosystem structure and diversity, and coastal communities.

Establish monitoring, observation and research programs for our nation's large marine ecosystems

Given the significant stressors facing our nation's large marine ecosystems and the longstanding call to transition fisheries to an ecosystem-based management approach, the RFMCs and NMFS can greatly benefit from reliable and timely information on existing and changing environmental conditions in order to manage fisheries sustainably, including recovery under rebuilding plans. Investments in regional monitoring, observation and research programs for each of the nation's large marine ecosystems (LMEs) can help provide fishery managers and the public with information necessary to make better informed decisions. The resulting data can also help ensure that other uses of marine resources are compatible with fishing, fisheries management, and the community benefits that come from resilient ecosystems and robust fish populations.

Recommendation: Establish monitoring, observation and research programs for our nation's large marine ecosystems to provide additional information for management.

Response to the NAS Reports Treatment of the Mixed Stock Exception

⁴⁶ Pitcher, TJ and Pauly, D. 1998. Rebuilding ecosystems, not sustainability, as the proper goal of fisheries management. In: *Reinventing Fisheries Management* (ed T Pitcher, D Pauly, and P Hart). Chapman & Hall Fish and Fisheries Series. p 311-325.

⁴⁷ Brunel, T and GerJan, J. 2013. Is age structure a relevant criterion for the health of fish stocks? *ICES Journal of Marine Science* 70:270-283; and Garcia, SM, et al. 2012. Reconsidering the consequences of selective fisheries. *Science* 335:1045-1047.

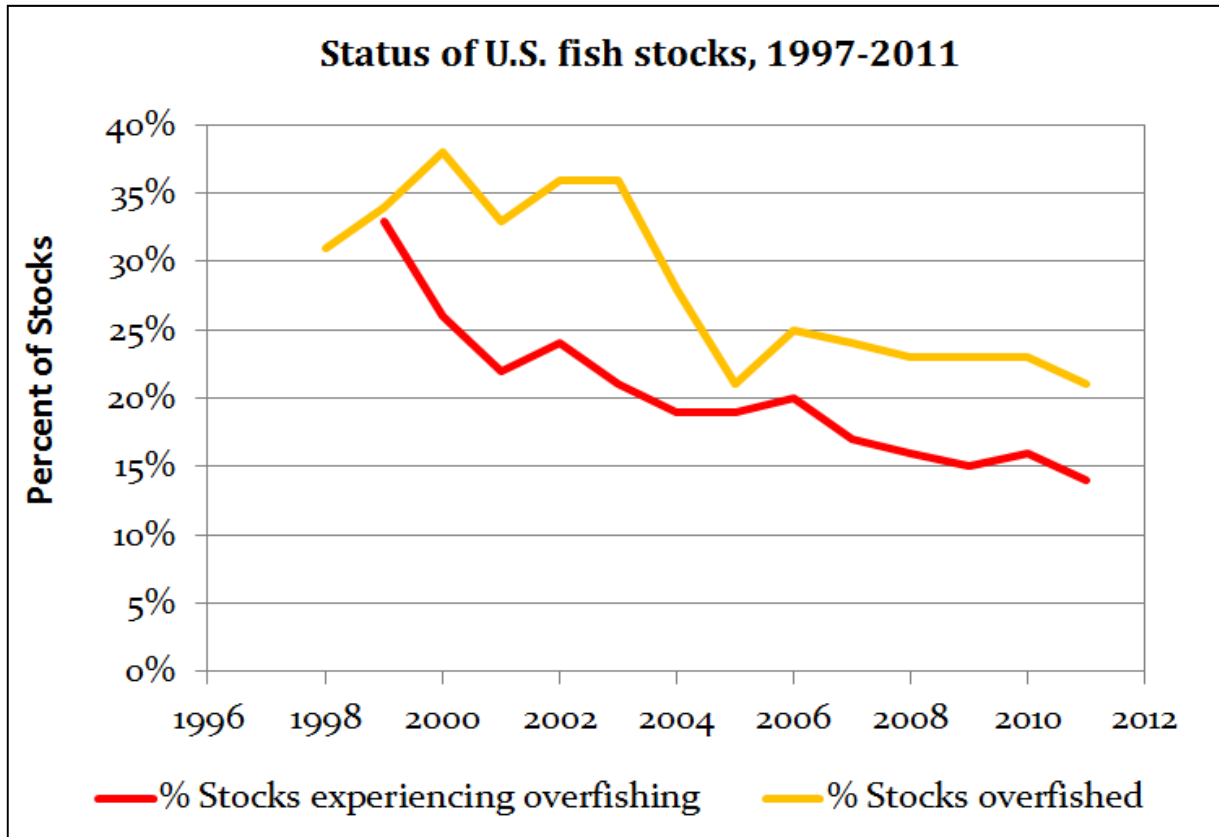
The NAS Report suggests that greater use of the “mixed stock exception” could reduce the impact of rebuilding on the catch of healthy fish stocks. It proposes that the operational feasibility of the mixed stock exception could be modified to expand the range of situations to which it can be applied, subject to assurances that the less productive species are not driven to unacceptably low levels. Unfortunately, while the Report seems to imply that a greater level of risk is appropriate, it provides no additional guidance as to what constitutes adequate “assurances” or “unacceptably low levels” beyond what is currently in the NS1 Guidelines. As the report acknowledges, stocks at depleted levels are at risk for increased variability and are more susceptible to environmental changes, which could negatively impact future rebuilding efforts.⁴⁸ Furthermore, the report fails explain how RMFCs should go about choosing one stock over another when conflicts inevitably arise. In this regard, the NAS Report falls short of addressing the problem with operationalizing the mixed stock exception to date: that it would allow overfishing to continue. Allowing overfishing on any stock violates both the spirit and the letter of the MSA by permitting overfishing on a stock within a stock complex in order to achieve optimum yield for another stock. We have made substantial progress toward ending overfishing and rebuilding U.S. fish stocks. Allowing overfishing on some stocks is shortsighted and could undo the long-term progress we are making. Finally, one species viewed as limiting the catch of healthier populations by one fishery or group of fishermen could be of significant value to another fishery.

Conclusion

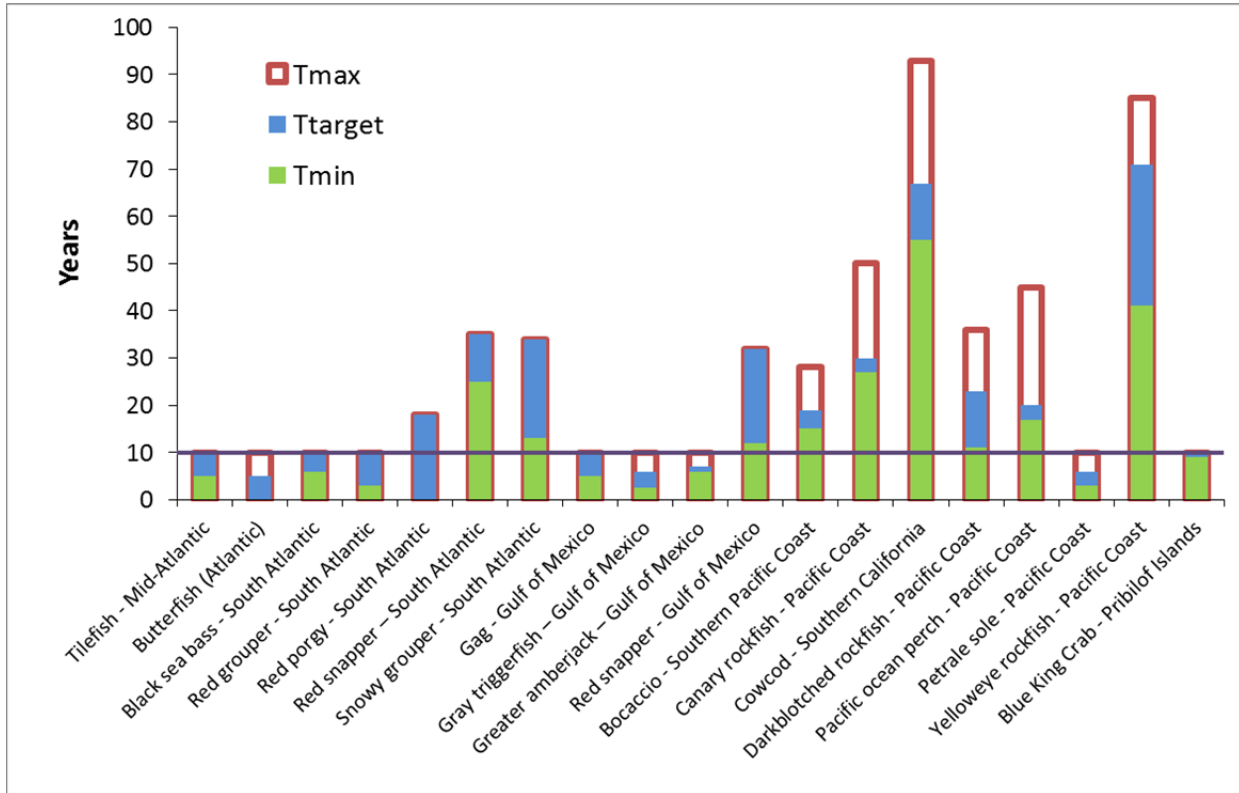
Over the past decade, significant progress has been made in ending overfishing and rebuilding overfished populations in the United States. While the NAS Report highlights the challenges and complexities of trying to evaluate science, and make decisions about catch limits and other management measures, it underscores the historic progress that has been achieved under the current law in ending overfishing and rebuilding fish populations. For stocks that were placed under a rebuilding plan, fishing mortality has generally been reduced, and stock biomass has generally increased. Moving forward, the NAS Report is the latest report to highlight the need to move to a management system that does not look at fish stocks in a vacuum, but takes into account the rest of the ecosystem in which they live and the impacts of changing environmental conditions. Building upon the successful rebuilding approaches of the MSA will ensure healthy oceans and fishing communities for present and future generations.

⁴⁸ NAS Report at 133.

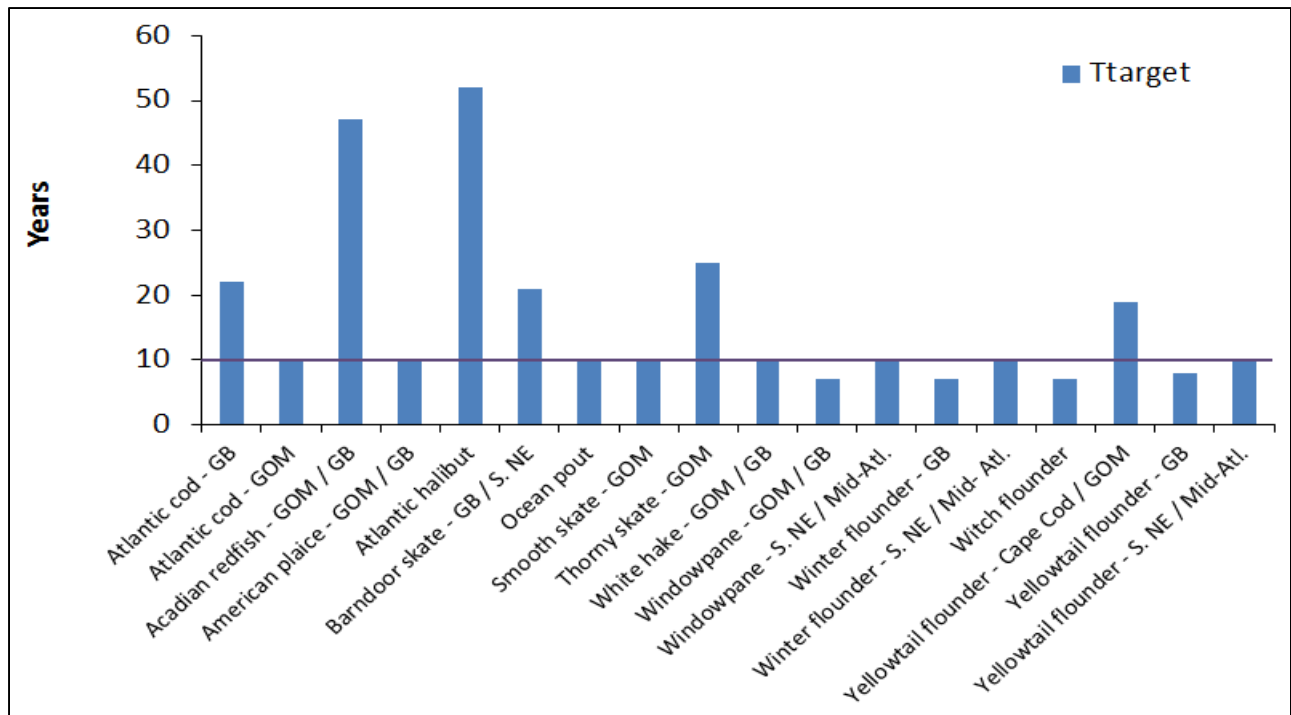
Attachment 1: Status of U.S. fish stocks, 1997-2011. Source: *2011 Report to Congress. Status of U.S. Fisheries. National Marine Fisheries Service. May 2012.*



Attachment 2: Rebuilding Timelines for Stocks Subject to a Rebuilding Plan in the 2012 Status of the Stocks Report



Minimum (Tmin), maximum (Tmax) and target (Ttarget) rebuilding times for stocks currently subject to a rebuilding plan, where values of Tmin and Tmax were available. The horizontal line marks the ten-year rebuilding deadline.



Target (T_{target}) rebuilding times for stocks subject to a rebuilding plan in New England where values of T_{max} (maximum) and T_{min} (minimum) rebuilding times were not available. The horizontal line marks the ten-year rebuilding deadline.



Reversing Course

Hastings' 'Empty Oceans Act' would repeat failed fishery policies of the past

U.S. fisheries are on the rebound and are some of the best-managed in the world today. Under the Magnuson-Stevens Fishery Conservation and Management Act, the number of stocks subject to overfishing (catching fish faster than they can reproduce) has decreased from 72 in 2000 to 26 in September 2013. In addition, 34 fish populations have been rebuilt since 2000. Significant progress on preventing overfishing, rebuilding unhealthy fish populations, and incorporating science into management, however, would be lost under sweeping changes proposed by U.S. Rep. Doc Hastings.

In December, Hastings, chairman of the House Natural Resources Committee, released a proposal to amend the Magnuson-Stevens Act that would erase the bipartisan commitments to improve the health of fish populations and our oceans made by Congress during the act's 1996 and 2006 reauthorizations.

Specifically, the Hastings proposal would:

Extend overfishing on the most vulnerable fish populations

Scientists have shown that catch limits to end overfishing result in faster rebuilding. Under the Magnuson-Stevens Act, to prevent driving a highly vulnerable population into further decline, managers are given two years to develop and implement rebuilding plans to end overfishing immediately. Under the Hastings proposal, however, managers would be given three additional years to phase in restrictions on overfishing in rebuilding plans. When coupled with other provisions in the proposal and current law, this would permit overfishing to continue for at least five, and possibly up to seven, years. This would make rebuilding more difficult and delay significant economic returns stemming from a rebuilt fishery.

Cripple the rebuilding of vulnerable stocks with loopholes and excuses for inaction

Under the Magnuson-Stevens Act, rebuilding currently must be done in "as short a time as possible," and rebuilding plans have a target of up to 10 years, with the flexibility for extension if it is not biologically or ecologically possible, or an international agreement exists. Because of this existing flexibility, well over half of the current rebuilding plans are for periods longer than 10 years.

The Hastings proposal would weaken the legal requirement to rebuild quickly by altering the law's language from "possible" to "practicable," which would allow a number of other considerations to trump scientific recommendations for rebuilding. It would eliminate the 10-year rebuilding target and add a long list of loopholes that would jeopardize the restoration of vulnerable populations. The proposal would give regional fishery management councils authority to decide that vulnerable populations do not need to be rebuilt. The combination of these provisions would mean that many vulnerable populations might never be restored to healthy levels.

Undermine the scientific basis for annual catch limits

Under the Magnuson-Stevens Act, fishery managers currently are required to prevent overfishing by setting annual catch limits that do not exceed scientific advice and adopt accountability measures to enforce those

limits. The Hastings proposal would increase the likelihood that overfishing would occur by reducing the role of science in setting annual catch limits, exempting species from these requirements, and encouraging risky, politically influenced decisions.

Exempt fishery management from broader environmental review

Activities conducted under the Magnuson-Stevens Act are subject to an environmental review pursuant to the National Environmental Policy Act, which requires broad, impartial environmental review of the impacts of proposed federal management actions, and the development of alternatives to minimize identified impacts. The Hastings proposal would exempt fishery management actions from properly conducted NEPA analyses, depriving managers of critical information upon which to base better management decisions.

Reduce public access to fisheries data, including those collected with taxpayer dollars

Under the Hastings proposal, public access to fisheries data from onboard observers, electronic monitoring systems, and cooperative research programs among fishermen, universities, and government scientists would be restricted. Public members of the regional fishery management councils, nongovernmental scientists, fishermen, and the public would no longer be able to analyze the scientific information that is used to manage our ocean fish resources.

Complicate fisheries management in the Gulf of Mexico

Under the current federal rebuilding plan, Gulf of Mexico red snapper, a key target species caught in a multispecies reef fish fishery in federal waters, is finally turning a corner after decades of overfishing. The Hastings proposal would put management of this fishery under the fragmented jurisdiction of the Gulf states. The species' continued recovery could be put at risk by splintering the authority to manage it and expose the other reef fish to unsustainable and conflicting management among several states and the federal government.

The Hastings draft bill would move us in the wrong direction

The Hastings proposal would reinstate a management system that too often ignored science, succumbed to political pressure, and delayed action to restore vulnerable fish populations. This contributed to overfishing that drove the collapse of many fisheries in the 1980s and early 1990s.

Rather than undermine progress, Congress should build on the recent successes of the Magnuson-Stevens Act. To address the challenges of a changing climate and the damage caused by unsustainable fishing, we should shift to an ecosystem-based fisheries management approach that protects habitat, avoids the incidental catch of nontarget species, accounts for the important role of forage fish in the ocean food web, and requires ecosystem-level fishery management plans.

Reject the 'Empty Oceans Act,' a road map to devastating our oceans' fisheries and local economies.

Contact: Ted Morton, director, U.S. oceans, federal **Email:** wmorton@pewtrusts.org **Project website:** endoverfishing.org

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**United States House of Representatives
Committee on Natural Resources**

**Peter Shelley, Esq.
Vice President
Conservation Law Foundation, Inc.**

**Written Testimony
On
H.R. _____, *Strengthening Fishing Communities and Increasing Flexibility
in Fisheries Management Act***

February 28, 2014

Chairman Hastings and members of the Committee on Natural Resources:

Thank you for your invitation to participate in today's hearing on the discussion draft developed by the Committee, currently identified as H.R. ____ *Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act* ("*Reauthorization Discussion Draft*"), for purposes of considering potential reauthorization amendments to the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801 *et seq.*

My name is Peter Shelley and I am a vice president and senior counsel with the Conservation Law Foundation, Inc., on whose behalf I am testifying today. I have worked on a range of marine conservation issues during my professional career and have been in charge of fisheries management efforts at CLF since 1989. I represent CLF on the Marine Fish Conservation Network, based in Washington, D.C., an umbrella network comprised of fishermen, conservationists, scientists and private citizens. I have also been an avid recreational freshwater and marine fisherman my entire life.

My testimony today is based on my direct, personal experiences with fisheries management in New England over the past 25 years, particularly with the management of the iconic and historic groundfish fishery in New England. This fishery includes such economically and ecologically important fish as Atlantic cod, haddock, a number of flounder species, Acadian redfish, and others, a number of which have supported the New England fishery since the 1600s.

Almost 40 years after Congress adopted the first comprehensive fishery management law to stop overfishing and produce optimum yield in the Nation's fisheries, this fishery and its dependent fishing communities continue to struggle with the economic and social instability produced by decades of chronic overfishing and mismanagement. The unfortunate and totally avoidable state of this historic fishery is reflected directly in the recent disaster funding that Congress directed toward New England in the FY2014 Omnibus Appropriations.

I will focus my testimony today on two aspects of the reauthorization discussion draft because of their potential direct and negative impacts on these troubled groundfish fisheries in New England: first, the proposed provisions to provide additional so-called “flexibility” and delays in the management responses to overfished fish populations, and second, the proposed provisions to allow fishery management councils to ignore the catch advice of their respective science and statistical committees.¹

From our perspective and the experience in New England, Chairman Hastings, the reauthorization discussion draft proposes re-opening the regulatory door to management approaches that have repeatedly failed in New England, that have put fisheries managers in impossible positions that overweighed short term economic perspectives, and that have cost New England coastal communities jobs and economic opportunity. CLF strongly believes that it is important to New England’s fishing future that Congress acts in ways that build on the success of the 2006 MSA reauthorization and avoid drastic revisions that would diminish the accountability and science-based management prescriptions that have finally started to produce healthier fish populations and more successful fishing businesses in New England.

The federal fisheries in New England that are currently still in trouble are not failing because the Magnuson-Stevens Act is too rigid, but rather because the law prior to 2006 was too flexible; the law failed to hold managers accountable for their results and allowed them to ignore science-based fishing limits. These were fundamental structural flaws in Magnuson-Stevens before 2006. I have studied many fisheries during my career, both in the United States and abroad. Without exception, the successful fisheries are founded on good science, accountability for results, healthy fish and shellfish populations, and an execution of long-term and sustainable economic strategies by fishery managers.

Congress fixed those flaws in Magnuson-Stevens in 2006 and must continue its bi-partisan support of the Magnuson-Stevens Act. . In our view and notwithstanding the Committee’s best intentions, many of the provisions of the Reauthorization Discussion Draft re-introduce failed management approaches, approaches that have been documented in New England to hurt, not help, fishing communities and fishermen.²

¹ These measures are found in Sections 3 and 4 of the Reauthorization Discussion Draft. CLF is also very troubled by the Section 6 provisions related to the Endangered Species Act, the National Environmental Policy Act, The National Marine Sanctuaries Act, and the Antiquities Act and believes that Section 6 is fundamentally flawed and would be destructive federal policy if enacted. We will provide separate comments on those measures as the reauthorization process evolves.

² Among the factors that kept fish populations from rebuilding despite fishing rates being set at low levels identified in the NRC Report entitled *Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States*, (NRC 2013) were: “ineffective input controls [gear restrictions, closed areas and the like] and lack of accountability measures, difficulties of reducing fishing mortality of species caught as bycatch in other fisheries, or errors in the estimates of stock size that led to catch limits that were too high.” *Id.* at 6. The 2006 Magnuson-Stevens Act amendments were designed to address many of those documented problems.

At the same time, we believe strongly that there are some critical and time-sensitive changes to the Magnuson-Stevens Act that are appropriate for reauthorization debate that are not in the Reauthorization Discussion Draft and need to be. Among the strongest recommendations to come from the recent National Research Council report entitled *Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States* were the recommendations to advance the application of ecosystem-based fisheries management (EBFM) principles to U.S. fisheries. EBFM principles are the bridge between the limitations and challenges of single-species management that the NRC report identifies and the dynamic and adaptive requirements of fisheries management in the modern era that the NRC report points to. While we would share the report's view that EBFM is "still only conceptually defined,"³ it is the direction that fisheries management science is headed and could supply robust management responses to many of the concerns raised in other testimony to this Committee.

CLF believes that any reauthorization of the Magnuson-Stevens Reauthorization Act should recognize this growing body of science and include measures designed to force the consideration and implementation of ecosystem-based fisheries management approaches including, in particular, an expanded approach to spatial controls and habitat-based approaches to achieve healthy and diverse fish populations, special protection of forage fish populations, and continued progress in bycatch reduction. The importance of this focus is heightened by the ecological instability and changes that are already being observed and felt in New England from sea temperature rises, increased ocean acidification, and changes in plankton bloom timing and abundance.

With that as introduction, I would now like to turn to what a discussion of what I would call the three myths about New England groundfishermen that I sometimes hear circulating around Washington in discussions about fisheries and the Magnuson-Stevens Act.

The Three Myths About The New England Groundfishery

New England's groundfish fishery has suffered ups and downs since the 1600s. It has been in sustained trouble since the mid-1980s and cod, haddock and yellowtail flounder were officially declared to be overfished in a management plan as long ago as 1990. Cod, coastal haddock, and yellowtail flounder are *still* overfished, 24 years later. This fact has costs hundreds if not thousands of fishing captains, crew and boat owners their livelihoods, at least to the extent they were solely dependent on those species. But the notion that the *current* provisions of the Magnuson-Stevens Act are somehow behind this problem is false.

The **first myth** is that the rigidity of the Magnuson-Stevens Act has devastated New England's groundfish boats. There *is* a fisheries crisis in New England in the groundfish fishery but only with respect to a number of the once plentiful fish species in that fishery that have been

³ NRC Report, *supra*, page 180.

wantonly and chronically overfished and mismanaged for decades under prior “flexible” management rules. The truth is that most of our fisheries are healthy and sustainable.

From 1996 when the Sustainable Fisheries Act went into effect through 2011,⁴ gross boat revenues for all fish and shellfish landed in New England grew from \$779 million to over \$1.4 billion (2010 dollars). Massachusetts’ fishermen increased their gross revenues from \$316 million to \$531 million (2010 dollars). Groundfish permit holders in New England have increased their gross revenues from \$226 million to \$550 million, primarily by diversifying their catch to alternative, more abundant and better-managed fish species. There are also positive signs in the groundfish fishery for many stocks and a number of quotas increased last year. With continued rebuilding achieved by effectively lowering fishing mortality below levels recommended by the scientists, these groundfish stocks should recover and support new opportunities to grow and diversify fisheries in New England.

These are some of the first promising economic signs seen in New England groundfishery in decades and they are the largely the result of the steps that Congress took in 2006 to force fisheries managers to prevent overfishing, to rebuild overfished stocks quickly, and to use science-based quota setting. Fishermen and fishing communities across New England paid a terrible price because those same actions were not taken earlier when the law allowed more “flexibility” in setting harvest levels. For many fishermen who face economic challenges, short-term economic returns are almost always the most important objective. For a healthy fishery, a focus on short-term economic returns is almost always the wrong basis for fisheries management.

The new provisions in the Magnuson-Stevens Act are beginning to work, and in many cases working well for many New England fishermen, particularly those fishermen who have decided for a variety of reasons to stop fishing on the depleted groundfish species and who now target more abundant and better-managed stocks. Increased “flexibility” to extend overfishing in Magnuson-Stevens Act is not necessary for these fishermen; indeed, it will put their successful fisheries at increased risk of future failure. There are few areas of human endeavor where the law of unintended consequences operates with such enthusiasm as fisheries management and CLF believes that many of the provisions of the Reauthorization Discussion Draft will have the exact opposite result of the one they are intended to achieve.

This point of this testimony is not to suggest that individual groundfishermen have not suffered significant economic or social harms over the past several decades. As indicated above, the management failure to set catch levels on cod and haddock and other groundfish at appropriate levels in the 1990s virtually guaranteed that a number of the groundfish populations would fail to rebuild and, indeed, would likely plummet even further. Fishermen who did not anticipate this reality and stayed focused on harvesting some of the most heavily targeted species

⁴ These are the latest NMFS economic data to which CLF has access. We are currently updating those numbers to include 2012, which data are now available to CLF.

like cod and yellowtail flounder saw their opportunities disappear in the first decade of this century along with the fish. There is nothing that relaxing the Magnuson-Stevens Act might do to provide a different future for these fishermen; the fish simply aren't there. But if there is to be a future cod fishery, then the answer in New England—as it was in Atlantic Canada—is to close the fishery and protect the large spawning female cod in order to give this fish every chance possible, not to create a legislative loopholes to allow any more overfishing of a fully depleted stock.

The **second myth** is that the problems with depleted stocks like Atlantic cod have nothing to do with fishing effort, or that fishing levels have nothing to do with stock abundance. According to this myth, fishermen in New England are in compliance with their catch limits and Atlantic cod are still depleted and not rebuilding so the fishermen are not to blame.

The myth is false because it suggests the catch levels in New England have always been within their biological limits. It is true that the fishing industry is not to blame for these damaging catch limits because they don't set the fishing levels, although they have always pushed hard through the council system and through political channels for the highest levels the managers would give them. Even though the MSA was revised in 2006, New England's groundfish fishery did not institute hard catch limits until May 2010. Moreover, in the last two years, the groundfish fleet hasn't even caught most of the fish it was been authorized to catch because they can't find the fish anymore. Through the mid-2000's, though, the industry often caught more fish than the quota—sometimes even several multiples of the quota. Only the 2006 amendments to the Magnuson-Stevens Act forced the catch levels to be treated as hard limits, not aspirations. Aspirational limits were not kind to fishermen; they put many, many New England fishermen out of work.

More importantly, based on the NMFS stock status reports, groundfish stocks continue to be overfished and experiencing overfishing to the current day.⁵ I will use the two stocks of Atlantic cod to illustrate this fact. Gulf of Maine Cod is reported as overfished in 15 out of the last 17 years⁶ and Georges Bank cod was overfished for 13 out of the last 17 years. Overfishing was happening with Gulf of Maine cod 13 out of the 14 years reported to Congress through 2013, and 12 out of 14 years with Georges Bank cod. Atlantic cod are depleted as a direct result of overfishing.

This illogic of this persistent overfishing of Atlantic cod—how can fishermen be fishing within their limits and still have overfishing occurring?—introduces the **third myth**, the myth that the Magnuson-Stevens Act imposes rigid, unrealistic rebuilding schedules that arbitrarily require rebuilding to a fixed biomass by a fixed time. The truth is that while the law sets a ten-

⁵ 2013 Status of U.S. Fisheries (NMFS) Table A at 4-6 ([www.nmfs.noaa.gov/sfa/statusoffisheries/2013/fourth/Q4/2013 Stock Status Tables.pdf](http://www.nmfs.noaa.gov/sfa/statusoffisheries/2013/fourth/Q4/2013%20Stock%20Status%20Tables.pdf))

⁶ Moreover, the two years when Gulf of Maine cod were not considered to be overfished was the result of science error in the assessment; they were determined later to be overfished in fact both years.

year time limit as the default maximum rebuilding period, that limit is hardly rigid and neither the managers nor the fish obey it.

The current requirement is that overfished stocks of fish should be rebuilt in a time “as short as possible,” 16 U.S.C.A. § 1854(e)(4), and, in any event, within 10 years of being declared to be overfished “except where the biology of the stock of fish, other environmental conditions, or management measures under international agreement in which the United States participates dictate otherwise.” 16 U.S.C.A. § 1854(e)(4)(ii). The language of the law already allows exemptions to that ten-year period if exemptions are justified by considerations that are independent of current fishing effort.

Many of New England’s groundfish have rebuilding plans that are based on terms exceeding ten years. As noted above, Georges Bank cod has been formally determined to be overfished since 1990 and still has twelve years left in their projected rebuilding program. If that timeline is not met for any possible number of reasons, the rebuilding framework will be extended based on a control rule adopted by NMFS and the New England Fishery Management Council. Numerous stocks of federal managed fish have rebuilding requirements that exceed 10 years and, in some regions, we understand that the majority of a council’s stocks exceed the 10 years under existing law.

Rebuilding catch limits that are prescribed for an overfished stock are hardly even prescriptive; they don’t have to have produce any higher than a 50% probability of succeeding in accomplished the projected rebuilding within the stipulated time period. The current law allows the rebuilding probability for the stocks in the worst trouble, the stocks in a rebuilding program, to have the same odds as a coin toss. And if circumstances change during that rebuilding that are identified in the periodic stock assessments, that rebuilding framework itself can be and is revisited by managers.

In New England, with only one or two exceptions that I can remember over the past two decades, managers have always opted to take the highest risk rebuilding strategy to protect short-term economic objectives, that is, the longest time allowed for rebuilding at the highest level of catch. These levels often end up being too high in retrospect, which is why fisherman can point to their compliance with fishing quotas in New England—as with the Atlantic cod example above—while scientists continue to conclude after each new stock assessment that overfishing is still taking place. There was a built-in 50% chance that the levels would be too high to begin with, that overfishing would occur under that harvest cap in the first place. The current law already allows fishery managers to take risks with their fundamental inventories that private business managers would consider reckless.

Congress Got It Right: Successful Fisheries Require Accountability, Science-based Quotas, and Healthy Fish Populations.

In 2006, Congress passed the Magnuson-Stevens Fishery Conservation and Reauthorization Act of 2006, Pub. L. 109-479, 120 Stat. 3575 (2007) with strong bi-partisan support. Mindful of the situation in New England and in other troubled fisheries around the nation and after receiving extensive testimony and material, Congress used this reauthorization to make some significant changes to the Magnuson-Stevens Act to fix critical structural problems in the law. Specifically, the reauthorization prohibited overfishing during the rebuilding period of a fish stock; it imposed accountability measures on the managers in the form of requiring annual catch limits; and it required accountability management measures if a fishery exceeded its annual catch limit. The 2006 reauthorization also emphasized the importance of science-based fishery management plans in U.S. fisheries, requiring, for example, that all fishery management councils have a standing committee of science experts to advise the council on setting fishery specifications and having the authority to set maximum harvest rates that a fishery could not exceed. These are reasonable and well-grounded requirements that are used by all successful fisheries in industrialized nations around the world.

The 2006 reauthorization addressed an explicit Congressional conclusion with respect to the nation's fisheries that had come at a high price: the historic flexibility, discretion, and latitude associated with many—but not all—of fishery management plans being developed by the regional councils was doing harm to the Nation's interests by delaying the achievement of optimum yield on a continuing basis for the Nation's fisheries. In too many fisheries, overfishing had become a way of life; it had become institutionalized in the system. Nowhere were the economic, social, and ecological costs of this delay in stopping overfishing more apparent and more devastating than in New England's groundfish fishery. Those were important and necessary legislative changes. Nothing has changed to support departing from the current provisions of the law.

While a set of 2006 amendments may seem like ancient history in Washington, D.C. in 2014, it is important to recognize that the positive productivity changes and economic benefits associated with these new management requirements are only now beginning to be observed around the country. The New England Council's first groundfish plan under the 2006-reauthorized Magnuson-Stevens Act did not take effect until May 1, 2010, less than four years ago. At the time the new provisions took effect, economic analysts indicated that the potential economic losses associated with this fishery management plan (known as Amendment 16) in the first year could be on the order of 15.2%, or \$15 million, as a result of the scientific recommendation of cutting back groundfish landings by over 47,000 metric tons of fish. The new accountability and science-based quota setting provisions in New England did not, in fact, produce those dire predictions in New England's groundfish fleet.

In fishing year 2010, when large quota cutbacks to stop overfishing and rebuild cod stocks were finally required, gross groundfish revenues stayed relatively flat with a decline of only \$0.209 million or – 0.002%, while the gross total revenues earned by those same groundfish boats (including the revenues from the other species they landed) grew \$28.110 million, or a

10.6% increase over 2009 (2010 dollars).⁷ In the 2011 fishing year, groundfish revenues increased \$5.272 million, +6.3%, over 2009 groundfish revenues and total gross revenues increased \$58.554 million, a 22% increase over 2009 revenues (2010 dollars). In the 2012 fishing year, when even further heavy groundfish quota cuts were required, total groundfish revenues declined \$16.134 million from 2009 groundfish revenues but total revenues remained \$28.750 million above 2009 levels (2010 dollars).⁸

Total gross revenues to groundfish boats in 2012 were roughly twice the average gross revenues to the groundfish fleet averaged over the 2005-2007 fishing years (nominal dollars).⁹ The New England groundfish fleet has demonstrated on the water that it can accommodate full accountability to science-based quotas while growing the value of the fleet's landings through species diversification.

The New England groundfishery as well as the other New England fisheries are performing better as a result of implementation of the 2006 amendments to the Magnuson-Stevens Act. Congress should stay the course with responsible rebuilding requirements and science-based quota setting to ensure economic opportunity for the region's fishermen.

Thank you for inviting us to testify in this hearing and for considering our testimony.

Peter Shelley, Esq.

Senior Counsel

⁷ The data in this paragraph is derived from the Murphy *et al.*, 2012 Final Report on the performance of the Northeast Multispecies (Groundfish) Fishery (May 2012-April 2013), Table A. It can be found online at www.nefmc.org/index.html.

⁸ This analysis does not include any changes in the net revenues for groundfish boats during those years and there were some increased quota leasing costs. The analysis also does not explore the distributional aspects of those increased total gross revenues, i.e. whether the council succeeded in fairly distributing this fleet's access to New England fish populations, either by boat size or by state. Much of that data, unfortunately, is not available to the public.

⁹ This analysis was derived by comparing the revenues set forth in the report identified in fn. 7 with economic analysis from Amendment 16 to the Northeast Multispecies (Groundfish) Fishery Management Plan, Table 255 on p. 691. Amendment 16 can be found online at nefmc.org/nemulti/index.html.

**WRITTEN TESTIMONY BY
SAMUEL D. RAUCH III
ACTING ASSISTANT ADMINISTRATOR
FOR THE NATIONAL MARINE FISHERIES SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE**

**HEARING ON
MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

**BEFORE THE
COMMITTEE ON NATURAL RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES
SEPTEMBER 11, 2013**

Introduction

Good afternoon, Mr. Chairman and Members of the Committee. Thank you for the opportunity to testify before you today. My name is Samuel D. Rauch and I am the Acting Assistant Administrator for the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) in the Department of Commerce. NMFS is dedicated to the stewardship of living marine resources through science-based conservation and management. Much of this work occurs under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), which sets forth standards for conservation, management, and sustainable use of our Nation's fisheries resources.

Marine fish and fisheries—such as salmon in the Pacific Northwest, cod in New England, red snapper in the Gulf of Mexico, and pollock in Alaska—have been vital to the prosperity and cultural identity of coastal communities in the United States (U.S.). U.S. fisheries play an enormous role in the Nation's economy. Commercial fishing supports fishermen and fishing communities, and it provides Americans with a sustainable, healthy food source. Recreational fishing is an important social activity for individuals, families, and communities; and it is a critical economic driver of, and contributor to, local and regional economies, as well as the national economy. Subsistence fishing provides an essential food source, and it is culturally significant for many people.

Our most recent estimates show that the amount landed and the value of commercial U.S. wild-caught fisheries was up in 2011 while recreational catch remained stable. U.S. commercial fishermen landed 9.9 billion pounds of seafood valued at \$5.3 billion in 2011, which reflects an increase of 1.6 billion pounds (20%) and \$829 million (18%) over 2010 figures. 2011 saw the highest landings volume since 1997 and highest value in nominal terms ever recorded.¹ The seafood industry—harvesters, seafood processors and dealers, seafood wholesalers and seafood retailers, including imports and multiplier effects—generated \$129 billion in sales

¹ See NOAA Fisheries Annual Commercial Fisheries Landings Database available at <http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/annual-landings/index>.

impacts and \$37 billion in income impacts, and supported 1.2 million jobs in 2011. Recreational fishing generated \$70 billion in sales impacts, \$20 billion in income impacts, and supported 455,000 jobs in 2011. Jobs supported by commercial businesses held steady from the previous year, while jobs generated by the recreational fishing industry represented a 40 percent increase over 2010.²

We all share the common goal of healthy fisheries that can be sustained for generations. Without clear, science-based rules, fair enforcement, and a shared commitment to sustainable management, short-term pressures can easily undermine progress toward restoring the social, economic, and environmental benefits of a healthy fishery. Although challenges remain in some fisheries, the benefits for the resource, the industries it supports, and the economy are beginning to be seen as fish populations grow and catch limits increase.

My testimony today will focus on the progress we have made, together with our partners, in implementing the Magnuson-Stevens Act's key domestic provisions, particularly the success of the requirement to rebuild overfished fish stocks.

Progress in Ending Overfishing and Rebuilding Fish Stocks under the Magnuson-Stevens Act

Ending Overfishing and Rebuilding Fisheries

The federal fishery management system is effectively ending overfishing and rebuilding overfished fisheries. We continue to make progress toward long-term biological and economic sustainability and stability. Since its initial passage in 1976, the Magnuson-Stevens Act has charted a groundbreaking course for sustainable fisheries. When reauthorized in 2007, the Act gave the eight Regional Fishery Management Councils and NMFS a very clear charge and some new tools to support improved science and management. We are now seeing the results of those tools. In 2012, six stocks were determined to be rebuilt, and there were decreases in both the numbers and percentages of fish stocks listed as overfished or experiencing overfishing.

At present, only 28 stocks (10 percent) with a known status are listed as subject to overfishing, and 40 stocks (18 percent) are overfished—both all-time lows. The number of stocks subject to overfishing was highest in 2000, when 48 stocks were on the overfishing list. In 2002, 55 stocks were overfished. Since 2000, 33 stocks have been rebuilt.³ We expect the number of stocks on the overfishing list to continue to decrease as a result of management under annual catch limits. Ending overfishing allows stocks to increase in abundance, so we expect to see further declines in the number of overfished stocks and increases in the number of rebuilt stocks.⁴

² See Fisheries Economics of the U.S. 2011. NMFS Office of Science and Technology, available at: http://www.st.nmfs.noaa.gov/economics/publications/feus/fisheries_economics_2011.

³ The recently-released National Academy of Sciences study notes that the most recent assessment for some rebuilt stocks indicates they were not overfished at the time they were placed in rebuilding plans. However, the best scientific information available at the time indicated the stock was overfished, and the rebuilding plan was successful in increasing the size of the stock to support higher sustainable yields.

^{4,5} These statistics were compiled from the quarterly stock status reports at: <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>.

Benefits of Annual Catch Limits

One of the most significant management provisions of the 2007 reauthorization of the Magnuson-Stevens Act is the mandate to implement annual catch limits, including measures to ensure accountability and to end and prevent overfishing in federally managed fisheries. An annual catch limit is an amount of fish that can be caught in a year so that overfishing does not occur. Accountability measures are management controls to prevent the limits from being exceeded and to correct or mitigate overages of the limits if they occur. This is an important move away from a management system that could only be corrected by going back through the full Council process in order to amend Fishery Management Plans – often taking years to accomplish, all while overfishing continued.

Now, when developing a fishery management plan or amendment, the Councils must consider, in advance, the actions that will occur if a fishery does not meet its performance objectives. As of June 30, 2013, we have confirmed that overfishing has ended for 22 (58 percent) of the 38 domestic U.S. stocks that were subject to overfishing in 2007 when the Magnuson-Stevens Act was reauthorized.⁵ Annual catch limits designed to prevent overfishing are in place for all stocks that need them. Preliminary data show that annual catch limits have been effective in limiting catch and preventing overfishing for the majority of stocks. Fisheries have successfully stayed within their annual catch limit for over 90 percent of the stocks for which we have catch data.

Successes and Challenges

The Magnuson-Stevens Act created broad goals for U.S. fisheries management and a unique, highly participatory management structure centered on the eight Councils. This structure ensures that input and decisions about how to manage U.S. fisheries develops through a bottom-up process that includes fishermen, other fishery stakeholders, affected states, tribal governments, and the Federal Government. By working together with the Councils, states, tribes, and fishermen—under the standards set in the Magnuson-Stevens Act—we have made great strides in ending overfishing, rebuilding stocks, and building a sustainable future for our fishing-dependent communities.

This success has come with the new requirements of the reauthorized Magnuson-Stevens Act to end overfishing, implement annual catch limits, and rebuild overfished fisheries. Despite being in a national economic downturn, the fishing industry as a whole has seen great economic gains, both in terms of revenues and landings, particularly in the past 2 years.

While significant progress has been made since the last reauthorization, we recognize that this progress has not come without cost and, even with national successes we are still seeing challenges regionally. Fishermen, fishing communities, and the Councils have had to make difficult decisions and, in many areas, have had to absorb the cost of conservation and investment in long-term economic and biological sustainability. In some instances where quotas have been cut, stocks are not rebounding as we would have expected, and we are working with the Councils, academia, the states, and fishermen to examine how environmental factors outside

of fishing mortality may be influencing the ability of these stocks to rebuild. We need to approach these challenges in a holistic, deliberative, and thoughtful way that includes input from the wide range of stakeholders who care deeply about these issues.

Flexibility Is Inherent in the Act's Rebuilding Requirements

Rebuilding Requirements and Timelines

Rebuilding plans are required when a stock is determined to be overfished. Each stock has a minimum stock size threshold that has been established by the Council based on the best scientific information available—this represents the size of the stock below which its ability to produce maximum sustainable yield is impaired. If a stock assessment finds that the biomass is below the stock's minimum stock size threshold, the stock is determined to be overfished and the Council has two years to develop and implement a rebuilding plan.

The Magnuson-Stevens Act requires that the period to rebuild a stock not exceed 10 years, but it permits a longer time period in certain cases where the biology of the fish stock, management measures under an international agreement in which the United States participates, or other environmental conditions dictate otherwise, although this period still must be as short as possible. Current rebuilding time periods for stocks with active rebuilding plans range from four years to more than 100 years. Of the 43 active rebuilding plans with a target time to rebuild, 23 of them (53 percent) are set longer than 10 years due to the biology of the stock (slow reproducing, long lived species) or environmental conditions. For example, Pacific yelloweye rockfish has a rebuilding timeline of 71 years. The remaining 20 rebuilding plans are set for 10 years or less. Of the 33 stocks rebuilt since 2000, 18 stocks were rebuilt within 10 years. Two additional stocks in 10-year plans were rebuilt within 12 years.

Rebuilding Successes and Benefits

Rebuilding fisheries brings significant biological, economic, and social benefits, but doing so takes time, persistence, sacrifice, and adherence to scientific information. Of 26 rebuilt stocks for which information is available, half of them now produce at least 50 percent more revenue than they did when they were overfished. Seven stocks have current revenue levels that are more than 100 percent higher than the lowest revenue point of the overfished stock.

Atlantic sea scallops provide one example of rebuilding success. In the early 1990s, the abundance of Atlantic sea scallops was near record lows and the fishing mortality rate was at a record high. Fishery managers implemented a number of measures to allow the stock to recover, including an innovative area management system. The stock was declared rebuilt in 2001. Revenues increased five-fold as the fishery rebuilt, from \$44 million in 1998 to \$353 million in 2011, making New Bedford the Nation's top port by value of landings since 2000.

Another example of rebuilding success can be seen with Bering Sea snow crab. In 1999, scientists found that Bering Sea snow crab was overfished. In response, managers reduced harvests to a level that would allow the stock to rebuild, and the stock was declared rebuilt in 2011. In the 2011-2012 fishing year, managers were able to increase the harvest limit by 64

percent to nearly 90 million pounds. By 2012, revenue from the fishery had increased to almost 400 percent of the 2006 revenue (the low point during the rebuilding period).

Ending Overfishing in a Rebuilding Plan

Ending overfishing is the first step in rebuilding. Prior to the implementation of annual catch limits, a number of rebuilding plans experienced difficulty in ending overfishing and achieving the fishing mortality rate called for in the plan. As a result, rebuilding was delayed. Conversely, stocks where overfishing has ended quickly have seen their stock size increase and rebuild more quickly. For example, Widow rockfish in the Pacific was declared overfished in 2001. Fishing mortality on Widow rockfish was immediately substantially reduced resulting in a corresponding increase in stock size. The stock was declared rebuilt in 2011, ahead of the rebuilding deadline. The 10-year rebuilding timeframe itself does not typically constrain catch for a rebuilding stock.

Most major reductions in allowable catch experienced by fishermen when stocks enter rebuilding plans are predominantly from the requirement to prevent overfishing – which is now required through annual catch limits for all stocks, not just those determined to be overfished. When unsustainably large catches have occurred due to high levels of overfishing on a depleted stock, large reductions in catch will be needed to end overfishing, and the stock must rebuild in abundance before catches will increase.

Because ending overfishing is essential to rebuilding, annual catch limits are a powerful tool to address prior problems in achieving rebuilding. Nine of the 20 stocks currently in 10-year (or less) rebuilding plans had failed to end overfishing as of their last stock assessment. Annual catch limits, which are now in place as a mechanism to control catch to the level specified in the rebuilding plan, are working and we anticipate the next stock assessments for these species to confirm that overfishing has ended. With that result, we will begin to see stronger rebuilding for these stocks. The next quarterly status update (for the period ending September 30, 2013) will show that overfishing has ended for five additional stocks in rebuilding plans of 10 years or less—Gulf of Mexico gag, Gulf of Mexico gray triggerfish, Gulf of Mexico greater amberjack, South Atlantic black sea bass, and South Atlantic red grouper. In addition, preliminary data on the performance of annual catch limits have shown that fisheries have successfully stayed within their annual catch limits for at least 78 percent of the stocks currently in rebuilding plans.

Flexibility in Rebuilding Plans

The Magnuson-Stevens Act provides flexibility to adjust rebuilding plans when a stock is failing to make adequate progress toward rebuilding. In these situations, the Councils can amend the rebuilding plan with revised conservation and management measures. The Act requires that the revised plan be implemented within two years and that it end overfishing (if overfishing is occurring) immediately upon implementation.

Rebuilding plans are also adaptable when new scientific information indicates changing conditions. For example, the target time to rebuild Pacific ocean perch off the Pacific Coast was recently lengthened based on information within a new stock assessment. The assessment, conducted in 2011, revised our understanding of the Pacific ocean perch stock status and

productivity and showed that, even in the absence of fishing, the time it would take to rebuild the stock would be longer than the previously established target time to rebuild. Given this information, NMFS worked with the Pacific Fishery Management Council in 2012 to modify the rebuilding plan and extend the target time for stock rebuilding from 2017 to 2020.

Rebuilding timelines can also be shortened based on new information. As one example, the original rebuilding plan for cowcod, a Pacific Coast groundfish, was 95 years. The rebuilding time has been modified based on updated scientific information, and is currently 67 years.

Stakeholder Input and Concerns

The Managing Our Nation's Fisheries 3 conference, held this past May in Washington, DC, provided us an exciting opportunity to engage with a variety of stakeholders on the Magnuson-Stevens Act, and the topic of rebuilding was discussed extensively at the first session on Improving Fishery Management Essentials. We heard from conference participants about adjustments they would like to see regarding rebuilding time requirements. We heard their concerns, and we are taking a hard look at the recommendations they provided in the context of how we and the Councils do business. We are also engaged in conversations with the Councils, constituents, and Congress on the next reauthorization of the Magnuson-Stevens Act, and we will look carefully at any recommendations regarding rebuilding timeframe flexibility.

National Academy of Sciences Report on Rebuilding

We've heard concerns from stakeholders that the 10-year rebuilding timeline may be arbitrary and too restrictive. In response to these concerns and similar concerns expressed by Members of Congress, in 2011 NOAA commissioned the National Academy of Sciences' National Research Council (NRC) to conduct a comprehensive evaluation of success in stock rebuilding and identification of changes made to fisheries management in response to rebuilding requirements. NOAA asked the NRC to study seven topics related to rebuilding to help us and the Councils better construct efficient and effective rebuilding plans.

The NRC rebuilding study was released on September 5, 2013. We are thankful for the in-depth and forward-looking review provided by the NRC, and at present we are carefully analyzing the report's details. The timing of the report fits nicely with our work to revise National Standard 1 Guidelines. Since the guidelines were last updated in 2009, a number of issues regarding the application of the guidelines have been identified by stakeholders and managers, and these issues may warrant revisions. An Advanced Notice of Proposed Rulemaking was published on May 3, 2012 to solicit public input, and several report findings reflect possible revisions to the guidelines similar to those currently being considered by NMFS. At this time, NMFS would like to acknowledge a few aspects of the report:

- From the NRC's assembly of technical results from all rebuilding plans, we are pleased to see that rebuilding plans are effective at increasing stock abundance, especially when fishing mortality is quickly reduced below overfishing levels.
- The report identifies several challenges with implementation of rebuilding plans that are based upon specific biomass targets and rebuilding timeframes. They note that more

flexible rebuilding plans could be based on strict requirements to keep fishing mortality rates at about 75 percent of the overfishing limit.

- The report notes that some rebuilding plans have had large social and economic consequences in order to rebuild to specific biomass levels in fixed time frames but that the economic consequences had rebuilding not occurred are difficult to determine. Continued investments in social and economic data collection and analysis will inform the process of developing future rebuilding plans.
- The report's investigation of ecosystem factors includes a general finding about the complexity of ecosystems and the challenges of making specific forecasts, especially over longer-term time frames. NMFS is keenly interested in increasing the linkage between ecosystem/environmental factors and fish stock assessments and forecasts. The FY 2014 President's Budget Request includes a \$10 million increase for NOAA to fund research on the impacts of climate on fisheries with a focus on the Northeast groundfish region and NOAA has a variety of activities underway to understand climate impacts on marine ecosystems and increase the use of this information in management of fisheries resources.

Conclusion

The Magnuson-Stevens Act has galvanized the United States' efforts to end overfishing in federally managed fisheries, rebuild stocks, and ensure conservation and sustainable use of our marine fisheries. Fishery harvests in the United States are scientifically monitored, regionally managed, and legally enforced under 10 strict national standards of sustainability. But we did not get here overnight. Our Nation's journey toward sustainable fisheries has evolved over the course of over 35 years.

In 2007, Congress gave NOAA and the Councils a clear mandate, new authority, and new tools to achieve the goal of sustainable fisheries within measurable timeframes. Notable among these were the requirements for annual catch limits and accountability measures to prevent, respond to, and end overfishing.

We are seeing progress in our effort to end overfishing and rebuild stocks. Both the number of stocks subject to overfishing and the number of stocks that are overfished are at an all-time low. This progress has been due to the collaborative involvement of our U.S. commercial and recreational fishing fleets and their commitment to science-based management, improving gear technologies, and application of best-stewardship practices. These rebuilt fish stocks have often resulted in improved revenues, helping sustain fishing communities.

While we are seeing progress and realizing benefits in some fisheries, we recognize that challenges remain. Looking ahead, we must continue to increase the quality and quantity of scientific data, continue progress made to address overfishing and rebuild stocks, and better address the difficult transitions that can come with management changes leading to more biologically and economically sustainable fishery resources. It is also increasingly important that we better understand ecosystem and habitat factors, including climate change, and incorporate them into our stock assessments and management decisions, because resilient ecosystems and habitat form the foundation for robust fisheries and robust economies.

It is important to take time to reflect on where we have been to understand where we are. The Magnuson-Stevens Act provides flexibility in adapting management plans to the life history differences among species and nuances of particular fisheries, as well as to the unique regional and operational differences among fisheries and in the fishing communities they support. NOAA supports the collaborative and transparent process embodied in the Councils, as authorized in the Magnuson-Stevens Act, and strongly believes that all viable management tools should continue to be available as options for the Councils to consider when developing management programs. Together with our partners, we continue to explore alternative approaches that will produce the best available information to incorporate into management. We had productive discussions at the recent Managing Our Nation's Fisheries 3 Conference, and we will continue to engage with our stakeholders. We are also thankful for having the new National Academy of Sciences study on rebuilding and will be reviewing it carefully.

Thank you again for the opportunity to discuss implementation progress of the *Magnuson-Stevens Act* and future efforts of reauthorization. We look forward to the discussions that will take place and will work with Congress on efforts to reauthorize the *Magnuson-Stevens Act*.



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: January 23, 2014
TO: Council
FROM: Executive Director, Tom Nies
SUBJECT: **House Committee on Natural Resources Discussion Draft for Magnuson-Stevens Act Reauthorization**

1. On Tuesday, January 28, 2014, the Council will review the discussion draft for MSA reauthorization provided by the House Committee on Natural Resources. The Council may consider developing Council positions on the draft language. These positions may be communicated to the Chair of the Committee, or may be used by Council leaders during reauthorization discussions that will be held by the Council Coordination Committee in February.

2. This draft was provided to the Council by Committee staff acting on behalf of the Chair, who invited Council comments. Based on this request, NOAA General Counsel advised that the Council discussion or development of comments would not conflict with anti-lobbying provisions.

3. In order to facilitate the Council discussion, the Executive Committee has prepared suggested statements for the Council's review (attachment 1).

Attachment 1: Draft Council Comments on the Discussion Draft for Magnuson-Stevens Reauthorization

New England Fishery Management Council

DRAFT Council Comments

on

Discussion Draft for Magnuson-Stevens Act Reauthorization

“Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act”

Section 3: Flexibility in Rebuilding Fish Stocks

The Council supports provisions providing additional flexibility in rebuilding fish stocks. The discussion draft moves in this direction by modifying the rebuilding period and provides several additional exceptions to the requirement to adhere to this period. It does not, however, adopt the finding of the National Academy of Sciences: “Emphasis on meeting fishing mortality targets rather than on exact schedules for attaining biomass targets may result in strategies that are more robust to assessment uncertainties, natural variability and ecosystem considerations, and less prone to rapid changes in management measures, which have social and economic impacts that may be more severe than more gradual changes.” The Council supports a focus on ending overfishing without regard to a fixed rebuilding time period.

Section 4: Modifications to the Annual Catch Limit Requirement

This section suffers from a lack of clarity and potential inconsistencies with other sections of the Magnuson-Stevens (M-S) Act. It is not clear if the consideration of ecosystem and economic impacts when setting Annual Catch Limits (ACLs) authorizes a deviation from other requirements of the M-S Act, such as ending overfishing or achieving optimum yield (as currently defined). While the section would authorize specification of an Annual Catch Limit for a “stock complex”, that term is undefined and it is not clear how this provision would interact with requirements to rebuild individual stocks of fish.

Section 5: Distinguishing Between Overfished and Depleted

The Council supports the use of a term for low stock size that acknowledges that overfishing is just one possible cause for this state. The term “depleted”, however, is used by some management agencies in a different context and may cause confusion.

Section 6: Transparency and Public Process for Scientific and Management Actions

The Council supports a transparent public process. As such, all Council meetings are currently webcast and recordings of all Council and Scientific and Statistical Committee (SSC) meetings are readily available. Transcripts of Council meetings are not currently prepared due to the cost, but could be prepared with adequate funding. Video recordings of Council and SSC meetings seem unnecessary and expensive and would create issues related to storage of large data files, and collection of video release forms.

The Council supports streamlining the M-S Act and National Environmental Policy Act (NEPA) processes. The goal of NEPA is to provide the information needed for decision makers and the

public to evaluate policy choices, but unfortunately this goal has been subsumed by a rigid adherence to bureaucratic requirements in order to withstand any potential legal challenge. The proposed language in the discussion draft would streamline the fishery management process while still ensuring that decisions are based on careful analyses.

Section 7: Limitation on Future Catch Share Programs

The discussion draft language in this section continues to hamper the Council's ability to use all of the fishery management tools that are available by extending the referendum requirement before implementing any catch share program in New England and other regions. While the Council would prefer this requirement be removed, the discussion draft does reduce the requirement for approval to a majority of permit holders (rather than 2/3), and the Council supports this change. It is not clear if the draft language would prohibit allowing crew members to participate in the vote, and the language on which permit holders could participate lacks clarity.

Section 8: Data Collection and Data Confidentiality

The Council supports increased emphasis on electronic monitoring tools. The draft language, however, reduces the effectiveness and applicability of those tools by prohibiting the use of information collected through electronic monitoring for the purpose of fishery law enforcement.

The draft language on data confidentiality does not appear to improve the ability of Councils to use fishery data to evaluate management programs.

There is an increasing need for coordination between competing ocean user groups. Marine spatial planning is one way to fill that need. The fishing industry needs to be at the table for those discussions, well prepared with data that supports the industry's need to access specific areas of the ocean and its seabed. The draft language prohibition on using data collected through electronic monitoring in marine spatial planning is short-sighted and will only hurt the fishing industry.

Section 9: Council Jurisdiction for Overlapping Fisheries

The New England and Mid-Atlantic Fishery Management Councils coordinate closely on fisheries issues. Providing Council liaisons the ability to vote will improve that coordination.

Section 13: Ensuring Consistent Fisheries Management Under Other Federal Laws

The Council supports the draft discussion language that would require fishing restrictions adopted within National Marine Sanctuaries to be adopted through the M-S Act process. This is an important and needed clarification.

The Council supports the draft discussion language that would require any fishery management restrictions needed to implement Endangered Species Act recovery plans to be adopted through the M-S Act process.

**STATEMENT OF RICHARD B. ROBINS, JR.,
CHAIRMAN, MID-ATLANTIC FISHERY MANAGEMENT COUNCIL**

Testimony on the discussion draft titled, “H.R. ____ Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act” before the U.S. House of Representatives Committee on Natural Resources

February 4, 2014

Chairman Hastings, ranking member DeFazio, and members of the Committee, thank you for the opportunity to testify before you today regarding the discussion draft titled “H.R. ____ Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act.” I am Richard B. Robins, and I serve as the Chairman of the Mid-Atlantic Fishery Management Council. The Mid-Atlantic Council has primary management authority for 12 species of fish and shellfish in federal waters off the coast of North Carolina through New York.

Through the Magnuson-Stevens Fishery Conservation and Management Act, the United States has one of the world's strongest statutory frameworks for the management of sustainable fisheries. The Act is highly effective at preventing overfishing and rebuilding overfished stocks. However, in the years since the requirements of the last reauthorization have been implemented, it has become increasingly clear that the councils need more flexibility to make decisions that are tailored to the needs and circumstances of each fishery.

I applaud the Committee's efforts to increase flexibility in the Act by addressing one of the most acute impediments to the successful management of some U.S. fisheries—the 10-year rebuilding requirement. Giving the councils flexibility to rebuild stocks as quickly as practicable, instead of on a 10-year rebuilding timeline, will allow councils to incorporate biological, ecological, social, and economic considerations more effectively into the development of rebuilding plans. I strongly believe that this change will enable the councils to achieve more meaningful and durable successes in the stock rebuilding process while promoting more productive and resilient fisheries.

Spiny dogfish is one example of a fishery that would have benefited significantly from the proposed amendment to the 10-year rebuilding requirement. The spiny dogfish rebuilding plan initially called for a 5-year rebuilding plan. This aggressive rebuilding schedule required a one-year transition to an “exit” fishery that eliminated the directed fishery in federal waters and limited catches to incidental quantities of 600 pounds per day. At the time, the fishery accounted for over 60 million pounds of landings annually and supported hundreds of predominantly small, day boats and their crews from Cape Hatteras to Maine. Spiny dogfish have a mean generation time of 35 years, so the proposed modifications to the rebuilding requirements in Section 3 of the draft would have allowed for a longer rebuilding period that would have stabilized the fishery at a lower level. This would have substantially mitigated the social and economic impacts to coastal fishing communities.

I also appreciate the addition of a provision to vest the liaisons of the New England Fishery Management Council and Mid-Atlantic Fishery Management Council with voting rights. This solution responds effectively to concerns among many Mid-Atlantic and New England stakeholders and will facilitate enhanced coordination between the two councils.

These are important provisions that, if included in the final reauthorization, will have undoubtedly positive impacts on our nation's fisheries. However, after careful review of the draft I continue to have a number of concerns. My testimony today will have two parts. First, I will briefly comment on several issues that were *not* addressed in the draft, despite being highlighted during the initial hearings. Second, I will share a number of specific concerns regarding content within the draft.

The draft does not address problematic accountability requirements in recreational fisheries. The 2006 reauthorization of the MSA introduced a new requirement for the councils to develop accountability measures (AMs) for all federally managed fisheries. While AMs have been effective management tools for some fisheries, they must be developed appropriately for recreational fisheries, relative to the available catch data. Councils need the ability to develop recreational AMs that are consistent with the precision, accuracy, and timeliness of the catch estimates, in order to manage recreational fisheries effectively. This issue is critical to the successful management of recreational fisheries. The need for more statutory flexibility in the development of recreational AMs was evidenced most recently by the Agency's partial disapproval of the Mid-Atlantic Council's Recreational Omnibus Amendment. In recreational fisheries monitored by NMFS' Marine Recreational Information Program (MRIP), the councils should be able to consider confidence intervals about the catch estimates when developing triggers for AMs.

The draft does not respond to the numerous recommendations regarding a sustainability certification for U.S. fisheries managed under the Act. In an increasingly global market, the sustainability of U.S. fisheries needs to be affirmed. Our standards for sustainable management are the strongest in the world, and an affirmation of this sustainability would be an important step to facilitate education, awareness and marketing for the benefit of U.S. fisheries.

The draft does not strengthen or clarify the Act's references regarding ecological considerations or ecosystem approaches to fisheries management. Implementing ecosystem principles in fisheries management could require fishing some individual stocks at levels above F_{MSY} temporarily, which is currently precluded by the Act. This is a statutory impediment to the implementation of ecosystem management principles, and should be resolved by allowing fishing on individual stocks at levels above F_{MSY} on a temporary basis, if those levels are within ecosystem reference points recommended by the Scientific and Statistical Committee. The draft is also silent on the management of forage fish stocks, which play an important role in the structure and function of marine ecosystems. The optimum yield (OY) definition in the current Act provides for reductions below maximum sustainable yield for ecological considerations, and the National Standard 1 guidelines include references to managing forage stocks at levels above B_{MSY} . Adequate consideration of the importance of forage stocks within regional ecosystems is an important consideration in the implementation of ecosystem principles in fisheries management and should be clarified in the Act.

The draft does not include any provisions for cost-sharing or other funding mechanisms for observer coverage, and the draft does not extend any of the section 313 provisions to councils other than the North Pacific Fishery Management Council. The draft also does not enable the other seven councils to specify observer coverage levels within their fishery management plans. Councils should have the authority to specify observer coverage levels in their FMPs. This need is reinforced by the recent disapproval by the National Marine Fisheries Service of the observer coverage requirements in Amendment 5 to the New England Fishery Management Council's Atlantic Herring Fishery Management Plan and Amendment 14 to the Mid-Atlantic Fishery Management Council's Squid, Mackerel, and Butterfish Fishery Management Plan. Councils should be able to specify required observer coverage levels within their fishery management plans. In the Northeast Region, this discretion should supersede the inflexible allocations required by the Standardized Bycatch Reporting Methodology (SBRM) omnibus amendment. The Act should also enable the Agency to use cost-sharing mechanisms, with the industry, to cover at-sea observer costs, and should have specific discretion within their appropriations, to allocate sufficient funds to meet observer coverage levels.

The reauthorization should build on the Act's strengths and enhance its flexibility, without compromising its integrity. The exemptions to the requirements in the current Act should be reviewed carefully to ensure that they would not substantially weaken the Act's ability to ensure the sustainable and effective

management of U.S. fisheries, or compromise our ability to address future challenges in fisheries management, including changing environmental conditions associated with climate change.

Several provisions in the draft reauthorization are of particular concern. These include:

- The ACL exemption for incidentally caught species,
- The exemption for rebuilding mixed-stock fisheries,
- The changes in the role of the Scientific and Statistical Committees (SSC),
- The proposed data confidentiality provisions, including the prohibition on the use of fisheries monitoring data in coastal marine spatial planning.

The draft's proposal to exempt incidentally caught species from ACLs poses several problems (reference Page 8, line 16). Some incidentally caught species are landed on a very large scale, and this exemption would exempt them from quota-based management. Monkfish is one example--most of the Northern Management Area landings of monkfish are landed under "incidental" trip limits. Other species, such as river herring, are caught incidentally but are a species of concern, and are currently being managed by catch caps in the Northeast Region. This exemption could be difficult to define and could substantially weaken the management of important fisheries resources.

This reauthorization should address the mixed-stock exception, as it relates to rebuilding requirements. The 1998 version of the NS1 guidelines allowed weak stock components within a mixed-stock fishery to be exempted from rebuilding requirements, if they were not expected to invoke protection under the Endangered Species Act. These guidelines offered inadequate protection for weak stock components, while the current NS1 guidance is overly rigid, since it does not exempt weak stocks from the statutory rebuilding requirements. The National Academy of Sciences' National Research Council devoted considerable attention to the limitations of the current mixed-stock exception in their 2013 report, and it should be enhanced in this reauthorization. The draft proposes to exempt weak stock components from rebuilding requirements if they would result in significant economic consequences. This exemption attempts to address the NRC's conclusions, but results in a wholesale exemption from the rebuilding requirements. The NRC also suggested focusing on maintaining F rates, rather than focusing on fixed rebuilding schedules. Perhaps these concepts can come together in the mixed-stock exception, by exempting weak stocks from a fixed rebuilding requirement, but requiring the maintenance of an appropriate F rate on the weak stock. This would ensure more biological protection than the proposed solution in the draft, and would give councils more flexibility to mitigate the social and economic impacts associated with the application of the current NS1 guidelines to the more productive stocks in the complex.

The draft proposes to substantially change the role of the SSC, by modifying the ACL ceiling from the SSC's fishing level recommendation to their overfishing level recommendation (Page 9, line 3.) For councils that have a risk policy, the buffer between the overfishing level (OFL) and the SSC's acceptable biological catch (ABC) recommendation, is determined by applying the Council's risk policy to the OFL, in fisheries with stock assessments that produce biological reference points. All but one of the councils have risk policies or ABC control rules. In fisheries with adequate assessments, the councils ultimately determine the relationship between ABC and OFL through their risk policy. In data-poor stocks that do not have assessment-based reference points, the SSCs use ad hoc methods to determine ABC, and the councils generally have less control over the buffer. Since the OFL is determined in the stock assessment and peer review process, this change would marginalize the role of the SSC, and sets up a potential conflict with National Standard 2.

The SSC's responsibilities, which include providing the councils with advice on ABC, do not change in the draft. Consequently, the SSC would still be providing the councils with ABC and OFL, and a

certification that their advice represents the best available science. If the Council subsequently set an ACL above the ABC, it would create a tension with the National Standard 2 requirements of the Act.

The greatest need for flexibility on this issue is on data-poor stocks, rather than on stocks that are adequately assessed. Councils should have more discretion in establishing ACLs on data-poor stocks that do not have assessment-based reference points, or in cases where the SSC invalidates the reference points. This issue should be addressed in both section 302 (h)(6) and section 302 (g)(B) to avoid conflicts relative to National Standard 2 in the management of data-poor stocks.

With respect to the data confidentiality section of the draft, the Act should safeguard the identity of individuals while ensuring informed decision-making by the councils and the Agency. Section 8 of the draft does not adequately advance the ability of the councils to make informed decisions. Furthermore, the prohibition on the use of fisheries monitoring data for purposes of coastal marine spatial planning would significantly disadvantage U.S. fisheries in the future. Marine spatial planning is a multi-sectoral, data driven process. The Mid-Atlantic region of the U.S. is expected to experience significant development of offshore wind energy. Preserving access to these important fisheries will depend on adequate fisheries monitoring data, and incorporating this data in data portals as the wind energy siting process moves forward. This issue will be among our most important challenges in the future on the East Coast, and the Act should put the regional councils and U.S. fisheries in a strong and effective position.

To the extent that electronic monitoring is intended to monitor interactions with public, U.S. fisheries resources, it should be available for law enforcement purposes. Fisheries monitoring data (e.g. VMS data) should also be available to the U.S. Coast Guard for search-and-rescue operations to promote safety at sea.

The transparency requirements proposed in Section 6 would benefit from additional review. Transparency is an important aspect of the Council process, and we have undertaken important efforts to webcast our Council meetings, which facilitates enhanced access and transparency. The proposal to require video broadcasting of the meetings would require additional resources and would not add significantly to the transparency of the process. Similarly, the proposed requirement for written transcripts would add considerable costs without providing additional resources. Audio archives of our Council meetings are already available on our website and should satisfy these concerns.

Section 7 proposes to extend the referendum requirements for new catch share programs beyond the Gulf and New England councils. Referenda may be appropriate in certain circumstances, but may not result in the most effective management of fisheries in other situations. Many East Coast fisheries have been through a period of overexploitation and stock depletion that were preceded and accompanied by open access and oversubscription. If the referendum requirement is extended to other jurisdictions, the councils should have flexibility in determining eligibility and voting details. I recognize that major fisheries reforms require broad support, and we have made stakeholder engagement a hallmark of our Council's management philosophy and programs. Our Council has a solid track record of evaluating catch shares objectively and pragmatically, as one option among many in the management of fisheries, and we have not adopted catch shares in the large majority of our fisheries.

I appreciate the Committee's efforts to make resources available for cooperative research priorities in Section 8(e) through the use of the Asset Forfeiture Fund, and in Section 10, through Saltonstall-Kennedy (SK) funds. I would suggest making a portion of the SK funds available to all of the regions to support cooperative research priorities identified by the councils. I would also suggest including the Northeast Area Monitoring and Assessment Program (NEAMAP) in your definition of eligible research programs in both of these sections.

The reauthorization also presents an important opportunity to enhance the coordination between the Act and other federal statutes; notably, the National Environmental Policy Act, the Endangered Species Act, and the National Marine Sanctuaries Act. The references to these coordination opportunities in the draft discussion document would benefit from additional discussion by the regional councils, and I look forward to providing additional information on these important references following the upcoming meeting of the Council Coordination Committee (CCC).

I have included below additional comments that focus on specific details within the draft in the attached appendix. I appreciate the complexity of the reauthorization before the Committee and sincerely appreciate the opportunity to testify before you.

DETAILED COMMENTS ON “H.R. _____ STRENGTHENING FISHING COMMUNITIES AND INCREASING FLEXIBILITY IN FISHERIES MANAGEMENT ACT”

	<i>Description</i>	<i>Comments</i>
SEC. 3	FLEXIBILITY IN REBUILDING FISH STOCKS.	
Page 2, Line 13	In the management of “highly dynamic fisheries,” the Council could phase-in the rebuilding plan over a 3-year period.	“Highly dynamic fisheries” should be defined. This exemption may also benefit from some biological caveats.
Page 3, Line 17	Exemption III to the rebuilding requirements would exempt the requirement to rebuild components of a mixed-stock fishery from the T_{max} requirement if it would result in “significant economic harm to the fishery.”	“Significant” is not defined. The mixed-stock exception should be refined in this reauthorization, to strike a balance between the 1998 NS1 guidance and the current guidance, to facilitate its implementation where appropriate.
Page 3, Line 18	Exemption III to the rebuilding requirements also exempts mixed stock components from the T_{max} rebuilding requirement if that component cannot be rebuilt in that timeframe without “causing another component of the mixed-stock fishery to approach a depleted status.”	Ecosystem references in the current Act should be clarified and strengthened, particularly as they relate to OY and to the management of fisheries across trophic levels.
Page 4, Line 9	Exemption V provides an exemption to the rebuilding timeframe if the Secretary “determines that the stock has been affected by unusual events.”	“Unusual events” are not defined. councils should be able to amend rebuilding timelines if ecological conditions inhibit the recovery of the stock
Page 4, Line 18	The proposed requirement to consider “predator/prey relationships” in specifying a rebuilding timeframe does not appear to have any specific implication and would benefit from additional clarification	
Page 5, Line 7.	This proposed provision would allow the use of “alternative rebuilding strategies, including harvest control rules and fishing mortality targets.”	If such an alternative still resulted in the development of a rebuilding plan consistent with the other, proposed requirements of Section 304, this may not be problematic. However, if the control rules and fishing mortality targets are not set at levels that are expected to achieve stock rebuilding within the proposed T_{max} , subject to the other draft exemptions, then this may not result in stock rebuilding.

Page 5, Line 13.	“Depleted” appears here and is defined elsewhere in the draft as a level below the normal range of stock sizes associated with the production of MSY.	The addition of this language is welcome for stocks that are depleted as a result of factors other than fishing. The definition would benefit from additional review and discussion.
Page 5, Line 13.	The draft proposes to allow councils to terminate the application of paragraph (3), which include the requirements to end or prevent overfishing, if a Council meets one of two exemptions if the Council determines that a fishery is not depleted.	Exemption B is based on the completion of the next stock assessment. Exemption A is the end of the 2-year period following the effective date of a regulation, plan, or amendment. A stock assessment or assessment update would be essential to making the determination that the fishery is not depleted, so it may be cleaner to base this exemption just on the assessment-based determination. If an assessment update or other analytical product would satisfy this determination requirement, that should be clarified.
Page 6, Line 8.	This proposed exemption to ending overfishing would allow councils to phase-in the regulations to end overfishing over a 3-year period if chronic overfishing has not occurred and if an immediate end to overfishing would result in significant adverse economic impacts.	“Significant adverse economic impacts” are not defined. This provision could be helpful in cases where assessments produce results that are dramatically worse than previous assessments. This may have the practical effect of allowing overfishing to continue for up to 3 years in some cases. This section may benefit from some additional detail or biological caveats if this exemption goes forward.

SEC. 4 MODIFICATIONS TO THE ANNUAL CATCH LIMIT REQUIREMENT.

Page 6, Line 19	This adds language allowing councils to consider “changes in an ecosystem and the economic needs of the fishing communities” in establishing annual catch limits (ACLs).	This is vague, and it is unclear how these considerations relate to National Standard 1 and OY. Ecosystem changes that have adverse consequences for stock performance would typically result in lower yields, and may lead to lower reference points if they persist. Would this exemption allow councils to specify higher ACLs than indicated in an assessment due to ecosystem changes? If so, this would not promote the ecological sustainability of our fisheries. Similarly, could councils set ACLs higher than currently allowed in order to meet the economic needs of the fishing communities, and, if so, how does this relate to National Standard 1? We have previously testified that councils should have the flexibility to optimize rebuilding periods to more fully consider biological, ecological, and economic factors, and the draft addresses this by replacing “as short as possible” with “as short as practicable,” and by eliminating the 10-year requirement. This proposed language, beginning in line 19, should be reviewed relative to National Standard 1 and clarified.
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Page 7, Line 9	The ACL exemption for short-lived species would be extended to a stock for which “more than half of a single-year class will complete their life cycle in less than 18 months.”	We use the short-lived exemption for squid on the East Coast, but we still set quotas for those fisheries, based on SSC advice, and we still have to satisfy National Standard 2. The practical benefit of the exemption is that accountability measures (AMs) are not required on these short-lived species. The exemptions for short-lived species might be more appropriately applied as exemptions to AMs (at a minimum, they should be exempt from paybacks), since year classes are already dead before regulations could be developed and implemented.
Page 8, Line 8	ACLs may be set for a “stock complex.”	“Stock complex” is not defined in the language and the implications of this provision are unclear.
Page 8, Line 16	This section defines Ecosystem Component Species as stocks of fish that are “non-target, incidentally harvested stock of fish in a fishery, <u>or</u> (emphasis added) a non-target, incidentally harvested stock of fish that a Council or the Secretary has determined...” is not subject to overfishing or depleted.	The use of “or” in line 16 would effectively exempt all non-target, incidentally caught species from annual catch limits. Consequently, this language is problematic and would benefit from additional review and discussion.
Page 9, Line 2	This language would substantially modify the role of the SSC, by striking “fishing” and inserting “overfishing.” Whereas councils are currently required to set ACLs within the “fishing level recommendations of its scientific and statistical committee,” the draft language would require councils to set ACLs within an “overfishing” level set by the SSC.	With the exception of data-poor stocks, the current overfishing levels (OFLs) are identified in the stock assessment process. This modification would marginalize the role of the SSC, and could create a tension with NS2. The current process works well for stocks that have adequate stock assessments, and has produced more inconsistent results in the absence of reference points. We have testified in support of having more flexibility in setting ACLs on data-poor stocks. This section could also benefit from additional review and discussion.
SEC 5. DISTINGUISHING BETWEEN OVERFISHED AND DEPLETED		
Page 9, Line 22	Replacing the term “overfished” with “depleted” acknowledges that the deterioration of some stocks may result from anthropogenic and other impacts unrelated to fishing.	The proposed definition of the term “depleted” would benefit from additional review and discussion.
SEC. 6 TRANSPARENCY AND PUBLIC PROCESS FOR SCIENTIFIC AND MANAGEMENT ACTIONS.		
Page 10, Lines 15 and 20; Page 11, Line 4	This section would require live broadcast of the Council and CCC meetings, and audio/video archives of each meeting.	Transparency is an important attribute of the Council process. Audio webcasts and archives should be considered as an alternative to the proposed video requirement. Similarly, written transcripts pose a significant cost and an audio archive should be sufficient for most uses.
Page 11, Line 17	NEPA streamlining	This reauthorization is an opportunity to streamline the NEPA and Magnuson-Stevens processes.

SEC. 7 LIMITATION ON FUTURE CATCH SHARE PROGRAMS.		
Page 12, Line 12	Catch shares are defined here to include “sectors.”	This may need some revision, since “sector” is used broadly in fisheries discussions, but has a distinct use in the New England groundfish fishery. This language should be reviewed and refined.
Page 14, Line 16	This section includes a hardship provision for participation in a referendum.	This could make it impracticable to conduct a referendum. Limiting referenda to permit holders would facilitate the administration of referenda. This section should be reviewed and discussed.
Page 15, line 2	This section would preclude the use of catch shares in any Secretari ally managed fisheries unless first petitioned by a majority of those eligible to participate in the fishery.	This requirement is burdensome and would diminish the role of the HMS AP in the development of plan amendments.
SEC. 8. DATA COLLECTION AND DATA CONFIDENTIALITY.		
Page 16, line 6	This language would not authorize use of electronic monitoring for law enforcement.	If electronic monitoring is in use to monitor interactions with public fishery resources, they should be available to law enforcement.
Page 16, line 21	This section would allow councils to develop plans to substitute electronic monitoring for human observers, if it will “provide the same level of coverage as a human observer.”	This may be impracticable or impossible, depending on the nature of the fishery and the details of the vessel. This requirement should be reviewed and revised to facilitate and encourage the development and use of electronic monitoring.
Page 18, Line 1	Confidentiality provisions	The confidentiality protections should allow for reasonable use of fisheries data by councils in making management decisions, and by stock assessment scientists, without identifying individual vessels or operators. Limiting the use to Council employees may prevent councils from making informed decisions regarding important issues. That was the case when our Council made allocations to tiers in the Tilefish fishery. The tiers were based on history, but we did not know what the allocations were. This section should be amended to improve decision making.
Page 21, Line 14	This would prevent the Secretary from providing fisheries monitoring data to any person for the purposes of coastal and marine spatial planning under Executive Order 13547.	This would severely disadvantage U.S. fisheries in the ocean planning process and should be deleted. Ocean planning is a multi-sectoral, data-driven process, and the best defense of traditional fisheries uses of the ocean will depend on effective data collection and interpretation.
Page 23, line 4	This would allow the Secretary to use law enforcement proceeds within regions for fisheries science. At line 4, it states “subject to appropriations.”	Since this section provides for the use of law enforcement penalties, is it necessary to make it subject to appropriations?

SEC. 9 COUNCIL JURISDICTION FOR OVERLAPPING FISHERIES.

<p>Page 26, line 1</p>	<p>This section would prioritize Saltonstall-Kennedy (SK) funds for Gulf of Mexico Cooperative Research and Red Snapper Management.</p>	<p>This same model could be used around the nation to address data-poor fisheries, and would benefit from broader discussion. Some portion of the SK funds should be made available to all of the regions to support cooperative research.</p>
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Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901-3910
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

April 30, 2014

The Honorable Doc Hastings
United States House of Representatives
1203 Longworth House Office Building
Washington, D.C. 20515-4704

Subject: MAFMC Comments on Magnuson-Stevens Act Reauthorization Discussion Draft

Dear Chairman Hastings:

The Mid-Atlantic Fishery Management Council ("The Council") appreciates the opportunity to comment on the Magnuson-Stevens Fishery Conservation and Management Act discussion draft released by the Natural Resource Committee in December 2013¹. The following comments are based on discussion of the draft by the Council's Executive Committee and subsequent review by the full Council at its most recent meeting. These comments are intended to convey the points of general Council agreement, but they do not necessarily reflect the perspectives of all members.

MAFMC Comments on MSA Reauthorization Discussion Draft

It is the position of the Mid-Atlantic Fishery Management Council that the Act has been highly effective at preventing overfishing and rebuilding overfished stocks and that the current version of the MSA provides a strong framework for successful fisheries management. However, we recognize that some aspects of the law could be improved. In some cases, overly prescriptive management requirements have limited the fishery management councils' flexibility to mitigate adverse social and economic impacts, resulting in losses of productivity and unnecessary instability for fishing communities. Some of these issues can be addressed with careful, targeted changes to the law, but we urge you to undertake these changes carefully so as not to compromise the integrity or ambition of the U.S. fishery management standards.

Section 3: Flexibility in rebuilding fish stocks.

In general, we support the draft's stated aim to provide flexibility for fishery managers and stability for fishermen, but we recommend the addition of a more explicit definition and explanation of statutory flexibility. Clarification on this matter would enable us to provide more specific comments about the provisions of the bill.

Rebuilding Timeframe

We support the replacement of the ten-year rebuilding time requirement with a biologically-derived time requirement. This change addresses one of the most acute impediments to successful management

¹ H.R. _____. *Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act*, 113th Cong. (2013)

of some U.S. fisheries, and we believe it will result in a more even application of the law across fisheries. Elimination of the arbitrary 10-year rebuilding requirement will allow us to incorporate biological, ecological, social, and economic considerations more effectively into the development of rebuilding plans.

We feel it is also important note that the statutory deadlines and rebuilding requirements have benefitted mid-Atlantic stocks, even when those deadlines have resulted in adverse impacts for fishing communities. Social and economic consequences are often an inevitable part of rebuilding fisheries to sustainable levels, and it is impractical to assume that stock rebuilding can be achieved without any impacts.

Highly dynamic fisheries

Section 3 proposes to allow rebuilding plans to be phased in over a 3-year period for highly dynamic fisheries. In the absence of a definition for "highly dynamic fishery," we cannot comment on this measure, although we do have some concerns about its potential for abuse. While the majority of Council members have indicated that they endorse greater flexibility in rebuilding timeframes, many have also expressed concern that this exemption would allow for a protracted period of overfishing. We recommend that it be revised to include a definition for "highly dynamic fisheries" and additional details about how the exemption would be applied.

Exemptions to rebuilding requirements

Although we are not categorically opposed to exempting certain fisheries and circumstances from rebuilding requirements, we are concerned that the proposed exemptions are too far-reaching and that they lack sufficient detail to be implemented consistently. The proposed exemptions, as written in the current draft, could be used to justify continued overfishing in nearly any U.S. fishery. We are also concerned that the draft does not define an alternative management response that would be required in place of a rebuilding plan. We recommend that the language in this section be clarified and that the exemptions be more clearly defined to limit their potential for misuse.

Alternative Rebuilding Strategies

We cautiously support the draft's allowance of "alternative rebuilding strategies, including harvest control rules and fishing mortality targets," but we request that this section be expanded to provide clarification regarding the purpose and application of this provision. Alternative strategies still need to be evaluated for their potential to successfully rebuild a stock.

Mixed Stock Exception

We support an improved mixed stock exception, but we recommend that the exception be crafted in a manner that ensures adequate protection for weak stocks within a mixed stock fishery, to ensure their long term sustainability.

Termination of Rebuilding Plans

We believe that stock status determination should be based on stock assessment but that a stock's status should not preclude councils from continuing to manage toward target stock size. This section could be clarified by providing explanation of how the council might determine that a stock's status had changed in the absence of a stock assessment.

Emergency Measures

We support the proposed language which would extend the duration of emergency measures from 180 days to 1 year, with the possibility of an additional 1 year extension. The current emergency action schedule was established in original act, and an extension of this schedule is appropriate given the additional process requirements that have been added since then.

Section 4: Modifications to the annual catch limit requirement.

ACL Exemptions and Requirements

Council members had mixed positions on the proposed exemptions from ACL requirements. Roughly one third of members supported the exemption for ecosystem component species, whereas two thirds supported an exemption for short-lived species, and half supported exempting stocks for which more than half of a single-year class will complete their life cycle in less than 18 months and fishing mortality will have little impact on the stock. Overall, this section would benefit from clarification about the rationale for these exemptions. We strongly support the proposed language which would authorize the use of multi-year specifications.

Annual Catch Limit Cap

We do not support the proposed language in Section 4(b) which would allow the Allowable Biological Catch (ABC) limit to be set up to the Overfishing Limit (OFL). This change would significantly undermine our current process which accounts for scientific uncertainty and establishes a clear connection between ABC and OFL in assessed stocks based on a harvest control rule.

Section 5: Distinguishing between overfished and depleted.

We support the proposal to replace the term *overfished* with the term *depleted* but request that this section be expanded to provide the councils with a more explicit definition of *depleted* and clearer guidance on how to incorporate this change into the existing requirements of the Act. Several members have noted that although they support the use of the word "depleted" instead of "overfished," they don't think this should affect the requirement to rebuild the fishery to sustainable levels. We also support any measures that allow for distinction between causes of depletion, provided that this distinction does not affect the requirement to rebuild the fisheries in question

Section 6: Transparency and public process for scientific and management actions.

Meetings

Providing a transparent and open public process is of utmost importance to the Council. We are constantly striving to improve the ways we communicate with stakeholders, as evidenced by the continued development of our communication and outreach program. However, we cannot offer an across-the-board endorsement of the proposed language in Section 6(b). These requirements are overly prescriptive, impracticable, costly, and would hinder the councils' abilities to tailor their communication strategies to meet the needs of their stakeholders.

We encourage you to review the methods already being employed by each council and consider both the need for, and feasibility of, the requirements proposed in the discussion draft. For example, each meeting of the Mid-Atlantic Fishery Management Council is open to the public and available online via live webinar. These webinars are recorded and posted on our website for later viewing. We make briefing materials and presentations available prior to the meeting and post detailed meeting summaries, meeting motions, and additional follow-up items promptly after the meeting. SSC meetings are also

open to the public, and audio recordings are available upon request. Briefing documents are available online prior to SSC meetings, and detailed meeting summaries are posted afterward. We are currently exploring the feasibility of providing webinar access to SSC meetings.

We specifically suggest considering the following requirements to enhance and ensure public access and transparency in Council and SSC meetings: live webinar broadcasts, online briefing materials, online meeting summaries, and online audio archives. The live broadcast requirement should be subject to a venue's technical capacity, to ensure that communities are not disqualified as potential meeting venues due to bandwidth or technical limitations.

Compliance with National Environmental Policy Act of 1969

The Council has long been a vocal advocate for streamlining the implementation of NEPA in the fishery management process, but we cannot endorse the proposed language in Section 6(c)(1), which would essentially eliminate, or significantly reduce, the role of NEPA in the fishery management process. We feel that there are many opportunities to streamline the fishery management process and enhance coordination between MSA, NEPA, and other statutes without eliminating or reducing the role of NEPA. While we strongly support efforts to address the interaction of the MSA with other federal statutes, we recommend that the specific provisions in Section 6(c)(1) be reconsidered.

Section 7: Limitation on Future Catch share programs.

The Council does not have a position on the potential requirement that new catch share programs be approved by a majority of eligible permit holders in a referendum. However, if this requirement is included in the final reauthorization, we recommend that the councils be given significant control to determine how the referendum program is developed and implemented.

Section 9: Council jurisdiction for overlapping fisheries.

We support the proposed language in Section 9 which would allow a liaison from the Mid-Atlantic and New England Councils to vote on the other Council. This section would benefit from additional clarification specifying that the liaison will be a member of the respective Council, designated by the Chairman of that Council.

Additional Comments

A number of important issues were not addressed in the discussion draft, despite being mentioned on several occasions during committee hearings. We encourage you to consider addressing these as part of the reauthorization process:

Forage Fisheries

The draft is also silent on the management of forage fish stocks, which play an important role in the structure and function of marine ecosystems. The optimum yield (OY) definition in the current Act provides for reductions below maximum sustainable yield for ecological considerations, and the National Standard 1 guidelines include references to managing forage stocks at levels above BMSY. Adequate consideration of the importance of forage stocks within regional ecosystems is an important consideration in the implementation of ecosystem principles in fisheries management and should be included in the Act.

Allocation Reviews

The majority of Council members support a requirement to review allocations periodically.

Sustainable Seafood Certification

In an increasingly global market, the sustainability of U.S. fisheries needs to be affirmed. Our standards for sustainable management are the strongest in the world, and an affirmation of this sustainability would be an important step to facilitate education, awareness and marketing for the benefit of U.S. fisheries. We believe there are many ways that a certification or branding program could be implemented without exorbitant cost or staffing requirements, and should be provided for in the reauthorization.

Highly Migratory Species

We recommend that the draft be revised to include measures that would improve the transparency and consistency of management for highly migratory species. There are several ways this could be accomplished. We would strongly support establishment of an independent Scientific and Statistical Committee (SSC) to provide scientific advice for HMS management. We also recommend that the reauthorized MSA require that a study be conducted to evaluate the potential benefits of establishing a HMS Council for the purposes of HMS management in the Atlantic, Gulf, and Caribbean regions.

Thank you again for the opportunity to comment on this draft legislation. Please don't hesitate to contact me if you have any questions or would like clarification on any of the comments above. We appreciate your continued interest in our perspective and look forward to future involvement in the MSA reauthorization process.

Sincerely,

Richard B. Robins, Jr.
Chairman, Mid-Atlantic Fishery Management Council

Cc: Dr. Christopher M. Moore
Mid-Atlantic Fishery Management Council Members
Council Coordination Committee Members
Mr. Dave Whaley
Mr. Jeff Lewis
Ms. Eileen Sobeck

Testimony of Mr. Ben C Hartig, Chairman

South Atlantic Fishery Management Council

Southeast Regional Perspectives on Magnuson-Stevens Act Reauthorization

Before

U.S. Senate Committee on Commerce, Science and Transportation

Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard

Chairman Begich, members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the South Atlantic perspective regarding the Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSA or Act). My name is Ben Hartig; I am the commercial representative from the State of Florida and current Chairman of the South Atlantic Council. I am also a full time commercial fisherman, fishing off the Southeast coast of Florida for over 36 years. We have addressed the questions posed and have provided the information Chairman Rockefeller requested in our written testimony.

I would like to take this opportunity to thank both the House and Senate for dedicating time and resources for the exhaustive review regarding the successes and challenges of the 2006 MSA Reauthorization. I felt strongly enough about the severe economic consequences experienced by both recreational and commercial fishermen in the South Atlantic that I attended both of the fishermen's rallies that occurred several years ago. My hope was that a fair hearing of the problems experienced by fishermen due to the 2006 Reauthorization would be held. While the timeliness can be questioned, the number of hearings, the caliber and diversity of the witnesses and the commissioning of the National Research Council (NRC) study has exceeded my expectations.

It is important to realize that not all of the successes in the South Atlantic in ending overfishing and rebuilding stocks should be attributed to the 2006 Reauthorization; some of our successful rebuilding efforts that are paying dividends today were implemented prior to the reauthorization's legal mandates (e.g., black sea bass, king mackerel, Spanish mackerel). However, there is no question that the current Reauthorization is working for the fish. Overfishing has ceased for most of our assessed species; stocks are ahead of or meeting their rebuilding timeframes in most cases and fishermen are seeing population increases in size and abundance for some species that have not been observed in a decade or more. Red snapper is a prime example yet the fishery is still essentially closed. We were only able to allow two 3-day seasons last year and 1 3-day season this year for the recreational sector while the commercial fishery was limited to 50 and 75 pound bycatch trip limits with low commercial Annual Catch Levels (ACLs), that closed harvest when the allocation was met. Even though the seasons were short, a significant portion of the landings of both recreational and commercial fisheries was sampled by an unprecedented state, federal and public cooperative effort. Those efforts are vitally important for the next stock assessment.

The South Atlantic Council has identified five areas we propose be addressed in the current reauthorization:

- 1) Flexibility in ending Overfishing.
- 2) Flexibility in Rebuilding Overfished Stocks.
- 3) Define Overfishing on the Basis of the Recruitment Overfishing Level and not MSY.
- 4) Restrictions on Applying Harvest Moratoriums.
- 5) Maximum Sustainable Yield (MSY) Specification for Stock Complexes.

We've established that the 2006 Reauthorization is working for the fish, but what about the fishermen? Consideration of the "human element" of fisheries management has all but disappeared since the 2006 Reauthorization and must be reintroduced back into the management process. One example is that National Standard 1 (NS 1) trumps National Standard 8 (NS 8), and social and economic considerations are no longer allowed in the context on ending overfishing and rebuilding timelines. Qualitative changes in stock abundance are no longer relevant, anecdotal observations from fishermen no longer considered and the Council has been completely removed from the Allowable Biological Catch (ABC) selection process once the ABC control rule is established. *{ NS 1: Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. NS 8: Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities}.*

Some balance needs to be restored between the needs of the fish and the needs of the fishermen. In the South Atlantic, it is not the rebuilding timelines that are causing the problems but the requirement to end overfishing immediately and the Fmsy basis of the overfishing definition. The Act should be amended to allow the Council latitude to phase in the reductions to end overfishing over a longer timeframe and to recognize that overfishing has multiple biological definitions. Our South Carolina State Representative, Mel Bell offered a great medical analogy that speaks to this issue: "The current system is designed in such a way that if we were talking about a prescribed treatment for a patient diagnosed with a serious disease the focus now seems to be on the timing of recovery regardless of any serious side effects of the treatment. If the patient can be placed on a demonstrable road to recovery in such a way that minimizes or balances potential dangerous side effects, costs and risks, that would make more sense. It's a matter of balancing the need for specific timing in the declaration of recovery/cure and the possibility of some very serious complications from the chosen prescribed treatment and recovery rate. The mandate should be to get on and stay on the road to recovery rather than to insist that it must be completed in "X" years for every fishery in need".

The South Atlantic Council has actually used the approach of phasing in reductions necessary to end overfishing over a three year period for two of our important species black sea bass and snowy grouper. Both species were assessed this year. Black sea bass is completely rebuilt within the rebuilding schedule and the ABC was doubled; for snowy grouper overfishing is no longer occurring and while still

overfished, it is 10 years ahead of its rebuilding schedule. The phasing in of catch restrictions allowed fishermen time to adjust their business plans to the catch reductions reducing the social and economic impacts that occur with the current situation of ending overfishing immediately. The South Atlantic Council believes that this is strong evidence to support the consideration of longer timeframes to end overfishing. It is important to note that the phase-in periods used in these examples included significant reductions in harvest and fishing mortality; the delay was simply in achieving a mortality rate below the F_{msy} level, the overfishing definition prescribed by the MSA. On the basis of other important biological measures, such as recruitment overfishing and measures of spawning potential, there was considerably less delay in ending overfishing.

That raises the question of just what is meant by overfishing. In reality there are various definitions of overfishing. For example, recruitment and growth overfishing are basic measures that can be readily estimated for most stocks. Of these, recruitment overfishing is the most damaging to sustainability, as exceeding this level jeopardizes the ability of a stock to replace itself. At the other extreme is growth overfishing, where there is no risk to sustainability but a loss of potential harvest to the users. Maximum Sustainable Yield combines concepts of both the basics of recruitment and growth overfishing, and usually lies somewhere between these extremes. Unfortunately, Maximum Sustainable Yield is very difficult to estimate for fish populations. Another issue with MSY lies in the way constituents typically perceive overfishing. Non-scientists tend to recognize overfishing in the recruitment sense, since when they encounter fewer fish they recognize a problem in the population. They will often support some level of regulation to reverse such situations, but have difficulty understanding the need for the more severe regulations necessary to end MSY-based overfishing.

Overfishing based on MSY standards has been and continues to be a problem in the South Atlantic for a number of reasons. Early assessments for snapper/grouper species were much simpler and less scientifically rigorous than statistical catch at age models currently used. As a result, they could not provide estimates of MSY so alternatives were chosen for evaluating overfishing. These alternatives were typically based on preventing recruitment overfishing to ensure sustainability. The new generation of stock assessment scientists or “mathemagicians”, which I do not use as a disparaging term but a compliment, are able to do so much more with so little data. This has resulted in estimates of MSY for more stocks, but in many cases these MSY levels allow much less fishing pressure than the earlier measures. In addition, while we have received results from stock assessments including analysis with less than optimal data, there are costs associated with those results in the form of “data uncertainty”. This has to be quantified in the assessment and the impacts come in the form of lower catch estimates and it is the fishermen that pay a high price for not having adequate data. Virtually every first-time assessment done by these new analysts for species in the snapper/grouper complex indicates overfishing is occurring or approaching overfishing, or the stock is overfished or both stock conditions exist.

An example of a recent first time assessment is blueline tilefish. The results from that assessment indicate that overfishing is occurring and the stock is precariously close to becoming overfished. To end overfishing immediately the Council needs to reduce landings by 68% based on the current Act. That’s a tough pill for our recreational and commercial fishermen to swallow. The social and economic impacts

could be substantially reduced by allowing overfishing reductions to be phased in over a longer time period. The Council is planning on using emergency action to implement the necessary reductions at the December meeting.

Another problem the Council faced in the past was setting quotas in declining fisheries. The Council would set an ABC from a simplistic assessment expecting the stock to rebuild. By the time the stock was assessed again the landings continued to decline and a new lower quota was implemented. Chasing declining fisheries was a problem until the new generation of stock assessment scientists arrived with the implementation of the Southeast Data and Assessment Review in 2002. This is a stock assessment process developed to improve the quality and reliability of stock assessments in the Southeast. The Council has been diligent in implementing scientific stock assessment recommendations over the years and in the case of greater amberjack enacted more restrictive regulations than the assessment indicated were needed based on fishermen's perspectives of stock condition. The regulations worked and by the time the greater amberjack stock was assessed for the first time by the new generation of stock assessment scientists the fishery was in a sustainable condition.

Data/Research/Assessment Process

The 2006 MSA Reauthorization was predicated on having the necessary data, research and assessment processes in place and operating. This is simply not the case in the Southeast:

- ACL monitoring – still having difficulty tracking commercial landings in a timely manner and recreational landings continue to be a challenge. This results in continued ACL overages.
- Biological samples – insufficient fish sampled for length, otoliths for aging and reproductive condition. Staff resources to read otoliths and process the reproductive samples are severely limited. This results in more uncertainty in stock assessment results.
- Assessments –not enough stock assessments in a timely manner. This results in delays to increases and/or decreases that may be necessary in management limits and regulations.

A potential solution to ACL monitoring would be to fully implement ACCSP Quota Monitoring in the Southeast based on state landings as is done from North Carolina northwards. Additional funding should be provided to the states to collect biological samples and improve their monitoring of commercial and recreational landings.

Flexibility in Rebuilding Overfished Stocks

- Current rebuilding requirements include an arbitrary time period of 10 years and a science-based alternative incorporating productivity.
- Nonsensical outcomes result when stocks approach the mandatory 10-year limit under the unrealistic moratorium terms. A moratorium is required if a stock can rebuild in 10 years with no fishing. If the same stock were just a little worse off to start, such that it would take 11 years to rebuild with a moratorium, that rebuilding time would become 11 years plus a generation. Thus,

if a stock gets a little worse off before the need for rebuilding is recognized, the rebuilding plan can be much more liberal and tolerable to fishermen.

- The 10-year rebuilding timeframe does not treat all stocks with varying life histories fairly and adequately. Short-lived stocks can experience several generations in that time, while long-lived stocks may only experience a small portion of a generation.
- Single stock moratoriums in a multi-stock fishery are impractical, unrealistic and result in unnecessary impacts on healthy stocks in the complex.

The South Atlantic Council recommends that the rebuilding time requirement be simplified, by eliminating the arbitrary 10 year requirement and using the current biologically based rebuilding period alternative of Fishing Mortality (F)=0 + 1 generation time for all situations.

FMSY is a Good Target but a Bad Limit

Fmsy is defined as the fishing mortality rate that would, in theory, give the Maximum Sustainable Yield (MSY) from a particular stock year after year.

- Estimating maximum sustainable yield, and the exploitation rate that provides it, is difficult
- The true danger to a fish stock comes when exploitation exceeds the recruitment overfishing level. (Recruitment overfishing is the rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. It is characterized by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch, and generally very low recruitment year after year.)
- Fishermen perceive or relate to overfishing at the recruitment overfishing level, and are often willing to give up some yield of one stock to preserve access to a broader, multi-species resource. Problems arise, however, when they are forced to endure the very low exploitation rates that are often necessary to achieve MSY on long-lived, slow-growing stocks.
- Stocks rebuild when fishing mortality is reduced below the recruitment overfishing level and recruitment improves even if the exploitation rate is above Fmsy.
- It is unlikely that each stock in a complex can be at MSY simultaneously, despite the best intentions of fishery managers. Even if that were possible, we simply do not know what that MSY level would be. Our best assessments struggle to provide robust estimates of MSY for a single species, but much less so when the interactions between species are considered and addressed.
- The South Atlantic Council's solution would be to amend the Act to set Maximum Fishing Mortality Threshold at the recruitment overfishing level.
- This will allow managers to balance foregone yield (growth overfishing) against social, economic and ecosystem concerns when establishing exploitation targets and preventing overfishing.

Impose Restrictions on Applying Harvest Moratoriums

- Single-species moratoriums in a multi-species complex are impractical, unrealistic and result in unnecessary impacts on healthy stocks (e.g., high level of discards).

- Implementing measures to immediately end overfishing on a single component stock of a complex has undesirable adverse impacts on other species in the complex.
- Moratoriums should be limited to extreme cases where a fishery has not responded to management, and should not be considered in the first effort to recover a newly recognized overfished stock.
- Complete harvest moratoriums should not be implemented if resources are not available to monitor the population when fishery- dependent data are lost due to regulations.
- Due to a lack of adequate fishery- independent monitoring and fishery observer coverage, the South Atlantic Council is faced with no means to remove harvest moratoriums on 4 stocks that cannot be assessed because those harvest moratoriums eliminated the only available data source.

Red snapper is a case where an existing rebuilding plan demonstrated evidence of stock improvement under existing regulations. In fact, recreational and commercial fishermen were experiencing increases in size and abundance that had not been seen in a decade or more. The 2010 assessment verified, in part, the observations of the fishermen that a large year class had entered the fishery. That large year class was the direct result of management regulations that had been in place prior to the moratorium. While those prior regulations were not enough to end overfishing as based on MSY, they were obviously adequate to allow the stock to 'turn the corner' toward recovery, show a gradual increase in spawner abundance, and produce the best year class on record. Although the 2010 assessment alleviate the need for the Council to close large areas to all fishing, it still indicated a very low catch level was needed to end overfishing immediately. Management evaluations indicated that the very low allowable catch would be consumed by the discard losses of red snapper encountered as bycatch as fishermen pursued other species in the complex. Consequently the Council had no choice but to impose a harvest moratorium on red snapper. It has been impossible to convince fishermen that a moratorium was needed when they were experiencing the best red snapper fishing in decades. Particularly, it was difficult to convince them of the inadequacy of the previous regulations that were, to them, responsible for the improvements in stock abundance readily apparent to all. Those regulations reduced fishing mortality, likely ended recruitment overfishing, but fell short of preventing MSY-based overfishing, at least based on the current estimates of abundance and productivity.

Due to this separation between what fishermen are seeing and the regulations the Council is forced to implement in an effort to apply MSY concepts to a poorly sampled multi-species complex, the Council has lost all credibility in a large portion of its jurisdiction. That credibility was hard won and had come primarily from examples in king and Spanish mackerel management. In the mid- 1980s the Council had faced similar circumstances with regard to the king and Spanish mackerel fisheries. These fisheries represent the largest single species landings that the Council manages (Spanish and king mackerel ABCs 6.063 and 10.46 million pounds, respectively). Prior to the 1980's, king and Spanish mackerel catches were essentially unregulated. The fishery was sustainable throughout most of its history (there are commercial landings going back to the late 1800s for Spanish mackerel) primarily, as a commercial gillnet fishery with a substantial recreational component. Due to their migratory nature, both king and Spanish mackerel are available during some portion of the year to all fishermen in the South Atlantic. In

the summer they can be found as far north as Maine and support important fisheries north of the Council's jurisdiction.

Introduction of airplane reconnaissance and large power-assisted run-around gillnets in the commercial sector in 1970s took advantage of the tight over-wintering schooling behavior exhibited off Florida and greatly increased catches. Harvests by both recreational and commercial fisheries in the 1970s and early 1980s exceeded reproductive capacity and led to overfishing. The South Atlantic Council developed a plan to end overfishing and federal regulations were implemented in 1983 to control harvest and rebuild depleted stocks of both king and Spanish mackerel. Management measures developed by the Council for Atlantic migratory group king and Spanish mackerel were very successful in rebuilding stocks, while at the same time the mackerel fisheries remained viable for both recreational and commercial fishermen. Both of these stocks were rebuilt within one generation and neither fishery was placed under a moratorium. The commercial fisheries were closed when the restrictive quotas were met and the recreational fishery remained open under restrictive bag limits. Current assessments indicate both stocks remain healthy and the Spanish mackerel biomass is substantially above MSY.

The mackerel management history indicates that the current red snapper moratorium could and should have been avoided. Some may argue that red snapper is a reef fish and not comparable biologically to the mackerels, when in fact their biological characteristics are very similar. Mackerel are fast growing and mature early. We have documented 4-year old red snapper weighing 17 pounds, which is actually faster growing than the mackerels, and red snapper are mature at age 2, somewhat faster than king and about the same as Spanish mackerel. The significant difference between red snapper and mackerels is the maximum age; red snapper can live into their 50s while most mackerels live half as long.

Prior to the 2006 MSA Reauthorization, the Council could have developed regulations to phase out overfishing over several years, similar to what was done for black sea bass and snowy grouper, by imposing significant reductions in mortality to end recruitment overfishing and continue rebuilding, and in doing so balance the needs of the stock with those of the fishery. It is no longer possible to end recruitment overfishing and allow stocks to begin recovery, while possibly allowing some growth overfishing to continue as a means to potentially offset severe social and economic consequences. As previously mentioned, public faith in the Council process has declined considerably as the red snapper closure has dragged on, and confidence in the management system remains low today.

There is also the question of missed opportunities that sometimes arise when severe management restrictions are needed. Instead of a moratorium the Council, before the 2006 Reauthorization, could have implemented the significant reductions in mortality to end recruitment overfishing and continue rebuilding, designated an MPA in the heart of the red snapper fishery as an insurance policy that would have protected a portion of that large year class as well contributing the same protections to a myriad of other species, and closed the fishery during the spawning months as red snapper form significant spawning aggregations. Those options would have been much more palatable to the public in the context of a complete closure. Furthermore, the fishery-dependent data stream critical to the last assessment would have continued allowing the next assessment to be done 2-3 years earlier than

waiting on the new fishery- independent survey to be developed and have a time series long enough to discern population differences.

Allow MSY Specification for Stock Complexes

- Mixed-species fisheries cannot be adequately managed by simplistic application of single-stock principles such as MSY.
- Stocks in a complex will vary in abundance over time and it is impossible for all to be at high abundances at the same time.
- We lack both the ecosystem and fishery data necessary to attempt to estimate multi-species MSY levels for species complexes.
- Desired fishery yield should be specified for overall complexes, while allowing individual stocks within the complex to experience normal variability in abundance from year to year.
- The South Atlantic Council asks that the challenges of managing multi-species fisheries be acknowledged, and that the Act remove the expectation that all stocks can be managed at MSY at the same time.

Do not Require ACLs for Unassessed Stocks

- Basing ACLs for unassessed stocks on a quantitative portion of historical landings under the guise of the precautionary principle results in bogus ACLs with scant scientific basis.
- ACLs derived from catch may be artificially low, decreasing fishery yield, or too high, posing risk to the stock.

Neither scientists nor managers can make informed recommendations without legitimate assessments because historical landings are uninformative for estimating stock abundance.

Challenges

The Snapper/Grouper fishery in the South Atlantic poses the most significant challenges for the Council. The Coastal Migratory Pelagic Fisheries have been on autopilot since the late 1990s (king mackerel showing lower recruitment recently but the assessment begins in December of this year) and the dolphin and wahoo fisheries are cruising along without any major concerns. But the dolphin (Mahi Mahi) fishery has raised discussion in the context of fisheries that exist almost as annual crops but not quite. Ninety-seven percent of the dolphin are caught at age 1 and they only live to 4 years of age. If there could be some clarification if a species with these biological traits could be considered an annual crop that would be helpful.

The Snapper/Grouper fishery is composed of 60 species with varying life history characteristics, catchability and depth preferences.

Examples of stated problems from independent reviewers as part of the NOAA Data Review of the SEFSC

Data currently used in assessments, for most of our assessed species, are deficient in both quality and quantity for producing robust assessments. One of the reviewers from the Data Review for Gulf, South

Atlantic and Caribbean Councils conducted by the Southeast Fisheries Center (SEFSC) this past summer indicated that: “In general, sample sizes for age information, in both commercial and recreational fisheries, in all southeast regions, are smaller than what would be optimal for age-structured assessments of even the primary species. In some cases, they are truly limiting the SEFSC’s ability to conduct age-based assessments. One major concern that needs to be addressed is the minimum sample sizes needed to represent the age distribution in the catch in a statistically reasonable manner.” Confounding this problem, the SEFSC simply does not have enough personnel to process age samples and in some instances hard parts used in age determination are subsampled and the remainder archived for possibly future analysis. “The Center’s ability to process biological samples is on really tenuous grounds, and in some cases it is a lack of personnel that prevents the processing of archived and even contemporary samples. Processing of biological samples is an essential function for stock assessments, and these positions need to be secure to insure the availability of qualified staff (Reviewer #2, Data Review, SEFSC).”

SEFSC Facing Many Challenges

- 1) Two SEFSC Laboratories are successful at aging some species, however, species-specific aging workshops are needed to increase accuracy and precision for estimated ages.
- 2) Age validation studies are needed.
- 3) Current staffing levels are insufficient to meet workload demands.
- 4) Dependency on extramural grant funding creates high turnover rates and valuable time is spent retraining new employees.
- 5) Need for increased reproductive sampling across the Center’s entire jurisdiction.

Challenges in the Recreational Fishery

- 1) Coarse spatial resolution of the data.
- 2) Large uncertainty in the estimates of effort.
- 3) Lack of biological samples (length, weight and especially hard parts for aging).
- 4) Uncertainty in discard estimates.
- 5) Complete lack of biological data for discards
- 6) Not all discards are related to minimum size.

The recreational fishery can account for 50% or more of the total landings and discards for many reef species, and recreational discards may be 2 to 3 times the landings for some fisheries.

Fishery-Independent Data in the South Atlantic

The paucity of the fishery-independent data, especially in the South Atlantic and Caribbean was a frequent theme throughout the Data Review meeting.

The precision and accuracy of stock assessment results are greatly improved with the inclusion of reliable fishery-independent indices of abundance. Generating such indices should be a major focus for efforts designed to improve data collection and quality for stock assessments. A well-designed coast-

wide fishery-independent survey could provide indices of abundance, age and length information, and updated life history information while also informing selectivity, spatial effort and movement of stocks (Reviewer #3). For the surveys currently conducted, small sample sizes and high variability in the surveys are currently causing large problems for stock assessments (Reviewer # 3).

Four of the 6 Southeast Area Monitoring and Assessment Program (SEAMAP) surveys in the South Atlantic do not target federally managed species and are not used in any assessments (reviewer #3) However, this year's Spanish mackerel assessment used an index from SEAMAP.

The MARMAP and Southeast Fisheries Information System (SEFIS) fishery-independent sampling use fish traps for their primary sampling methodology. There are limitations to trap surveys that have not been addressed: differential catchability at size and age, ontogenetic movements as some species move to deeper water environments where traps are rarely fished, a large number of South Atlantic reef species that are not trappable on a regular basis, and traps that cannot be deployed in high velocity currents that exist in much of the South Atlantic. The commercial and recreational fisheries are hook and line fisheries, and recreational and commercial fishermen have concerns about the validity of trap catches versus hook and line. An example of this is illustrated by several cooperative research programs being conducted for red snapper where hook and line gear is being used as the mode of sampling. Most of the day trips in that survey caught more red snapper than the MARMAP trap survey caught in its 30 years of sampling.

Conclusion

The South Atlantic Council has faced significant challenges implementing the statutory mandates resulting from the 2006 MSA Reauthorization, particularly, in ending overfishing immediately. The 2006 Reauthorization is predicated on the assumption that each Council has the necessary data to meet the statutory requirements. That is clearly not the case for the Southeastern Councils in general and the South Atlantic specifically. We have implemented substantial reductions in ACLs for some species and essentially closed the most important fishery, red snapper, along the east-central Florida through Georgia based on ending overfishing. This has come at a high cost to recreational and commercial fishermen and the business related infrastructure that they support. Based on management successes in the past, the Council believes that there is ample evidence to support extending the timeframe to end overfishing without impacting rebuilding schedules. The original Magnuson-Stevens Act was founded on the regional differences among the Council jurisdictions. The "one size fits all" approach in the 2006 Reauthorization has violated that regional component. We respectfully ask that you give due consideration to our requests so that all fishermen in the South Atlantic will benefit from your decisions.

Thank you for allowing me to appear before you on behalf of the Council.

Testimony of Dr. Donald McIsaac, Executive Director
Pacific Fishery Management Council
Pacific Council Perspectives on Magnuson-Stevens Act Reauthorization

Before

U.S. Senate Committee on Commerce, Science, and Transportation
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard

January 30, 2014

Chairman Begich and members of the Subcommittee, thank you for the opportunity to appear before you to discuss the Pacific Council perspective regarding the Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act.

My name is Donald McIsaac; I am the Executive Director of the Pacific Fishery Management Council. The Pacific Council manages over 160 fish stocks off the states of Washington, Oregon, and California.

The Pacific Council was the primary organization responsible for planning the Managing Our Nation's Fisheries 3 conference, held in Washington, D.C. in May of 2013. We were honored to have you, Mr. Chairman, as a featured speaker at that conference. As you know, that meeting looked at the successes and challenges of the Magnuson-Stevens Act, and drew over 600 attendees with diverse fishery backgrounds and interests. As a result of the discussions held at the conference, attendees produced 128 findings, or ideas, regarding the reauthorization of the MSA. While many of these ideas were not intended for statutory consideration, many were. Within these, some were quite minor, while others were more substantial. The findings are available on the Pacific Council website¹.

Since the Managing Our Nation's Fisheries 3 Conference, the Pacific Council has spent many hours at two Council meetings discussing its priorities regarding the reauthorization of the MSA. Details of those discussions are available on our website.² At our most recent Council meeting in November, we managed to winnow those 128 findings and several additional ideas down to several priorities outlined in this testimony. These represent notable priorities identified at this time, with the reservation for additional priorities and refinement of positions as the reauthorization process moves forward.

¹ http://www.managingfisheries.org/2013%20documents/MONF_Findings.pdf

² For the September Council meeting, see materials under Agenda Item H.1 (<http://www.pccouncil.org/resources/archives/briefing-books/september-2013-briefing-book/#ecoSeptember2013>) and the Decision Summary Document (<http://www.pccouncil.org/wp-content/uploads/0913decisions.pdf>) For the November Council meeting, see materials under Agenda Item I.2 (<http://www.pccouncil.org/resources/archives/briefing-books/november-2013-briefing-book/>) and the Decision Summary Document (<http://www.pccouncil.org/wp-content/uploads/1113decisions.pdf>).

First, we would like to make the point that the Pacific Council believes that the MSA as reauthorized in 1996 and again in 2006 has been a success. The Act has worked well to ensure a science-based management process that ensures long-term sustainable fisheries while preventing overfishing and mandating rebuilding of depleted stocks. As a result, the Pacific Council has ended overfishing of any and all stocks within one year of detection, has rebuilt seven depleted stocks, and is in the process of successfully rebuilding eight long-lived stocks that remain depleted—three of which are projected to be rebuilt in the next year. We have implemented a successful groundfish trawl catch share program that has been held up as a model for programs in other regions for its ability to reduce bycatch and increase economic yield. We annually craft ocean salmon fisheries that accomplish stock-specific conservation goals for a multitude of individual salmon stocks, including many listed under the Endangered Species Act. We have created an ecosystem fishery management plan which we are now in the process of implementing, along with protections for unmanaged forage fish. We are successfully participating in international fisheries organizations to protect highly migratory tuna-like species and the West Coast fisheries that rely on them. The current MSA has been a key driver of these successes. We believe large-scale changes to the MSA are not warranted, and any changes made to the Act should be carefully considered.

Still, there is room for improvement. Despite the effectiveness of the MSA, the Pacific Council believes there are areas that can be refined in order to improve marine fishery management in the United States and internationally. The Council's priorities for MSA reauthorization are as follows.

Higher Priorities Matters

Revise rebuilding time requirements.

- Address the discontinuity associated with the 10-year rebuilding requirement.
- Don't "chase noise" in rebuilding plans (in other words, temper immediate reactions to changes in stock assessments that may merely be statistical "noise," rather than a true signal of significant status change).
- Address problems associated with "rebuilding as soon as possible" in order to properly take into account the needs of fishing communities.

While a strict 10-year rebuilding requirement is appropriate in some situations, focusing on rebuilding in a certain amount of time can also result in overly-restrictive fishery management that is illogically and unnecessarily harmful to fishermen and fishing communities; it is apparent that more flexibility is needed to optimize multiple goals. The 10-year rule, where stock rebuilding must occur within 10 years if possible, can lead to an unsound, discontinuous policy that can grossly disrupt fisheries for little conservation gain. If a stock can rebuild in 9 years at a cost of closing all fisheries, this becomes a mandate. Paradoxically, the requirements for rebuilding a fish stock in worse condition, e.g. one that requires 11

or more years to rebuild with no fishing, provides for more than 11 years to rebuild (11 years plus the length of one generation of the species), with obviously less economic disruption. This is illogical and potentially disastrous for some fishing-dependent communities.

In addition, uncertainty in stock assessments and rebuilding analyses for overfished stocks has created a situation where seemingly small changes to analytical results can lead to expensive revisions in rebuilding plans and unwarranted consequences to fisheries and fishing communities (“chasing noise”). This disruption is especially problematic when analytical results vary small amounts due to assessment uncertainty, and vary both up and down without changes in true status over time. The current process needs to be revised such that a reasonable threshold exists for stock status changes before significant changes in management approaches are required.

The MSA requirement to rebuild as soon as possible, taking into account the needs of the fishery communities, has been subject to Court interpretation as nearly ignoring the needs of fishing communities until such time as they have demonstrated a disastrous state. Current administration of this requirement necessarily leads to large reductions in catch of directed fishery stocks that are being rebuilt, and can restrict mixed-stock fisheries when the rebuilding stock coexists with healthy stocks. It has been said that a solution may be as simple as changing the word “possible” to “practical.” At any rate, there is a need for threshold clarity so as to allow Councils to properly take into account important social and economic impacts to communities when reducing catches in a rational stock rebuilding plan. It is important to note the purpose that rebuilding programs are designed for is to increase stock sizes to provide for biological stability and the attendant future economic benefits to the same fishery-dependent communities negatively impacted (and may even be required to endure a disaster) by the rebuilding program.

Explore more flexibility for fishery impacts on data-poor species when the current precautionary approach becomes the bottleneck for healthy mixed-stock fisheries.

One common management challenge is developing and implementing annual catch limits (ACLs) effectively when the requisite data are lacking, when no data collection program is in place, and/or when major natural fluctuations in stock abundance occur more rapidly than stock assessments can be updated. When less information about a stock is available, or the data are outdated, current requirements call for a Council to set a particularly low ACL compared to the theoretically maximum allowable catch, out of recognition of a higher level of scientific uncertainty. While this is a logical approach in some regards, there is concern it may be overly conservative in some situations. It can lead to severe economic consequences when a rarely-caught stock about which little is known appears occasionally in a healthy mixed-stock fishery, and a new, highly buffered ACL for this rare stock suddenly requires a large reduction in the catch of healthy

species; this situation essentially creates a bottleneck species that closes or substantially reduces an otherwise healthy fishery.

There are times when the best available science is not sound enough for active fishery management decision-making; the current approach for data-poor species may occasionally fall into this situation. Further, the current approach may limit obtaining scientific information on stock performance under higher catch rates.

Better align and streamline the National Environmental Policy Act (NEPA) & MSA section 304(i).

While a mandate to include streamlining of the NEPA and MSA processes was included in §304(i) of the 2006 reauthorization of the MSA, it has not yet been addressed. The current process is inefficient, requiring substantial additional work and process to satisfy duplicative NEPA and MSA mandates. This unnecessarily delays implementation of regulations, causes obsolescence of scientific information, and burdens management resources that could be used more efficiently.

Include a carryover exception to allow ACLs to be exceeded in order to carry over surplus and deficit harvest from one year to the next, provided there is a finding from the Scientific and Statistical Committee (SSC) that such a carryover provision will have negligible biological impacts.

As part of their business planning, fishermen in catch share programs need to know whether they may carry over surplus harvest from one year to the next; deficits are now routinely paid back the next year. In the past, there has not been a consistent policy application on this matter. If the SSC finds that carryover will not adversely affect a fish stock, then it should be explicitly allowed.

Stocks later determined never overfished should not be held to rebuilding provisions.

The data and scientific approaches used to determine stock status evolve and improve, and revisions to past stock statuses are common. The best available science used to declare a stock overfished may later be improved and show that the stock was never overfished. In these cases, continuing to manage the fishery under rebuilding plan restrictions may no longer be necessary. However, the MSA does not explicitly exempt stocks from rebuilding plans when it is later determined the stock was never overfished.

For example, in 2000, a stock assessment indicated that widow rockfish on the West Coast were below the minimum stock size threshold (MSST) that triggers an overfished status designation. Accordingly, the stock was declared overfished and a rebuilding plan put in place. However, subsequent assessments in 2005 and 2007 estimated that the biomass had never dropped below the MSST, and thus the stock

had never been overfished. Despite the best available science, uncertainty regarding MSA requirements and the assessment results caused the fishery to remain under a restrictive rebuilding plan until 2013. Continuing to manage widow rockfish under a rebuilding plan, even though the stock was never overfished, resulted in negative social and economic impacts to fishing communities and industry. It also represented a significant expenditure of Council resources to construct and maintain a rebuilding plan, and the new catch share program was unnecessarily complicated by the overfished declaration of widow rockfish and its subsequent rebuilding plan.

Provide flexibility in requirements and qualifications for observers.

Current requirements and qualifications for National Marine Fisheries Service certified observers may be too restrictive regarding formal education and full independence provisions. There have been difficulties in providing a sufficient pool of observers.

Lower Priority Matters

The Pacific Council has also identified the following lower priority areas that we ask you to take into consideration in drafting new legislation.

- Designate one Commissioner seat on the Inter-American Tropical Tuna Commission to represent the Pacific Council.
- Provide flexibility to address rebuilding requirements when environmental conditions may be a predominant factor in a stock's decline.
- Include a viable mixed-stock exception.
- Replace the term "overfished" with "depleted" to account for non-fishing causes of stock size below minimum stock size threshold.
- Consider a national standard for habitat that can more effectively minimize adverse impacts on essential fish habitat.
- Implement stricter imported seafood labeling requirements in the U.S. market.
- Enhance enforcement capabilities for international fisheries, including at-sea and in-port monitoring and enforcement, and providing assistance to developing countries in their enforcement capacity.
- Improve access to currently confidential harvest or processing information for purposes of enhanced socioeconomic analysis.
- Amend MSA language to change "vessels" to "vessel" in the illegal, unreported, and unregulated certification section.
- Make a consistent distinction between "overfishing" (a measure of fishing rate) and "overfished" (a measure of abundance).

Thank you again for the opportunity to testify before this Committee.

TESTIMONY OF

ROBERT BEAL

Executive Director

Atlantic States Marine Fisheries Commission

**Testimony before the Senate Commerce Committee's
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard**

United States Senate

**A Hearing on "Developments and Opportunities in
U.S. Fisheries Management"**

March 19, 2013

Mr. Chairman and members of the Subcommittee,

I am Bob Beal, Executive Director of the Atlantic States Marine Fisheries Commission (Commission). The Commission is comprised of the fifteen Atlantic coastal states and carries out a diverse array of programs for its members with the goal of restoring and sustaining Atlantic coastal fisheries. The Commission provides a forum for interstate cooperation on fisheries that cross state borders and thus cannot be adequately managed by a single state. Recognizing these challenges and the importance of providing federal support for the management of transboundary resources, Congress authorized the Commission in 1942, allowing for interstate cooperation and state-federal coordination in the management of Atlantic coast fisheries. It is a particular pleasure to appear before the Subcommittee today to review the tremendous success the states and their federal partners have achieved in the restoration of many Atlantic coastal species and initiate the dialogue to address the emerging opportunities and ongoing challenges that exist for improved stewardship. As the Subcommittee undertakes the task of reauthorization of important fisheries laws and the review of various fisheries management policies, it can do so with the confidence that its leadership has given the states and the federal agencies the tools and determination to maintain and to build on their fishery resource conservation successes.

Background

While the Commission was formed more than 70 years ago, its more formal management process began in 1984 with passage of the Atlantic Striped Bass Conservation Act, followed by the Atlantic Coastal Fisheries Cooperative Management Act in 1993. These two laws provide the Commission with unique management authorities and responsibilities relative to the other two interstate marine fisheries commissions in the Gulf of Mexico and Pacific regions. Prior to the approval of these two laws, compliance with interstate fishery management plans (FMP) had been voluntary. Congress recognized a need for action and gave the Commission the authority to require states to implement mandatory provisions of each FMP. If the Commission determines that a state is not fully implementing and enforcing the mandatory measures for an FMP, the law provides a mechanism whereby the Secretaries of Commerce and the Interior (for Striped Bass)

could declare a complete moratorium on the fishing for that species in that state's waters. Through the Commission process, Atlantic coastal states have developed and fully implemented FMPs for 25 species or species groups.

The Commission is also supported through the provisions and resources provided by the Interjurisdictional Fisheries Act and the Anadromous Fish Conservation Act. Together, these four laws have provided the states the opportunity to form successful partnerships among themselves and with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) and the U.S Fish and Wildlife Service (USFWS) to carry out their public trust responsibility of sustainably managing shared marine fishery resources.

Successes

The Commission has achieved many great successes under the cooperative interjurisdictional management program. The restoration of Atlantic striped bass is recognized nationally and internationally as one of the greatest fishery success stories. The Commission facilitated state action to recover the collapsed striped bass stock in the 1980s and by 1995 the stock was declared fully restored. This recovery has resulted in renewed recreational and commercial fishing opportunities, as well as hundreds of millions of dollars in economic benefits to coastal communities throughout the range of the stock. The stock remains robust and healthy nearly 20 years after being rebuilt.

In addition to the restoration of striped bass, the Commission has worked with its federal partners, the three East Coast regional fishery management councils and its stakeholders, to rebuild many species such as summer flounder, spiny dogfish, bluefish, scup, and Spanish mackerel. The Commission also maintains an active management program for American lobster, which generated over \$400 million in ex-vessel value in 2011¹. This figure is multiplied many fold when you take into account the indirect economic activity generated in coastal communities through fish dealers, restaurants, marinas, and shipping companies.

The Commission has also developed many successful programs to improve fisheries science, consider ecosystem services in management plans, provide the states with flexibility to meet the needs of fishermen, and restore critical habitat. A few examples are:

- An Atlantic Menhaden FMP that considers the forage demands of predatory fish.
- Black sea bass and spiny dogfish allocation programs that allow states to maximize economic return of available quota.
- Northeast Area Monitoring and Assessment Program (NEAMAP) that collects comprehensive nearshore fishery independent data from Maine to North Carolina.
- A horseshoe crab management program that balances the needs of bait harvesters, the biomedical industry, and migratory shorebirds.
- Multispecies stock assessment that models the interactions between many of the Atlantic coastal predator and prey species.

¹ See Fisheries of the United States, 2011. NMFS, available at <http://www.st.nmfs.noaa.gov/commercial-fisheries/fus/fus11/index>.

Fiscal Challenges

The fiscal resources available to the Commission have been nearly static, and diminished in some areas during the past decade. However, the demands of stakeholders, the necessary rigor of stock assessments, and the simple cost of administering and maintaining the transparency of the Commission process has increased. This contrast between funding and demands has required the Commission to prioritize activities at the expense of stock assessments and fishery management updates. This constraining of the Commission's budget is occurring at a time of unprecedented state budget cuts and threatens to limit the effectiveness of the Commission process and interstate management coastwide.

The Commission process is extremely efficient and produces a high return on investment. With a budget of under \$10 million annually, the Commission manages 25 species that generate billions of dollars of economic activity from Maine through Florida. In fact, 35% of the total commercial landings value from Atlantic fisheries in 2011 was attributed to landings within 3 miles of shore. Over 90% of the Atlantic coast recreational catch is taken in state waters, with many of the most prominent species, like Atlantic striped bass, summer flounder, and red drum, moving through multiple state jurisdictions. This investment by Congress and the states in the Commission process likely represents one of the best return rates in all natural resource management. Continued investment in interjurisdictional management along the Atlantic coast will fund data collection and assessments to support better management decisions and restoration of stocks. Improved management will create more fishing opportunities and jobs and strengthen economic activity for Atlantic coastal communities.

The Interjurisdictional Fisheries (IJF) Act recognizes the role of states in ensuring fisheries management activities across the state/federal jurisdictions. Recently, the three interstate marine fisheries commissions representing coastal states in the Atlantic, Gulf of Mexico, and Pacific regions voiced our support for ensuring continued funding to the states through the IJF grants. These grants, though some may be small, have been successfully leveraged by the states to boost their survey, data collection, and monitoring abilities, including northern shrimp and American lobster sampling in New England; monitoring state quotas of black sea bass, summer flounder, and striped bass in the Mid-Atlantic; and surveying flounders, drum, shrimp and crabs in the South Atlantic. The program is a matching grant program, so the funds received by the states must be matched dollar to dollar. The Administration's FY13 budget request proposed terminating this important program. An authorization level of \$5 million for the IJF grants will provide the opportunity for continued leveraging of these funds to support management of nearshore fisheries and provide data for stock assessments.

The Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) requires the Atlantic states to develop FMPs through the Commission and to implement and enforce those plans under state law, under penalty of pre-emption of a state's fishery by the Secretary of Commerce. The continued reduction in "Regional Councils and Commissions" funding would reduce the capacity of the Commission as well as its member states to develop, implement, and enforce FMPs. "Regional Councils and Fisheries Commissions" funding goes to help provide valuable sources of data that allow fisheries managers to achieve sustainability for commercial and recreational fisheries, generating billions of dollars of economic activity. Further budget cuts to the program would force the Commission to eliminate one of four Commission meetings,

cancel stock assessment training for state scientists, delay (one year) benchmark stock assessments for American lobster, Atlantic striped bass, and northern shrimp, eliminate a stock assessment scientist position, suspend outreach activities, and reduce FMP coordination capacity. The resultant impact would reduce the opportunity for public engagement in the management process; decrease the quantity, quality, and timeliness of scientific advice; and reduce the Commission's responsiveness to fisheries management issues. Greater scientific uncertainty could result in more precautionary management decisions, with consequent opportunity costs to commercial and recreational harvesters due to lower quotas and shorter seasons. Greater uncertainty also may decrease the justification for Commission actions, potentially resulting in legal vulnerability. Through the Commission process, states have reduced the number of overfished species by over 50% during the past decade; further progress towards rebuilding overfished species will be hampered by budget cuts and resulting lack of data and slowed response time.

Cutting Atlantic Coastal Act grants to the states would reduce the fisheries management and science activities needed to comply with the provisions of the Act. States use these funds to conduct nearshore fisheries surveys, assess stocks, monitor catches, and interact with stakeholders to implement and enforce the fisheries management measures approved by the Commission. For New England states, this would result in a loss of the ability to accurately track landings for quota management, prompting more precautionary management and potential triggering of accountability measures. Within the Mid-Atlantic region, lack of funding would lead to a direct loss of law enforcement presence. In addition, funding supports monitoring and management of important state and interstate fisheries, such as blue crab and horseshoe crab in Delaware, and red drum, Atlantic menhaden, and flounders in North Carolina. South Atlantic states use the funding to support both fishery monitoring and independent surveys, including Georgia's long-time trawl survey, which has been collecting data on shrimp, crabs, and finfish since the 1970s. In addition, funding supports data collection of bycatch, including protected species like sea turtles and Atlantic sturgeon, throughout the Mid- and South Atlantic.

On the federal side, there are three East Coast fishery management councils. The Administration's proposed 22% funding reduction (from FY12 to FY13) for the "Regional Councils and Fisheries Commissions" funding line item would reduce their capacity to engage stakeholders in development of FMPs and annual harvest levels. These cuts would reduce the number of meetings of each Council by at least one meeting per year; it would impact meetings of their Statistical and Science Committees and stakeholder advisory panels. These cuts would reduce scientific staff capacity to support crucial management questions and reduce FMP coordination capacity. The resultant impacts, similar to those for the Commission, would restrict opportunities for public involvement in the management process and decrease scientific advice available to managers, resulting in negative impacts on the Councils' ability to fulfill the requirements under the Magnuson-Stevens Fishery Conservation and Management Act. Further, the Councils' response to stakeholder input and their ability to make the necessary updates to NOAA's improved recreational data collection program and annual catch limits will be delayed or diminished.

Partnership Opportunities

While I mentioned the state-federal partnerships formed under the various interstate and interjurisdictional fisheries laws have been the cornerstone for many successful fishery restoration stories, there are still opportunities for improvement. Our member states feel the communication between NOAA Fisheries and the states is inadequate. The Atlantic states urge NOAA Fisheries to involve them as partners throughout the management process rather than a stakeholder group, with involvement limited to public comment periods. The states are confident that greater collaboration will lead NOAA Fisheries to more informed decisions that have greater public engagement and, consequently, acceptance. The states understand there are currently some legal constraints on pre-decisional discussions, however, the states can play a critical role in contributing fisheries science and data and providing stakeholder input for consideration as decisions are finalized. States have been conducting fishery-independent research consistently for decades and can serve as a valuable resource to enhance the available science.

The recent listing of Atlantic sturgeon as threatened/endangered under the Endangered Species Act is a highly visible example of a missed opportunity for greater collaboration. The states could have provided additional information and insight on the population status and biology of Atlantic sturgeon. While this collaboration may not have changed the listing decision, there would have been greater confidence among the stakeholders that NOAA Fisheries was fully informed during the process. The states also request greater transparency and collaboration, including data sharing during the development of response plans.

Another example of a missed opportunity is the management of coastal sharks. In response to a request from NOAA Fisheries, the Commission adopted an Interstate FMP for Atlantic Coastal Sharks to complement federal management actions and increase protection of pregnant females and juveniles in inshore nursery areas. Following the approval of the Interstate FMP, NOAA Fisheries Highly Migratory Species (HMS) Division made a number of changes to the federal management program with limited opportunity for state input and collaboration. The states are concerned about the limited opportunity for input and collaboration on these decisions. The states' primary input opportunity is through the HMS Advisory Panel process, where states are seated with other stakeholders. The HMS public comment opportunities frequently do not overlap with a Commission meeting to allow for a unified state position to be developed. The states would like for additional opportunities for input to be provided and required for HMS activities.

Summer Flounder Management

Included in my invitation to testify today was a specific request for background on the impacts of the current recreational summer flounder management program. That information, as well as the anticipated next steps, is included in the following paragraphs.

Summer flounder, *Paralichthys dentatus*, is one of the most sought after commercial and recreational fish along the Atlantic coast. It is one of four species jointly managed by the Commission and the Mid-Atlantic Fishery Management Council. The 2012 summer flounder stock assessment update indicated the stock is not overfished and overfishing is not occurring. The management program divides a total annual quota between the recreational fishery (40%)

and the commercial fishery (60%). The commercial quota is divided into state-by-state quotas based on historical landings. Recreational bag/size limits and seasons are determined on a state-by-state basis using conservation equivalency.

In 1992, the states, operating through the Commission and the Mid-Atlantic Council, jointly adopted provisions in the FMP to establish a comprehensive program for the development of annual recreational fishing regulations for summer flounder on a coastwide basis. In the mid- to late 1990s, significant recreational overages began to occur and coastwide measures were adjusted (made more conservative) to address these overages of the coastwide target. Increasingly restrictive measures, specifically increasing size limits, began to impact the traditional fisheries of individual states, putting those with a small-fish fishery at a disadvantage. In 2001, the Commission and Council further amended the FMP to allow for state-specific measures through conservation equivalency. This allowed states to develop measures that met the needs of their fishery to reflect the timing and size of fish available in their state waters. To develop conservationally-equivalent measures, individual states needed annual harvest targets; therefore, state-specific harvest targets were made based on the state proportion of harvest in 1998 estimates from the Marine Recreational Fisheries Statistics Survey (MRFSS). States may still be subject to a noncompliance determination by the Commission under the Atlantic Coastal Act if they do not implement approved management measures.

Although the shift away from coastwide management to state conservation equivalency addressed the interests of some states (e.g. North Carolina with its smaller fish and later season, Nov-Dec fishery), it has given rise to concerns on the part of other states. While conservation equivalency provided greater flexibility for individual states to set their limits from year to year, individual state targets were based upon the state's proportion of the 1998 MRFSS harvest estimate. This resulted in ever increasing size limits, reduced bag limits, and shorter seasons for most of the states while the stock was at a low level and recovering. However, the impact of these ever-restrictive measures seemed to affect New York the most, where the size limit reached 21 inches by 2009, resulting in a very short season with a mid-season closure. In 2012, with a fully recovered stock, New York's minimum size (19.5 inches) was at least one inch higher than any other state, one and a half inches higher than Connecticut and two inches greater than New Jersey (Table 1).

New York has argued that reliance on the 1998 MRFSS estimate for management of summer flounder harvest has resulted in an unfairly low harvest target and chronic overages. The state points to the consistently higher minimum size it has been compelled to adopt as evidence of the problem. Recently, Marine Recreational Information Program (MRIP) estimates have become available which seem to further support this contention, with MRIP harvest estimates being higher than the previous MRFSS estimates for New York, while being lower for some other states, notably New Jersey.

In response to concerns about the unanticipated impacts of conservation equivalency and the availability of updated recreational landings data from the MRIP, the Commission initiated a change to the summer flounder management program for 2013 and beyond. For 2013, each of the states, except New York and New Jersey, are allowed to liberalize their regulations under the existing conservation equivalency provisions. However, many of the states have indicated they

will not take full advantage of the opportunity to liberalize their regulations. The Commission has initiated a proposed change to the management program to allow New York and New Jersey to access the summer flounder that will remain un-harvested by the other states. If adopted, it is anticipated that this will allow New York and New Jersey to liberalize their regulations and provide additional recreational fishing opportunities. There is a public comment period open until 5:00 pm on April 12, 2013 on this proposed change; the document can be found on the Commission website, www.asmfc.org, under Breaking News

For 2014 and beyond, the Commission has formed a working group comprised of state representatives and staff from the Mid-Atlantic Council. This working group will develop a suite of options for management of the recreational fishery. Options that will be explored include:

- Coastwide management measures
- Regional management measures
- Modification of state shares
- Averaging multiple years of landings data to minimize annual fluctuations.
- Different options for establishing size limits (e.g. allow retention of one smaller fish with all other above a larger minimum size
- Any other option deemed viable by the working group

The products from the working group will be presented to the Commission and the Council for consideration as the basis for management of the 2014 and beyond recreational fisheries.

With regard to the summer flounder commercial fishery, catch is controlled by state-by-state quotas derived from the states' share of commercial landing for the period of 1980-1989. When a state quota is reached, that state's fishery is closed. Overages of commercial harvest are subtracted from that state's following year's quota. The FMP also provides the opportunity for states to voluntarily transfer quota on an annual basis to accommodate changes in landings patterns, participation, etc.

Total U.S. commercial landings of summer flounder from Maine to North Carolina peaked in 1979 at nearly 39.561 million pounds. The reported landings in 2011 of 16.559 million pounds were about 94% of the final 2011 commercial quota. Since 1980, about 70% of the commercial landings of summer flounder have come from federal waters. Large variability in summer flounder landings exist among the states over time and the percent of total summer flounder landings taken from state waters has varied widely among the states.

Based on VTR data for 2011, the bulk of the summer flounder landings were taken by bottom otter trawls (96 percent), with other gear types (e.g. hand lines and beam trawls) each accounting for less than 1 percent of landings. Current commercial fishery regulations require a 14 inch total length minimum fish size and net mesh size requirements, although states implement additional measures such as trip limits and seasons to constrain the harvest to the state quota.

The Commission and Council selected the state by states allocation system to prevent a coastwide "race-to-fish" which would have resulted in a short fishing season and low economic

return. The allocation system allows a state to craft seasons and possession limits to maximize the value of the available quota and accommodate the needs of their fishermen. Some states have allocated their quota individual to fishermen through ITQ systems.

Conclusion

Mr. Chairman, I have mentioned partnerships often throughout my testimony. They are the foundation of the success of interjurisdictional fisheries management. These partnerships must involve the states, commissions, federal agencies and Congress. If any of these entities are not fully engaged and supportive of the process, we will not be able to build on our past successes. Providing resources to support interstate management is an investment that will pay great dividends through increased economic activity and job growth.

Our management process has proven results, showing it works for the states, for commercial and recreational fishermen, and for coastal communities. It provides an outstanding example of how much can be accomplished when the states and the federal government, with the leadership of Congress, come together to work towards their mutual interest.

Thank you, Mr. Chairman and all the members of your Subcommittee for your continued support and leadership in fisheries management, and for this opportunity to discuss opportunities for greater collaboration and cooperation of fisheries management issues between state and federal partners. I would be pleased to answer any questions the Subcommittee may have.

Table 1. Recreational Summer Flounder Fishery
2012 recreational management measures for summer flounder by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16.5	5 fish	May 22-September 30
Rhode Island	18.5	8 fish	May 1-December 31
Connecticut*	18	5 fish	May 15-October 31
*At 44 designated shore sites	16		
New York	19.5	4 fish	May 1-September 30
New Jersey	17.5	5 fish	May 5-September 28
Delaware	18	4 fish	January 1-October 23
Maryland	17	3 fish	April 14-December 16
PRFC	16.5	4 fish	All year
Virginia	16.5	4 fish	All year
North Carolina	15	6 fish	All Year

**Dave Donaldson
Assistant Director
Gulf States Marine Fisheries Commission**

**Testimony before the Senate Commerce Committee's
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard**

United States Senate

**A Hearing on "Developments and Opportunities in
U.S. Fisheries Management"**

March 19, 2013

Established by both state and federal statutes in July 1949, the Gulf States Marine Fisheries Commission (Gulf Commission) is an organization of the five states (Texas, Louisiana, Mississippi, Alabama, and Florida) whose coastal waters are the Gulf of Mexico. It has as its principal objective the conservation, development, and full utilization of the fishery resources of the Gulf of Mexico to provide food, employment, income, and recreation to the people of the United States.

One of the most important functions of the Gulf Commission is to serve as a forum for the discussion of various challenges and programs of marine resources management, industry, research, etc. and to develop a coordinated approach among state and federal partners to address those issues for the betterment of the resource for all who are concerned.

INTERJURISDICTIONAL FISHERIES MANAGEMENT PROGRAM

As you are already aware, the Interjurisdictional Fisheries Act (IJFA) of 1986, as amended (Title III, P.L. 99-659), was established by Congress to: (1) promote and encourage state activities in support of the management of interjurisdictional fishery resources and (2) promote and encourage management of interjurisdictional fishery resources throughout their range. In essence, the IJFA is to the states what the Magnuson Act is to the nation and the benefits of sound fisheries management under these acts do not accrue separately. The IJFA is probably the single most important

Congressional act to professionalize the states' scientific staff within the marine resource agencies.

In addition to supporting resource management, the IJFA also allows Congress to provide assistance to the states in the event of a Fisheries Disaster under SEC. 113 in the form of funds and other economic assistance and does not require state match for financial relief. Following hurricanes Katrina and Rita, Congress passed an emergency disaster relief funding package that included \$128 million for fisheries restoration. The package included funding to support restoration of oyster grounds, restoration of shrimp and other fisheries grounds, and cooperative research to restore fisheries. A second program was funded in 2007 in the amount of \$85 million to provide assistance for individual commercial fishermen and fishery-related business and industry that continue to recover from the post disaster impacts.

In the Gulf of Mexico, nearshore species such as Spanish mackerel, striped mullet, blue crab, and oyster comprise the majority of the commercial and recreational harvest, resulting in significant social and economic benefits to the states and the nation. In the last decade, nearly 80% of the Gulf's commercial landings and 90% of the recreational landings have come from state waters. In 2009, prior to the Deep Water Horizon disaster, 82% of the Gulf's total commercial fishery value was derived from state waters. The IJFA provides funding under Section 308(c) for the three interstate marine fisheries commissions to develop and revise interjurisdictional fishery management plans (FMPs) that are used by the states to enact appropriate management strategies with conservation standards intended to maintain sustainable stocks into the future. IJFA funding supports the states' monitoring and assessment programs and other research efforts that gauge the health of various commercially and recreationally important fish stocks.

In the Gulf of Mexico, the IJFA is the cornerstone of the fishery management programs for the states and has provided the support for long-term databases for commercial and non-commercial crustaceans and finfish in the Gulf of Mexico. The fishery-independent databases are becoming more and more essential in state and federal stock assessments and will be critical to future regional management success. The five Gulf States' long-term monitoring programs are funded to a large extent by the IJFA and provide the States the ability to gauge the health of commercially and recreationally important fish stocks in their waters. NOAA has established a federal fisheries stock assessment process designated the SouthEast Data, Assessment, and Review (SEDAR) to develop reliable fishery stock assessments for the Gulf of Mexico and Atlantic regions. These assessments rely heavily upon the independent data provided by the states related to abundance indices of many species. As new stock assessment methodologies, such as ecosystem and food web approaches to management are explored and implemented, these state-derived data will be even more important. However, the ability to conduct stock assessments will hinge upon the quality and duration of these datasets which have been supported by the IJFA.

Under the IJFA language, the appropriations provided to the states to support their respective fisheries monitoring programs are determined by a formula based on a

state's total marine fisheries landings. Based on the 2011 appropriations, the maximum allocation that any state could receive was approximately \$100,000 and the minimum was approximately \$8,000. The Gulf of Mexico had three 'maximum' states by volume and value.

The loss of IJFA funds in the Gulf region has resulted in drastically reduced support for the monitoring of our shrimp, crab, and finfish fisheries. The loss of IJFA has resulted in the elimination of other funding sources under the 1-for-1 match requirement, including contributions from limited state license revenues. Florida has lost three positions from their blue crab, shrimp, and horseshoe crab program which represents 40% of their crustacean research staff. Texas has reprioritized other funding to determine the status of their shellfish populations for formulating shellfish management and harvest regulations in coastal waters. Louisiana will be reprioritizing their sampling programs which may slow the development of appropriate management recommendations. Mississippi has been forced to reduce efforts in other state fishery programs to make up the difference to continue collecting long-term fishery-independent data. Alabama reports that the loss of IJFA funding has resulted in less efficient enforcement related to Alabama and Gulf of Mexico fisheries and the interactions of fishing activities among protected species.

In addition to the five States' fisheries monitoring, the IJFA also provides funding for the Gulf Commission to regionally coordinate inshore, state water fishery resources by the development of regional fishery management plans (FMP). The FMPs are used by the states to enact appropriate management strategies with conservation standards intended to maintain sustainable stocks into the future and provide coordinated support to get these management measures passed through their respective state commissions and/or legislative bodies. The Gulf Commission uses its limited IJFA funds to support the completion of regional stock assessments that are currently excluded from the federal SEDAR program but required in regional FMPs. Finally, the funds from the IJFA also provide coordination for marine law enforcement in the five Gulf States which is critical to the enforceability of the regulations enacted by the states in accordance with the regional FMPs. However, the costs related to the Gulf Commission's IJFA activities have increased substantially in recent years, while the program has remained level-funded since 1998. The Gulf Commission currently has 16 species under management plans or profiles with 10 additional species identified for future plan development. Unlike federal fisheries management council plan development, the states provide agency staff to participate on the plan's technical task force and draft the regional inshore plans. Meeting and travel costs have more than doubled over the last decade forcing IJFA staff to streamline its program using electronic formats and internet access to supplement its activities. In future reauthorizations of the IJFA, considerations should be taken to fund the IFJA at levels appropriate to the cost of fisheries management for today and beyond.

SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

The SEAMAP program is a State/Federal/University program for collection, management, and dissemination of fishery-independent data and information in the southeastern United States. SEAMAP is a cooperative program whereby Texas, Louisiana, Mississippi, Alabama, Florida, South Carolina, North Carolina, Georgia, Puerto Rico, the U.S. Virgin Islands, the United States Fish and Wildlife Service, and the National Marine Fisheries Service jointly plan and conduct surveys of economically significant fish and shellfish and the critical habitats that support them. The main goal of SEAMAP is to collect long-term, standardized, fishery-independent data on the condition of regional living marine resources and their environment.

The program consists of three operational components; SEAMAP-Gulf of Mexico, which began in 1981; SEAMAP-South Atlantic, implemented in 1983; and SEAMAP-Caribbean, formed in 1988. Each SEAMAP component operates independently under annual joint coordination, planning and conducting surveys and information dissemination.

SEAMAP has sponsored long-term (1982 to present) and standardized research vessel surveys that have become the very backbone of fisheries and habitat management in the region. The long-term dataset obtained through SEAMAP surveys provides the ONLY region-wide mechanism for monitoring the status of populations and habitats. Through its cooperative nature, SEAMAP has the ability to sample the entire coastline from North Carolina through Texas during the same time period and describe the distribution and abundance of fish populations throughout their range in order to better evaluate the status of recreational and commercially utilized fish stocks.

Current SEAMAP surveys include coastal shrimp and finfish trawl surveys (Gulf and South Atlantic), reef fish trap, hook and line, and video surveys (Caribbean and Gulf), inshore bottom longline (Gulf), bottom mapping/essential fish habitat data compilation (South Atlantic), spiny lobster, queen conch, and whelk surveys (Caribbean), annual plankton surveys (Gulf), and a striped bass winter tagging project (South Atlantic).

SEAMAP data has been used to assess long-term trends in coastal marine species, linking population trends with changes in environmental conditions such as global warming, nutrient enrichment, and overfishing. The data is used to document and define Essential Fish Habitat in the fishery management plans for the Gulf of Mexico, South Atlantic, and Caribbean Fishery Management Councils. SEAMAP provides long-term monitoring of juvenile red snapper abundances for the red snapper stock assessments.

SEAMAP data has been used to identify and verify the recovery of Gulf and South Atlantic king mackerel stocks, leading to increased fishing quotas, prove the need to eliminate Japanese longline fishing for Atlantic bluefin tuna in the Gulf of Mexico, and determine population size structures, abundances, and necessary information for stock assessments of Atlantic croaker, queen conch, spiny lobster, Spanish mackerel, whelk and weakfish.

SEAMAP data has been used to evaluate the abundance and size distribution of penaeid shrimp in federal and state waters to assist in determining opening and closing dates for commercial fisheries, assess the impact of the Deepwater Horizon disaster on marine species in the Gulf of Mexico through the Natural Resource Damage Assessment (NRDA) program, and conduct surveillance of hypoxia (Dead Zone) in the Gulf of Mexico that continues to threaten the marine resources of Louisiana and adjacent states. Finally, data collected through SEAMAP programs have been used by federal and state fishery managers, Universities, research agencies, and others, to expand the knowledge on species life histories, define essential fish habitat, develop fishery management plans, and determine the impact of fishery regulations.

In order to continue these important fishery-independent sampling efforts, expand current surveys, and begin new surveys to provide fishery-independent data on red snapper, shrimp, grouper, king mackerel, blue crabs, sharks, striped bass, weakfish, spiny lobster, queen conch, and other species that support the economies of the Southeast region, adequate resources need to be allocated towards these efforts. Without continued funding to support SEAMAP, the Southeast region will lose its only region-wide mechanism for monitoring the status of marine populations and habitats.

FISHERIES INFORMATION NETWORK (GulfFIN)

The GulfFIN program is a State/Federal cooperative program to collect, manage, and disseminate statistical data and information on the marine commercial and recreational fisheries of the Southeast region. It consists of two components: the Commercial Fisheries Information Network (ComFIN) and the Recreational Fisheries Information Network (RecFIN).

The need for a comprehensive and cooperative data collection program has never been greater because of the magnitude of the commercial and recreational fisheries and the differing roles and responsibilities of the agencies involved. GulfFIN, through the Texas, Louisiana, Mississippi, Alabama, and Florida marine agencies, the Gulf Commission, and NOAA Fisheries, has coordinated activities such as collection, management, and dissemination of marine recreational fisheries data; collection of catch and effort for head boats; collection of menhaden catch/effort data; operation of the GulfFIN Data Management System; implementation and operations of state commercial trip ticket programs; and sampling and analysis of biological data for commercial and recreational catches. These data collection activities have led to significant improvements of commercial and recreational data that has allowed managers to address some of the necessary management needs.

However, adequate fiscal resources need to be allocated for the current activities as well as expansion of current efforts and implementation of new data collection endeavors, ensuring that the best data is available for critical management decisions. Better data allows managers to make more informed decisions leading to better management of these essential natural resources.

GULF SEAFOOD TRACE PROGRAM

In the wake of the Deepwater Horizon disaster, the Gulf Commission, with funding and assistance from NOAA Fisheries, developed Gulf Seafood Trace, a regional electronic traceability program. Launched in March 2012, the Gulf Seafood Trace is a groundbreaking tool for promoting seafood from the U.S. Gulf of Mexico. The electronic, internet-based program aims to drive demand for Gulf seafood products from both seafood buyers and consumers by communicating its Gulf source (thus differentiating from imports), telling its unique story, and sharing key information from vessel to plate or shelf.

The program is comprised of three parts: an Electronic Traceability Platform, a Data Quality and Confirmation Component, and a Marketing Module. The use of an Electronic Traceability Platform builds off of the current electronic trip ticket seafood landing system and empowers the seafood market with the ability to access reliable trace data that has been approved and shared by each business in the supply chain. The implementation and utilization of a Data Quality and Confirmation Component helps to ensure the quality and reliability of the shared data. The Marketing Module allows seafood businesses to tell the compelling and unique story about their Gulf seafood to consumers. The components of the program are powered by Trace Register™, an electronic seafood traceability company.

Participation in the Gulf Seafood Trace program is voluntary, and is currently offered at no cost to qualified, Gulf seafood businesses through the end of 2014. To date, 56 businesses have enrolled in the regional program, representing approximately 25% of the Gulf seafood processors.



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

TESTIMONY OF

Robert Beal, Executive Director, Atlantic States Marine Fisheries Commission

**Before the U.S. House of Representatives Committee on Natural Resources Subcommittee
on Fisheries, Wildlife, Oceans and Insular Affairs**

**Oversight Hearing on data collection issues in relation to the reauthorization of the
Magnuson-Stevens Fishery Conservation and Management Act**

May 21, 2013

Chairman Fleming and Members of the Subcommittee,

I am Robert Beal, Executive Director of the Atlantic States Marine Fisheries Commission (Commission). The Commission is comprised of the fifteen Atlantic coastal states and carries out a diverse array of programs for its members with the goal of restoring and sustaining Atlantic coastal fisheries. The Commission provides a forum for interstate cooperation on fisheries that cross state borders and thus cannot be adequately managed by a single state. Congress authorized the Commission in 1942; and granted us increased management authority in 1984 with the Atlantic Striped Bass Conservation Act, and again in 1993 with the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act). I hope to be a resource to the Subcommittee as it continues the process of reauthorizing the Magnuson–Stevens Fishery Conservation and Management Act (MSFCMA).

I commend the Chairman for holding the second MSFCMA reauthorization hearing of 2013 on the issue of data collection. Data, both fishery-dependent (as in catch and effort) and fishery-independent (as in data collected through scientific surveys), provide the basis for the marine fisheries management in the United States. The Commission alone relies on data to conduct and assess its 25 fishery management programs. The ultimate success of these programs in terms of sustainable management and stakeholder confidence lies in the accuracy, reliability, and timeliness of the data we use to inform our stock assessments and decision making. Given that Atlantic coastal fishery resources generate billions of dollars of economic activity to the nation and hundreds of thousands of jobs in our coastal communities, it is essential that we continue to invest in the collection and management of high quality and timely data. Without good data, there is no successful management of America's fisheries.

ATLANTIC STATES MARINE FISHERIES COMMISSION FISHERY-RELATED DATA COLLECTION ACTIVITIES

The Commission and its member states support various fishery-dependent and fishery-independent data collection methods, and use data compiled by those methods to conduct stock assessments and develop fishery management plans (FMPs). Fishery-dependent and independent data collection methods and the data that they provide are critical to our stock assessment and fisheries management processes. Operating with insufficient data could cause the

Commission and the states to implement overly conservative management measures to address increased uncertainty in landings and population estimates and ensure species sustainability.

Fishery-Dependent

Fishery-dependent data is collected directly from commercial and recreational fishermen through harvester and dealer reports, observer programs, and broad surveys of the recreational sector. The Commission and its member states participate in and use three primary data collection programs: the Atlantic Coastal Cooperative Statistics Program (ACCSP), NOAA Fisheries Commercial Fisheries Statistics, and the Marine Recreational Information Program (MRIP).

ACCSP

ACCSP is a cooperative state-federal marine fisheries statistics data collection program that integrates data from multiple state/federal sources into a single data management system to meet the needs of fishery managers, scientists, and fishermen. ACCSP was established to be the principal source of fishery-dependent information on the Atlantic coast. The ACCSP provides data for a number of fisheries management purposes. These include: FMPs, dealer reporting compliance; quota and compliance monitoring; stock assessments; landings history and trends (e.g., track past commercial catch levels by state, revenue data by vessel); quality control against other sources; fisheries characterizations; develop catch-per-unit-effort indices; and fishery participant information (counts of fishermen, dealers, and/or vessels). ACCSP is housed within the Commission but functions separately. The Commission is a partner within ACCSP, and provides administrative and logistical support services to the ACCSP.

NOAA Fisheries, Fisheries Statistics Division

ACCSP created the Data Warehouse, an online database populated with fishery-dependent data supplied by their program partners. These publicly searchable data are also used by the NOAA Fisheries, Fisheries Statistics Division and compiled as part of the Fisheries of the US data set.

MRIP

MRIP was mandated by the last Magnuson-Stevens Reauthorization to replace Marine Recreational Fishery Statistics Surveys (MRFSS) and improve the collection, analysis, and use of recreational saltwater fishing information. Overseen and conducted by NOAA Fisheries, MRIP is a two part survey comprised of a field intercept component and an effort survey. Field interviews are generally conducted at the end of an angler's fishing trip at fishing access sites, while the effort survey is conducted via telephone interviews to individual households. I will discuss MRIP in greater detail in a following section.

Fishery-Independent

Fishery-independent monitoring provides insight into the status of fish stocks without the biases inherent to commercial and recreational catch information. The Commission coordinates two regional fishery-independent data collection programs – the South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP) and the Northeast Area Monitoring and Assessment Program (NEAMAP), as well as several species-specific research surveys for horseshoe crab, American lobster, red drum, and northern shrimp.

NEAMAP

NEAMAP is a cooperative state/federal fishery-independent research and data collection program established in 1998 for the coastal waters from Maine to North Carolina. Its partners include the states from Maine to North Carolina, the Commission, NOAA Fisheries Northeast Fisheries Science Center (NEFSC), the Mid-Atlantic and New England Fishery Management Councils, and the U.S. Fish and Wildlife Service (USFWS). The program was developed to respond to the lack of adequate survey coverage and coordination in the coastal waters of the Mid-Atlantic/Northeast Region. In particular, its Southern New England/Mid-Atlantic (SNE/MA) NEAMAP Nearshore Trawl Survey was designed by scientists and stakeholders to address a void in shallow water sampling created when the federal trawl survey changed research vessels and decreased sampling coverage in nearshore waters. Piloted in 2006, the SNE/MA Nearshore Trawl Survey is about to complete six full years of surveys. The survey samples inshore waters from Cape Hatteras, North Carolina, northward to Martha's Vineyard, Massachusetts in the spring and fall of each year. As of 2012, the survey has sampled over six million fish, representing 173 species. In total, it has collected over 800,000 individual length measurements and age and diet information for more than 80,000 fish. The survey data complements results from the NOAA NEFSC Trawl Survey, which samples in deeper, offshore waters of the Mid-Atlantic and New England. NEAMAP also includes the Maine-New Hampshire Inshore Trawl Survey, as well as the Massachusetts Inshore Trawl Survey.

In addition, the use of a commercial fishing vessel has enhanced public acceptance of the survey approach. The scientific, industry, and public acceptance of the survey and its results confirm its value. Having successfully completed 13 fishery-independent surveys, NEAMAP has established a solid start to a long-term series of fishery-independent data. With additional years of sampling, NEAMAP will become an increasingly valuable source of fishery-independent data to support and improve stock assessments.

SEAMAP

SEAMAP is a cooperative program that facilitates the collection, management, and dissemination of fishery-independent data in the Southeastern U.S. and Caribbean through long-term surveys. Implemented in the early 1980s, SEAMAP represents one of the longest running fishery-independent data series in the nation. The Commission manages the South Atlantic region of SEAMAP. Partners in SEAMAP-South Atlantic include the state marine fisheries agencies of North Carolina, South Carolina, Georgia, and Florida; the South Atlantic Fishery Management Council; NOAA Fisheries; and USFWS. SEAMAP provides funds to involve regional member organizations in the coordination of fishery-independent sampling activities in light of the fact that no single state or federal fishery management agency has the resources to meet the objectives of existing management plans alone. SEAMAP's integrated approach to fishery-independent data collection can fulfill priority data needs for the development of FMPs in the Southeast region. The long-term goal is a web-based information system that facilitates data entry, error checking, data extraction, dissemination, and summary of fishery-independent data and information for all ongoing SEAMAP-South Atlantic surveys and special studies. It is envisioned that the data system would be a relational database for simultaneous access to a number of fishery-independent data programs. Spatial presentations of SEAMAP and other South Atlantic fishery-independent data will be available through a developing regional GIS Service managed by the Florida Fish and Wildlife Research Institute for the South Atlantic Fishery Management Council.

Species-Specific Surveys

The Commission also coordinates a number of species specific surveys along the Atlantic coast, including horseshoe crab, lobster, red drum, and northern shrimp surveys.

The Horseshoe Crab Trawl Survey is the only fishery-independent survey designed to sample the horseshoe crab population in coastal waters. Its data are a critical component of the Commission's coast wide stock assessment and the newly adopted Adaptive Resource Management (ARM) framework that incorporates both shorebird and horseshoe crab abundance levels to set optimized horseshoe crab harvest levels for the Delaware Bay area.

The American lobster stock was recently evaluated through a stock assessment, and the need for more data on juvenile lobster data was apparent. To address this need, the states of Maine through New York performed a collaborative Ventless Lobster Trap Study from 2006 to 2011. Currently, the study has been discontinued due to a lack of funding.

The Adult Red Drum Longline Survey began in 2006 and covers the waters of North Carolina, South Carolina, and Georgia. The main purpose of the study is to determine annual abundance estimates for the adult offshore component of red drum, a critical but missing ingredient in evaluating the status of the red drum population, especially the adult portion, and developing a successful red drum management program.

An annual trawl survey for northern shrimp is conducted in the western Gulf of Maine each summer aboard the *R/V Gloria Michelle*. The survey is a collaboration of the NEFSC's Ecosystems Survey Branch, the Commission, and biologists from Maine, New Hampshire, and Massachusetts. The survey is a valuable tool for consistently evaluating the stock's condition and forms the basis of the management program's annual specification setting process. It is funded wholly through Atlantic Coast Act funding.

In addition to these broad cooperative surveys, numerous nearshore surveys are conducted by the states. These surveys, which are largely funded by the Atlantic Coastal Act and the Interjurisdictional Fisheries Act, provide critical nearshore fisheries data for use in interstate and regional stock assessments. These surveys include: American lobster sampling in New England; monitoring state quotas of black sea bass, summer flounder, and striped bass in the Mid-Atlantic; and surveying flounders, drum, shrimp and crabs in the South Atlantic.

MRIP

The Commission has participated in the redesign and implementation of MRIP. State marine fisheries agency representatives and Commission staff serve on several MRIP committees (National Registry, Data Management, Operations, Executive Steering Committee) to guide the Program redesign. Committee responsibilities include technical aspects like field survey design and catch estimation methodology, as well as making annual funding recommendations to NOAA Fisheries on priority pilot studies to support. The Commission has taken on an additional role by administering a number of MRIP grants to the Atlantic states to build and maintain state and federal angler registries (participant information), and field survey site registries (boat ramps, ports, etc. where anglers are interviewed by MRIP). Finally, the Commission also

provides a venue for MRIP to communicate progress and receive stakeholder feedback at its quarterly meetings where NOAA Fisheries staff periodically present the latest MRIP developments.

For several recreationally important species managed by the Commission, MRIP data are used to estimate annual and bi-monthly catch levels in order to monitor landings and develop annual regulations. Data are also utilized in a number of Commission stock assessments, again to characterize harvest and discards, the sizes and ages of fish caught recreationally, and as indices to track trends in stock abundances.

Despite the Commission's reliance on MRIP data and its involvement in the Program redesign, the states and Commission share continuing concerns about the implementation and utility of the recreational survey and resulting data. A primary concern is the high magnitude of uncertainty in the catch estimates. This uncertainty undermines stakeholder confidence and the ability of fishery managers to make informed decisions.

Finally, the pace at which MRIP is progressing has been slow. Following the 2006 National Research Council review of the old recreational survey program (MRFSS), it has taken several years to conduct pilot studies, perform follow-up studies, independently peer review the results, and complete the logistical, legal, and information management steps needed in order to implement the new field survey and catch estimate methodology. Until very recently (this year), the Commission and the states continued to use MRFSS estimates for its fisheries management planning.

With ever decreasing funding levels for fisheries management and data collection, the ACCSP has been increasingly relied on to provide funding support for MRIP improvements. Since 2008, ACCSP has committed over \$2.6 million to projects that seek to achieve sufficient precision at the state level. MRIP is designed to meet federal standards by providing good precision at a regional level (Regional Fishery Management Council). Unfortunately, this federal standard falls far short of what the Commission and states require to meet stakeholder demands for state-specific regulations.

CURRENT DATA COLLECTION PROGRAMS AND THE ROLE OF NEW TECHNOLOGIES IN IMPROVING THE MANAGEMENT PROCESS

With regards to how new technologies can help fishery managers achieve better and more timely information, I will speak to the program that the Commission knows best – the ACCSP. In the past ten years, the ACCSP has made significant advances in electronic reporting on the Atlantic coast. In 2003, ACCSP created the Standard Atlantic Fisheries Information System (SAFIS), an online electronic reporting system designed to meet the increasing need for real-time commercial landings data. In 2004, NOAA Fisheries Northeast Region adopted SAFIS for federally permitted seafood dealers, encompassing dealers from Maine to North Carolina. Over time, the use of SAFIS has expanded throughout the Northeast (implemented by Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut), the Mid-Atlantic (New York, New Jersey, Delaware and Maryland) and South Atlantic (South Carolina and Georgia) to become the de-facto dealer reporting system.

Initially developed as a dealer reporting system, SAFIS has grown to include five distinct applications, and not just for commercial landings, but also recreational. These five SAFIS applications (eDR, eTRIPS, e-1 Ticket, eLogbook, and SMS) function independently, but all are maintained within the same database and share standards and codes that are ACCSP compliant. To date, SAFIS includes over four million dealer records, approximately 465,000 trip records, and over 6,700 volunteer angler records.

In 2010, ACCSP launched a completely revised version of SAFIS. Staff and program partners listened to the needs of users for the updated system to be faster and more flexible. Some of the major enhancements included the ability to collect highly migratory species data; a much faster interface; automatically generated pricing information; flexibility in creating favorites (species, gear, fishermen, dealers, disposition); and overall improved reporting capabilities.

Benefits SAFIS provides to the state, regional, and federal partners on the Atlantic coast include:

- Up-to-date information on species caught and their impact on fisheries and quotas;
- Confidential access to data-of-record by fishermen and dealers;
- Access to state and federal reporting requirements through online data entry that eliminates duplicative reporting;
- Integrated highly migratory species reporting;
- Automatically generated pricing information;
- Flexibility in creating favorites (e.g., species, gears, fishermen, dealers, and disposition) so reporting is quick and easier than ever; and
- Management tools to facilitate maintenance of partner-owned data such as participants, online permits, and vessels.

Below is a description of each of the SAFIS applications, as well as the partners that are implementing the application as of February 28, 2013.

1. Electronic Dealer Reporting (eDR)

The electronic dealer reporting application was the first application developed and implemented. It was first launched in the Northeast Region for federal fisheries. This application is now employed by Maine, New Hampshire, Massachusetts, Rhode Island (the first state to implement eDR), Connecticut, New York, Delaware, New Jersey, Maryland, and NOAA Fisheries– NE and SE. Fields that must be entered for a completed report include fisherman, port, date landed, time landed, date purchased, vessel number, species, disposition, gear, quantity, and price.

2. Electronic Trip Reporting (eTRIPS)

eTRIPS was developed to meet the complex needs of collecting catch and effort data from fishermen. This application is now employed by Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Maryland. These trip reports, or log books in some fisheries, provide catch and effort data from a permitted fishing entity (fishermen or a vessel) or a single vessel. Trips may be categorized as commercial, party/charter, or recreational.

This application allows fishermen to create trip reports after entering in the required fields in the trip, effort and catch categories. Similar to the eDR application, interactive reports can be made to illustrate progress and history of catch and effort.

Currently the ACCSP is engaged in developing a Mobile App version of the eTrips system designed to run on tablet computers and smart phones. This should greatly reduce the reporting burden on fishermen, improve data accuracy, and result in timelier reporting.

3. Voluntary Recreational Logbooks (eLogbook)

eLogbook was first developed as a part of the Striped Bass Bonus Program in New Jersey. This application is now employed by Massachusetts, Rhode Island, New York, Connecticut, and Delaware. This application is a powerful way to empower anglers in the data collection process. eLogbook formulates summaries of information on all species caught by the angler. This valuable tool is a way to provide narrow strategies for any given set of conditions and is a more efficient way for anglers to take a look at the past and save the daily entries.

4. Single Trip Ticket Reporting (e-1Ticket)

South Carolina, Georgia, and NMFS – SE are currently employing the e-1Ticket application. e-1Ticket combines elements of both trip (vessel and/or fisherman) and dealer reporting into a single application that emulates the standard practice in the southeast.

5. SAFIS Management System (SMS)

SMS is a web-based application providing administrative tools to SAFIS administrators for management of information such as user accounts, participants, or permits. It is often used to monitor quotas.

Where electronic reporting has been comprehensively deployed, much of the need for more timely and accurate data in dealer and fisherman reporting has been resolved. Agencies that are using the system are better able to manage quotas and perform compliance monitoring. Improved data on the activities of individual license holders will make the creation and management of limited entry fisheries, when desired by the states, much more timely and accurate. The standardization of coding has greatly reduced the amount of time needed to create the consolidated data sets that are needed for larger scale management and assessment activities.

However, many agencies still are using a mixture of conventional (paper) reporting and electronic reporting. Where this occurs, it becomes impossible to have data available in anything like the time frame that an all electronic solution provides. The data are limited by the slowest mechanism, paper. Paper reports can take several months or longer to receive and process. While they are in process, it's necessary for managers to estimate catch that is reported on paper. This can lead to errors that can have a negative impact on the fisheries and those that prosecute them.

The SAFIS system is designed specifically to be expandable so long as data are reported within the ACCSP standard. SAFIS can be deployed to its partners at no direct cost. It is estimated that coastwide SAFIS results in as much as \$10 million in cost avoidance for data management and software development.

RECOMMENDATIONS FOR IMPROVEMENTS

While many of the current fishery-dependent and fishery-independent data programs are adequate to support species stock assessments and responsible stewardship, there is opportunity

for improvements. As stated earlier, sound fisheries data is the foundation of robust fisheries science and management, as well as stakeholder confidence.

The recommendation for improvements would be to provide funding opportunities to restore the state survey work that has been discontinued or significantly reduced over the past five years. The species-specific surveys require dedicated and predictable long-term funding. These surveys are for important species such as American lobster, red drum, and horseshoe crab. The most stark example is the Horseshoe Crab Trawl Survey that will not occur this year due to lack of funding. This survey was historically funded by NOAA Fisheries and then through private donations for the past two years. This gap in horseshoe crab data will directly impact the Commission's ability to assess the crab population and establish appropriate harvest quotas.

Regarding recreational data collection, the implementation and refinement of MRIP must be supported by adequate resources and state/federal partnerships. Over the past five years, the focus of MRIP has been the development of new methodologies to address survey shortcomings. Many of the new methodologies have been implemented on a small scale through various pilot studies. As these methodologies are implemented along the Atlantic coast, MRIP staff and the states need to be in close coordination to address any issues that may arise.

As noted earlier, MRIP is designed to meet federal standards by providing good precision at a regional level (Regional Fishery Management Council). The survey is not designed to provide robust state level recreational harvest estimates. To address this unmet need, many Atlantic coast states have diverted state, ACCSP, and Interjurisdictional Fisheries Act funds to support increased MRIP sampling. These diverted funds reduce the states' ability to collect other critical fisheries data. Support should be provided to MRIP to produce harvest estimates with reasonable precision for each state along the coast.

The ACCSP has made significant progress during the past 15 years, however, the program still requires additional funding to become fully operational coastwide. The ACCSP has made significant progress during the past 15 years. As this program continues to mature, resources will be needed to expand its scope and value to fisheries managers and scientists. ACCSP can be expanded to include fishery-independent surveys to bring both fishery-dependent and independent data into one data warehouse. This will reduce the time and effort needed to conduct stock assessments by allowing scientists to access the majority of fishery data in one warehouse. This step currently takes many months or longer to complete. Also, ACCSP can be expanded to include traceability of Atlantic seafood products with the goal of improving the economic return of domestic fisheries. This program could be similar to the Gulf Seafood Trace program that has successfully implemented by Gulf States Marine Fisheries Commission.

SEAMAP has been level funded since 2009 despite increasing fuel and other operational costs for on-the-water surveys. The result, in most recent years, has been cutbacks in days at sea and sampling intensity, which over the long-term can decrease the value of SEAMAP data and accuracy of stock assessments for South Atlantic species. Additional funding could also be used to initiate new surveys for pelagic species, plankton, and crustaceans to address information gaps currently inhibiting stock assessments of several species like wahoo, bluefish, and blue crab in

the South Atlantic. SEAMAP partners have formally outlined new survey designs and budgets, if funds become available

In closing, it is important to reiterate that good data supports sound science and informed decisions. We will never fully understand every detail of the complex marine environment; however, we can improve our understanding to ensure the responsible stewardship of the shared Atlantic coast fisheries resources. The lack of resolution in fisheries science leaves prudent managers with the need to make more precautionary decisions. These decisions can lead to forgone harvest and reduce the economic returns to the coastal communities and states that depend on them. The Commission looks forward to working closely with you, our other federal partners, and our stakeholders to ensure timely and complete data is collected to support successful fisheries management. I would be pleased to answer any questions you or the Committee might have.

Written Testimony of
David M. Donaldson, Interim Executive Director
Gulf States Marine Fisheries Commission

Before

The Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs
Washington D.C.
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INTRODUCTION

Established by both state and federal statutes in July 1949, the Gulf States Marine Fisheries Commission (Commission) is an organization of the five states (Texas, Louisiana, Mississippi, Alabama, and Florida) whose coastal waters are the Gulf of Mexico. It has as its principal objective the conservation, development, and full utilization of the fishery resources of the Gulf of Mexico to provide food, employment, income, and recreation to the people of the United States.

The Commission has been collecting data cooperatively with the five Gulf States and NOAA Fisheries since the early 1980's. It believes that the cornerstone to sound management of natural resources begins with the collection of sufficient, long-term quality data. In addition, adequate resources need to be allocated towards these activities to ensure that necessary information is available to fisheries managers. Over the years, funding levels have stagnated for these fisheries programs which has led to a decrease in quality data and made it more difficult to manage these important resources. The Commission has four major areas of data collection that will be highlighted.

Gulf Fisheries Information Network

The Fisheries Information Network (GulfFIN) is a state-federal cooperative program to collect, manage, and disseminate statistical data and information on the commercial and recreational fisheries of the Southeast Region. It is intended to coordinate marine commercial and recreational fisheries data collection and data management activities through cooperative planning, innovative uses of statistics and design, and consolidation of appropriate data into a useful database system.

Recreational data

This recreational component provides for the NOAA Fisheries Marine Recreational Information Program (MRIP) dockside surveys in Louisiana, Mississippi, Alabama, Florida and Puerto Rico for shore, for-hire, and private modes. MRIP was created through a review and some adjustments to the Marine Recreational Fisheries Statistics Survey, or MRFSS, which has been in place since the 1970s. MRIP is designed to meet two critical needs:

1. Provide detailed, timely, and scientifically sound estimates that fisheries managers, stock assessors and marine scientists need to ensure the sustainability of ocean resources.
2. Address stakeholder concerns about the reliability and credibility of recreational fishing catch and effort estimates.

The Commission has provided coordination of the dockside angler surveys for Louisiana, Mississippi, Alabama, and Florida since 1998 and is also responsible for converting data into an electronic format and providing quality control methods prior to delivering data to NOAA Fisheries. These dockside survey data are used to estimate angler catch rates using MRIP methodology. The states also conduct weekly telephone calls to charter boat captains in Louisiana, Mississippi, Alabama, and Florida to obtain estimates of charter boat fishing effort. NOAA Fisheries uses this survey data to produce expanded estimates of catch, landings, and effort.

The implementation of MRIP is still ongoing and is not fully developed at this time. In the past, there has been an emphasis on testing new methodologies and there is a need to implement these methods so real improvement of the data can be realized. Several major changes in program design have been implemented that are improving the accuracy of recreational fishery landings estimates. Landings from 2004-2012 have been re-estimated using new modeling techniques that will provide stock assessment scientists with better and more accurate numbers. MRIP is beginning to utilize data from state angler license databases to make effort surveys more efficient in contacting marine recreational anglers. Additional research is ongoing and will test new data collection tools (such as iSnapper) that could improve the timeliness and accuracy of data using online or electronic reporting instruments.

Innovative tools like iSnapper can potentially improve the timeliness of the data but also involve the fishing community which creates buy-in to the process. It is important to note that while these tools can be useful, the underlining collection methods need to be statistically-valid in order to make the data useable. These changes, and additional ongoing research, have laid the foundation for further recreational survey enhancements in the coming months and years.

Texas Parks and Wildlife Department (TPWD) also collects data from the recreational fishery in coastal inshore and Gulf waters. TPWD has been collecting data from shore anglers and private boat anglers since 1974 using a dockside angler interview survey. TPWD has been collecting data from the for-hire fleet since 1983. TPWD collects similar landings data for key management species, like MRIP, with the only major difference being TPWD does not collect data on discarded catch. Data from TPWD recreational surveys are provided annually to NOAA Fisheries and are used along with the MRIP data for fishery management decisions in Gulf waters.

Biological data

Since 2002, GulfFIN has also coordinated a biological data collection program that focuses on collecting ageing structures from priority species in the recreational and commercial fisheries to address data needs identified by stock assessment scientists. Sampling is designed to statistically collect random length-frequency measurements, age, sex, and reproductive information to aid in

stock assessments. All states in the Gulf of Mexico participate in this activity and data for key species such as red snapper, king mackerel, greater amberjack, and gray triggerfish have been provided for past and ongoing stock assessments. Due to a lack of funding, the GulfFIN biological sampling program is likely going to end in 2014. That would break a 10 year time series of ageing data that has been repeatedly utilized by stock assessment scientists for key management species in the Gulf of Mexico.

Commercial data

The commercial component of GulfFIN is a trip-ticket data reporting system that is utilized by Texas, Louisiana, Mississippi, Alabama, and Florida. This system collects commercial landings reports submitted by commercial finfish dealers when commercial fishermen complete their trips. GSMFC provides coordination of data reporting and warehouses copies of the clean state data at GSMFC. These electronic landings data are accessed by NOAA Fisheries and are utilized in analyses by stock assessment scientists at the state and federal level. In recent years, an electronic trip ticket reporting system has been offered as a reporting tool for commercial dealers. The electronic system provides data in a timelier manner and allows for additional data quality control when dealers are filling out landings reports.

Data Management System

All of the commercial and recreational data collected by GulfFIN are housed by GSMFC using the GulfFIN Data Management System (DMS). The GSMFC uses the DMS to maintain marine commercial and recreational fisheries data to accommodate fishery management/research and other needs in the Gulf of Mexico, Southeast and Caribbean. The DMS is designed using standard protocols and documentation for data formats, input, editing, quality control, storage, access, transfer, dissemination, and application. The GSMFC maintains historical and current year's data in the system and provides support to outside users of the system. In addition to the commercial data, regular loads of recreational and biological data into the DMS are accomplished.

Funding Issues

Originally the GulfFIN program was proposed as a \$7 million dollar project to accomplish all of the intended goals. Despite receiving only half of the proposed funding, GulfFIN has accomplished many significant goals like coordination of the MRFSS/MRIP, commercial trip ticket programs in all Gulf States, and a successful biological sampling program. For the past several years, GulfFIN has received level funding even though the cost of sampling and collecting data has increased significantly. Appropriating additional funds for the GulfFIN program will become essential for continuing these essential base recreational and commercial data collection programs.

Southeast Area Monitoring and Assessment Program

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a State/Federal/University program for collection, management, and dissemination of fishery-

independent data and information in the southeastern United States. SEAMAP is a cooperative program whereby Texas, Louisiana, Mississippi, Alabama, Florida, South Carolina, North Carolina, Georgia, Puerto Rico, the U.S. Virgin Islands, the United States Fish and Wildlife Service, and the National Marine Fisheries Service (NMFS) jointly plan and conduct surveys of economically significant fish and shellfish and the critical habitats that support them. The main goal of SEAMAP is to collect long-term, standardized, fishery-independent data on the condition of regional living marine resources and their environment.

SEAMAP has sponsored long-term (1982 to present) and standardized research vessel surveys that have become the backbone of fisheries and habitat management in the region. The long-term dataset obtained through SEAMAP surveys provides the only region-wide mechanism for monitoring the status of fish populations and habitats. Through its cooperative nature, SEAMAP has the ability to sample the entire coastline from North Carolina through Texas during the same time period and describe the distribution and abundance of fish populations throughout their range in order to better evaluate the status of recreational and commercially utilized fish stocks.

Current SEAMAP surveys in the Gulf of Mexico include an annual spring and fall plankton survey, a biannual winter plankton survey, a reef fish trap/video survey, a reef fish hook and line survey, a summer and fall shrimp and finfish trawl survey, and an inshore bottom longline survey.

One of the primary roles of SEAMAP is the collection of data for stock assessments of marine resources. All of the surveys described above are designed to address this objective. The problem with current data collection is that we have limited resources (funding, personnel, vessel availability, infrastructure, etc.), and there is little potential to collect additional data without additional resources. Over the next decade, SEAMAP will continue to add to the existing data time series, collecting as much new information as possible to improve stock assessments, and will expand efforts to collect the types and volume of data required for adequate assessment of environmental perturbations or damages.

Plankton Sampling

Plankton and environmental sampling are carried out during dedicated plankton surveys and on other resource surveys (trawl) at predetermined stations arranged in a fixed, systematic grid pattern across the entire Gulf of Mexico. Most but not all stations are located at ~56 km or ½ degree intervals along this grid. Sampling is conducted primarily within 0.5 to 1m of the ocean surface and down to a maximum depth 200 m (or to within 2 to 5 m of the bottom) with standard SEAMAP neuston and bongo nets, respectively. Physical oceanographic data (temperature, salinity, fluorescence, oxygen) are collected at each station and chlorophyll measurements are taken at three depths.

The original plan for SEAMAP plankton surveys called for seasonal (quarterly) Gulf-wide surveys over both continental shelf (10-200 m depth) and open ocean waters (>200 m to the EEZ). This goal has never been achieved and, as a result, SEAMAP plankton surveys have yet to encompass the spawning seasons and spawning habitats/areas of all Gulf of Mexico species. The most significant sampling and data deficiencies are open ocean waters in summer, fall and

winter months; shelf waters during spring; and the west Florida shelf in summer and fall months. The importance of these data deficiencies were obvious when researchers tried to respond to the Deepwater Horizon oil spill.

Data from expanded Gulf-wide monitoring and early life history studies would fill major gaps in our knowledge of fish and invertebrate spawning seasonality and early life histories. The expansion of sample and specimen analyses would fill major data gaps and, in many cases, first ever data on developmental stages, species-specific vital rates (age, growth and mortality) and trophic dynamics. These data, in conjunction with other data collected during current and expanded surveys, would provide a more complete and detailed picture of the Gulf of Mexico ecosystem. Information would be used to develop ecosystem models for the Gulf of Mexico, as well as providing a baseline for any future ecosystem impact assessments.

Reef Fish Sampling

The SEAMAP Reef Fish Survey provides indices of the relative abundance of fish species associated with topographic features located on the continental shelf of the Gulf of Mexico from Brownsville, TX to the Dry Tortugas, FL at depths between 9 m to 150 m. The survey is conducted annually between the months of April to August, during the snapper spawning season. The number of camera sites sampled annually has ranged from 125 to 490. Video cameras are used as the main sampling gear because trawls and bottom longlines snag on the sea bed, other gear types are highly selective, and the area sampled is too deep for SCUBA divers. Stationary video cameras are non-destructive to sensitive reef habitat, and are relatively non-selective of reef fish species. Fish traps are used to capture fish for aging and reproductive studies. The SEAMAP Vertical Line Survey uses bandit reels to sample reef fish over natural hardbottom, artificial reefs, and around oil and gas platforms. Bandit gear is highly selective in that it does not catch all species of fish that may be present at a location.

Enhancement of current reef fish sampling activities would include: 1) increasing the sampling effort (both spatial and temporal coverage) for the SEAMAP Reef Fish Survey, and 2) increasing biological sampling in all survey activities to improve age and growth information. In addition, the SEAMAP Vertical Line Survey of oil/gas platforms and natural reef habitats using bandit reel sampling gear and side scan sonar would be expanded to improve data on red snapper and other reef fish species. These enhancements would help reduce the variance of species-specific data and also provide age and growth information on age 2-5 red snapper which are under sampled in all other SEAMAP surveys.

Trawl Sampling

The current SEAMAP groundfish trawl survey is conducted semi-annually in the summer (June-July) and fall (October-November). A 42-ft shrimp trawl is used to collect specimens from Brownsville, TX to Key West, FL in 5 to 60 fm of water. Due to funding limitations, areas off southwest Florida are not sampled in the fall. The trawl is towed for 30 minutes, and catch is either worked up in its entirety or is subsampled if the catch is over 22 kg. During the trawl surveys, plankton samples are also collected using a 61 cm bongo frame and 0.335 mm mesh net and/or a 1x2 m Neuston frame with a 0.947 mm mesh net.

Future temporal and spatial expansion of trawl surveys would improve the precision of estimates for all species, as well as provide coverage for Florida waters that are not sampled currently during the fall season. The expansion of biological sampling (i.e., stomach content, and age and growth analyses) would improve the stock assessments for those species sampled, as well as provide a basis for trophic and predator-prey analyses. This information is essential for the development of multispecies and integrated ecosystem assessments.

Bottom Longline Sampling

SEAMAP currently employs an Inshore Bottom Longline Survey to monitor coastal shark and adult finfish populations in the near shore waters of the north central Gulf of Mexico. This nearshore survey complements the NMFS bottom longline survey using the same gear and methodology except that it takes place in the shallow waters of the north central Gulf of Mexico.

Several enhancements could be incorporated into current bottom longline surveys that would expand the scope of bottom longline sampling and provide important data needed for better understanding the dynamics of upper level predators and other key managed species (snappers and groupers). Expansion of the summer bottom longline survey activities would improve precision associated with indices of abundance used for stock assessment. The additional activities would also result in an increased ability to examine spatial patterns in intraspecific differences in the life history, diets, abundance and movements of predatory fishes in the Gulf of Mexico.

Baitfish Sampling

SEAMAP currently does not sample specifically for baitfish. Baitfish form the basis of the marine food web in the Gulf of Mexico. A pelagic bait survey would collect information on Gulf menhaden (*Brevoortia patronus*) and similar pelagic baitfish species as a measure of estuarine productivity for ecosystem and stock assessment analysis. The approach would employ a number of separate state-based fishery-independent projects to address concerns. Increasing existing seine sampling by state partners spatially and temporally would decrease variability in the data. A push-net survey could be conducted to compare existing seine data for the application of the push-net data as an index of abundance in future stock assessments. Genetic samples could be analyzed from the seine and push-net studies to validate species identification and determine frequency of co-occurrence by location. Finally, fish scales for aging purposes could be collected from fishery-independent surveys to determine the age structure across the range of the species from the fishery-independent samples to begin comparison with the fishery-dependent age composition data which has been collected since the late-1970s.

Collection of Ecosystem Data

Increased collection of environmental and ecosystem information through fishery-independent sampling in the Gulf of Mexico would provide a wealth of data that can be used to expand single species stock assessments. More importantly, these data would provide crucial inputs to the development of integrated ecosystem assessments for this region. Understanding spatio-

temporal patterns of species distribution is central to managing the Gulf of Mexico's marine populations, communities and ecosystems. Spatio-temporal patterns of species distribution can be directly related to differences in vital rates (e.g., growth, mortality and fecundity), as well as inter-specific interactions (e.g. competition and predation).

Additional Fishery Independent Data Collection Activities

In addition to SEAMAP activities, the Gulf States collect additional fishery independent data to improve the quality of data available for stock assessments. The amount of appropriation provided to the states to support their fishery monitoring programs are determined by a formula based on a state's total marine fisheries landings. Historically, the Gulf of Mexico has had three 'maximum' states by fisheries volume and value. This funding, prior to its elimination by NOAA in 2012, supported the five Gulf States' long-term, fishery-independent monitoring programs which are used to gauge the health of various commercially and recreationally important fish stocks. The value of this monitoring data is critical and the ability of the Gulf States' marine agencies to conduct stock assessments of near-shore and off-shore species hinges upon the quality and duration of these datasets and will be critical to future regional management success.

Economic Data Program

Most fisheries management decisions are made primarily utilizing biological data. While this data is useful in describing the state of the biomass, or stock of the fishery, they do not describe the economic elements such as employment, business performance, or contribution of a fishery to the economy. Existing economic data for commercial and recreational fisheries in the U.S. Gulf of Mexico (Gulf) for state and federal waters have often been, and in some cases still remain, piecemeal, outdated, and not fully relevant to fisheries managers and recreational and commercial stakeholders.

This void of economic data has been challenging in the Gulf given recent hurricanes, manmade disasters such as Deepwater Horizon, severe floods, unprecedented long-lasting drought and the increase in complex fishery management decisions that require economic analysis as mandated through various state and federal laws. For example, through the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Executive Order 12866, and the National Environmental Policy Act, etc., federal agencies, such as NOAA Fisheries, are mandated to perform economic analysis when changes to fisheries management policies are proposed. Through these legislative actions, attempts are made to determine the effects that possible adjustments to management policies might have on fisheries stocks and local and regional economies. An assessment of possible fisheries actions, however, requires reliable and current economic data in order for economic models of specific fisheries and multistate economies to be built. The availability of economic data is, therefore, one of the most significant building blocks to conducting economic and policy analysis.

In an effort to improve data collection and fisheries management of the recreational and commercial fisheries in the Gulf, an Economic Data Program was formed in 2008. Funding for this effort currently ends in 2014. The Economic Data Program is a cooperative partnership

among Texas, Louisiana, Mississippi, Alabama, Florida, the Gulf States Marine Fisheries Commission (Commission), and NOAA Fisheries. The program monitors the economic performance and contribution of prioritized fisheries of the Gulf and contributes to the assessment of the economic effects of fishery management decisions on specific fisheries and regional economies. In conjunction with the Gulf Fisheries Information Network (GulfFIN), the Commission coordinates, plans, and conducts specific economic data collection projects throughout its five member states.

Current Economic Data Collection Activities

Projects that are currently underway, or have been completed since the conception of the program, include an economic survey of the inshore shrimp fleet, a marine angler expenditure survey, an economic survey of fishing related businesses (processors and dealers), a marine recreational use economic survey, and a valuation of recreational species survey. Results from these surveys primarily aid in the development of economic business performance analysis, economic contribution analysis using regional input-output models, and evaluation of the potential economic effects from proposed fishery management alternatives. Additionally, the analysis can be used to understand the economic impacts from natural and manmade disasters. It is the intent that the collection of dependable economic data will further maximize the economic benefits of fisheries resources while reducing the negative costs to fishing communities in the Gulf.

Inshore Shrimp Fleet

Cited as one of the most valuable fisheries within the United States, the Gulf commercial shrimp fishery constitutes fishing pressure from both an offshore fleet and an inshore shrimp fleet. Following recent data collection efforts conducted by NOAA Fisheries for federally permitted vessels that harvest shrimp in waters offshore, the Commission has been in the process of providing the first systematic economic analysis of an important economic segment—the inshore shrimp industry—which had not previously been examined with such depth and rigor. This has been accomplished through two annual multi-state economic mail surveys aimed at collecting information on revenue, operating costs, annual expenditures, employment data, and vessel characteristics of the inshore shrimp fleet. This information has been used to determine the economic performance and the economic contributions the inshore shrimp fleet has on regional sales, income, and employment in the Gulf. The information gathered has also contributed to more informed decision-making on a variety of commercial fishing policy decisions and issues such as the recent Seafood Compensation Program through the Deepwater Horizon Settlement Agreement.

Fishing-related Businesses

As fisheries management policies change, the economic impacts of these actions extend past commercial fishing fleets to supporting fishing related businesses. Understanding the linkages between specific fisheries industries and the regional economy can be helpful in determining the potential impacts of management decisions. The Commission has, therefore, been in the process of collecting economic data to determine the economic performance and the economic

contributions that seafood dealers and processors, or shoreside firms, have on local and regional economies in the Gulf. This data collection effort is the first systematic, multi-state effort to understand the economics of these shore-side firms. The effort has been conducted through onsite interviews for commercial seafood processors and as a mail survey for dealers and retailers. Up-to-date economic data being collected includes revenue, operating costs, annual expenditures, employment data, and characteristics of the fishing-related businesses. Furthermore, this data collection effort documents the current economic conditions of commercial seafood fishing related businesses. The information collected can also be used to estimate the regional economic contribution of the industry, number of jobs, and amount of revenue that commercial seafood fishing related-businesses add to the Gulf economy.

Marine Angler Recreational Fishery

Recreational fishing provides not only relaxation for stakeholders, but also economic contributions to the surrounding economy. In the Gulf, for example, residents participate in marine fisheries recreation, which contributes to the economy. A continued understanding of how marine angler expenditures influence local and regional economies in the Gulf through sales, income, and employment, provides key economic information, which can be used in fisheries management decisions. As part of a national initiative, the Commission and NOAA Fisheries have solicited saltwater anglers' expenditures on fishing trips throughout the Gulf in order to assess the size and economic contribution of the marine recreational fishing industry to the regional economy. Where possible, the survey used the MRIP intercept for trip expenditures and a mail follow-up survey for equipment and durable expenditures. The survey results provide estimates of marine recreational angler expenditures and the economic contribution of the marine angler recreational fishery to the Gulf.

Marine Recreational Use

Economic contributions from recreation to local and regional economies extend from other types of marine recreation besides consumptive ocean uses like recreational fishing. Such non-consumptive activities might include scenic landscape viewing, wildlife watching, kayaking, scuba diving, and boating. Determining and accounting for the economic contributions that these activities have on the economy is important when making marine resource and fishery management decisions, policies, and priorities. As a result of a national effort, the Commission, in partnership with NOAA Fisheries, has collected participation, effort, and expenditures related to ocean recreation activities, with the primary focus on non-consumptive uses. The effort sampled the general public using a survey panel where individuals were notified in advance so that they were able to keep track of their activities and expenditures. Similar to the marine angler economic survey, these survey results also provide estimates of expenditures and the economic contribution of marine recreational use to the Gulf in terms of jobs, income, and sales.

Valuation of Recreational Species

It is important that the fisheries management process consider the potential changes in economic value when promulgating new fishing regulations. For sportfishing policy changes, this requires estimates of anglers' valuation of regulations or anglers' valuation of the resulting harvest levels.

There is considerable research on preferences for harvest levels and the values of anglers fishing from private boats or from the shore. Less research has been conducted to measure such values on for-hire fishing trips. To improve this, the Commission and NOAA Fisheries have partnered on a mail survey to generate new estimates of anglers' valuation of changes in regulations for key federal and state managed recreational species on for-hire and private boat trips in the Gulf. The survey includes questions about recent recreational fishing activities, preferences for different types of fishing trips, and angler household characteristics. The fishing trip preference portion of the survey includes a stated preference choice experiment with questions that ask anglers to choose between hypothetical fishing trips. There are versions of the survey for choices between charter fishing trips and choices between private boat trips.

Future Economic Data Collection Activities

Given the experiences garnered through the recent aforementioned economic data collection activities, the Commission is well poised to move from one time data collection efforts to longitudinal economic data collection efforts. Proposed longitudinal economic data collection activities include the following: Economic Surveys of the Inshore Shrimp Harvesting Industry, Economic Surveys of the Blue Crab Harvesting Industry, Economic Surveys of the Oyster Harvesting Industry, Economic Surveys of the Finfish Harvesting Industry, Fishing Related Businesses Economic Surveys, Marine Recreational Angler Economic Surveys, and Marine Recreational Use Economic Surveys. Economic data collection will use online, mail, and in-person surveys that follow accepted survey methods.

In addition to aiding in the promulgation of fisheries management policies under the current MSA and its future reauthorization, results from the Commission's Economic Data Program can also assist other programs and efforts aimed at economic enhancement and management of the recreational and commercial fishing activities in the Gulf. For example, the Economic Data Program has recently contributed to the development of state level Fisheries Management Plans under the Commission's Interjurisdictional Fisheries Program. Given that the Economic Data Program can gauge the economic performance of key Gulf seafood and recreational fishing industries; this may in turn also allow for a more targeted approach for the newly developed marketing, sustainability, and traceability activities in the region. There may be opportunities where technological applications such as electronic seafood traceability efforts may also be able to collect key economic indicators that can be integrated with the aforementioned surveys and analysis. The Economic Data Program can also be used to assess the effect of the substantial restoration efforts expected around the Gulf as a result of RESTORE Act and National Resource Damage Assessment (NRDA) generated funds. It will be important to know if these activities are having a positive effect not only on ecosystem health but economic well-being of the commercial and recreational fishing industries as measured by economic data. These aforementioned activities will only be accomplished if additional funding is provided. Funding for the Economic Data Program is only guaranteed through June 2014.

SPORT FISH RESTORATION PROGRAM

The Federal Aid in Sport Fish Restoration Act was enacted in 1950, having been modeled after the Federal Aid in Wildlife Restoration Act, passed in 1937. The Sport Fish Restoration Program

proved to be an extremely valuable source of funding for fisheries work important to the states. The Sport Fish Restoration Administrative Program (SFRAP) was established by the GSMFC in 1987, and its primary goal is to provide coordination of the recreational fisheries programs in the five Gulf States. Historically, there were three major categories of this program, including anadromous fish restoration, artificial reefs, and fisheries data, all of which supported interstate fisheries management.

Monitoring Artificial Reefs

One of the primary focuses of the SFRAP is artificial reefs. This component has established regional policies and planning documents, as well as discussed critical issues regarding reef deployment and monitoring. The recent hurricanes in the Gulf and the 2010 Deepwater Horizon oil spill disaster have underlined the fact that there is a need to establish baseline data on the vast artificial reef areas in the Gulf of Mexico. This data will allow states to determine how new artificial reefs are functioning in comparison to established ones, how they compare to the function of natural reefs, and allow them to assess impacts to artificial reefs from future natural and man-made disasters. There is concern within the fisheries community about the removal of these structures and the impacts it may have on the resources that rely on them for food, protection, habitat, etc.

In an attempt to meet this need, the SFRAP is developing a Gulf-wide standardized artificial reef monitoring program. The goal of this new program would be to establish baseline data on artificial reefs across the Gulf of Mexico. The standardized monitoring protocols and gear types utilized in this program would match, as close as possible, to those used in ongoing long-term monitoring of natural reef areas in the Gulf of Mexico by NOAA Fisheries and SEAMAP. By doing so, this program would provide standardized data, on currently unmonitored habitats, for commercially and recreationally-important species for use in more accurate stock assessments. It would also go a long way in alleviating the concerns of the fishing public about the lack of data from artificial reef habitats being used in the assessment of heavily-managed species like red snapper. If a secure source of funding can be established to support this new component, it would allow the program to compile a sufficient set of baseline data that could be used in making scientifically-based decisions about the management of artificial reefs and the fish populations they support.

Invasive Species Monitoring Efforts

One of the ongoing efforts under the SFRAP is a pilot study looking at the extent of the lionfish (*Pterois volitans* and *Pterois miles*) invasion in northern Gulf waters and conducting diver assessments of the native fish community for future evaluation of impact. Lionfish have proven to be extremely adaptable to their invaded range which now incorporates a large portion of the Eastern Atlantic, throughout the Caribbean and in recent years the Gulf of Mexico. They are the first marine finfish to become established, and the full impact they will have on the natural environment and native species is still widely unknown. However, recent studies suggest that these impacts could be severe.

The area covered by this pilot study is on the leading edge of the invasion, making it a great location to investigate the impacts of this invasive species. This pilot project is a cooperative effort between the Gulf States Marine Fisheries Commission, Mississippi Department of Marine Resources, Alabama Department of Natural Resources, the National Park Service and the U.S. Fish and Wildlife Service. The objectives of this new project are to:

1. Establish a lionfish monitoring program at established sites in the near coastal waters between Pensacola, FL and the Mississippi River Delta to monitor and track the invasion.
2. Perform diver surveys of density and richness of associated species at all sites to aid in future assessment of impacts as a result of the invasion.
3. Removal of lionfish encountered during normal monitoring operations.
4. Coordinate reporting activities with the established U.S. Fish and Wildlife Service hotline and the U.S. Geological Survey online reporting system.
5. Establishment of a “Strike Team” to harvest lionfish at locations beyond regular sampling sites.
6. Engage in outreach activities in the region to help inform the public about the seriousness of the lionfish invasion.

This pilot project will give us a clear picture of where we stand in regards to the invasive lionfish population in northern Gulf waters, and will provide much-needed information for future management decisions. It is the intention of the group to try and secure funding that would allow for annual surveys to be conducted which would provide much-needed data on the full impacts of lionfish on the native fish communities in northern Gulf waters.

COMMITTEE ON NATURAL RESOURCES

May 21, 2013

Randy Fisher, Executive Director, Pacific States Marine Fisheries Commission

OPENING STATEMENT

Good Morning. My name is **Randy Fisher** and I am the **Executive Director of the Pacific States Marine Fisheries Commission**. The Commission represents the States of Washington, Oregon, Idaho, California and Alaska.

The Commission manages a number of large projects that focus on scientific, inventory and economic research and data collection.

Today I will focus on three data collection activities, and I will offer some thoughts on the future, based on activities in which the Commission are involved.

The **first Data Collection activity** I will focus on is our Recreational Fisheries Information Network or RecFIN.

RecFIN is a cooperative effort between the state fishery agencies in Washington, Oregon, and California, the Pacific States Marine Fisheries Commission (the Commission), and National Marine Fisheries Service (NMFS). The four goals of RecFIN are:

- Develop and implement a State/Federal cooperative program for a coastwide marine recreational fisheries data system;
- Coordinate collection, management, and dissemination of Pacific coast marine recreational fishery data;
- Provide the data in a central location on a timely basis in the format needed to support state and federal work on Pacific marine recreational fisheries; and
- Reduce and avoid duplication of data collection efforts between RecFIN members.

The database contains recreational fishery data for the years 1980-89 and 1993 to the present. The primary source of data in the RecFIN database comes from the following five state sampling programs: Oregon Recreational Boat Survey and the Oregon Shore and Estuary Boats Survey; Washington Ocean Sampling Program and the Washington Puget Sound Boat Survey; and the California Recreational Fisheries Survey. These programs are funded by NMFS along with state agency funding in all three states. The survey is spread out over about 800 fishing sites coastwide in the three states. Of these sites, about 57% are in California, 10% in Oregon and 33% in Washington State.

The number of marine anglers in these states total 1,400,000. Total cost of this program is \$5,700,000 with the National Marine Fisheries Service contributing \$2,000,000 or 36% of the cost. Each of these states have marine licenses with an annual average cost of \$43.54 and a daily cost of \$14.24.

Pacific States Marine Fisheries Commission provided partial funding for sampling in Oregon and Washington through the RecFIN. Sampling was conducted by the states. A total of about 40% of all ocean boat angler trips were sampled in Oregon in 2011, where sampling occurred from March through October. A pilot survey funded through the Marine Recreational Information Program (MRIP) from National Marine Fisheries Service, allowed for winter sampling and sampling of minor ports that has not been done in a few years. As a result sampling occurred year round in 2011 in Oregon.

The State of Washington conducted their Ocean Boat survey and the Puget Sound Boat Survey in 2011. Sampling occurred throughout the year in Puget Sound and also year round on the coast. Sampling rates were at about 40% of all ocean boat trips.

In California, in 2011, over 90,000 angler trips were sampled during the 12 month sampling program.

Two states utilized their angler license frame for estimation of fishing effort in certain modes of fishing. These include Puget Sound Boat trips in Washington and shore and private access and night boat effort in California. All other modes of fishing in the three states are estimated from direct field counts.

All catch and effort information for each sampling month from the various surveys are loaded into the RecFIN database maintained at PSMFC with a one-month lag time. Detailed explanations of the sampling conducted, sampling methodology and estimation statistics of the various sampling programs along with catch and effort information and estimates by month are available for all three states (Oregon, Washington, and California) and the Pacific Fishery Management Council.

The **second Data Collection activity** is our Pacific Fisheries Information Network or PacFIN. This network is the nation's first regional fisheries data network. PacFIN is a joint federal and state project focused on fisheries data collection and information management. PacFIN provides timely and accurate data to aid effective management of fisheries and fishery resources.

Data from fisheries occurring in ocean areas off the coasts of Washington, Oregon, California, Alaska, and British Columbia are provided to the PacFIN central database.

The PacFIN central database includes fish-ticket and vessel registration data provided by the Washington, Oregon, and California state fishery agencies. In addition the data sources supply species-composition and catch-by-area proportions developed from their port sampling and trawl logbook data systems.

The National Marine Fisheries Service, Northwest Region, supplies the central database with limited-entry permit data and also incorporated is the vessel data provided by the U.S. Coast Guard. The National Marine Fisheries Service, Alaska Fishery Science Center inputs weekly aggregates developed from their tow-by-tow observer database.

The data for the Alaska groundfish fishery are provided by the Alaska Department of Fish and Game and the National Marine Fisheries Service, Alaska Region in the form of monthly aggregates, for fish caught in Alaska waters but landed in Washington ports.

The Department of Fisheries and Oceans, Canada also makes a contribution to this West Coast fisheries data system.

The best estimates of catch for each groundfish species by month, area, and gear-type are developed from the source data just-mentioned.

PacFIN staff provides historical landings data since 1981 as well as support with data retrievals, analyses and review of the National Marine Fisheries Service's catch share calculations for the West Coast trawl rationalization/Individual Fishing Quota program. This information is used to provide Quota Shares/Quota Pounds to the fleet.

On the West Coast we have 272 federally licensed vessels, 119 of those are in the Catch Share Program.

The annual cost of this program is has been around \$6,000,000. Historically the National Marine Fisheries Service has contributed close to \$3,000,000 or 50% of the cost, however in 2013, this will drop to \$2,400,000.

The **third Data Collection Activity** is our Alaska Fisheries Information Network of AKFIN.

AKFIN was established in 1997 with the goal to acquire and consolidate the vast quantity of data generated by the Alaska fisheries, to provide quantitative analyses and interpretations of these data, and then to disseminate the processed information to fishery analysts, scientists, economists, and other administrative agencies.

AKFIN maintains an extensive data library from which information is used to fulfill data requests. AKFIN provides direct access to much of the information maintained in the data library via a secure connection.

The primary purpose is to provide complex data sets to fisheries analysts and economists to support the Council's decision-making process.

AKFIN consolidates the agency data sources into a single, comprehensive database, applying value-added information to provide a standardized view of the Alaska commercial fisheries data for analytic purposes.

AKFIN supports the data needs of fisheries analysts and economists by consolidating commercial fisheries data and dispensing that data upon request using custom programming service and on-line tools. Information is aggregated from the Alaska Department of Fish and Game, Division of Commercial Fisheries, Commercial Fisheries Entry Commission, National Marine Fisheries Service Alaska Region, Alaska Fisheries Science Center, North Pacific Science Center, North Pacific Fishery Management Council and Pacific States Marine Fisheries Commission.

AKFIN reports catch data, harvest and value from commercial fisheries in Alaska using the best available data from data source agencies. Once these data are incorporated into its system, AKFIN reports information from several critical perspectives, which are used to identify and quantify impacts related to changes in fisheries management. These include species, area, gear, vessel, processor, community, and fishery participants by season.

AKFIN has an online reporting tool that provides authorized stock assessors, social scientists, and economists with direct access to AKFIN's analytical database and metadata resources. This tool allows users to access prepared reports and to formulate ad-hoc queries that can be saved and shared with other analysts.

Concerning the future and new technology, I will discuss three that we are involved with:

First – Electronic Fish Tickets and Electronic Compliance Monitoring

Second – Electronic Log Books

Third – Electronic Monitoring – i.e. Camera's

First – Electronic Fish Tickets and Electronic Compliance Monitoring:

The Pacific States Marine Fisheries Commission continues to develop and support the expansion software applications for the current West Coast Electronic Fish Ticket Reporting and Compliance Monitoring Program. E-ticket software is provided free to registered fish buyers in all here states and can capture data for any of the 27 West Coast tickets. A web portal was developed to simplify creation of reporting organizations and provide download access to software, updated and submitted tickets. In addition, software was developed to simplify the installation process and automate the process of submitting the data. The submission updates shifted data access by email to a direct web-reporting process.

This application has been in use since 2007 when it was adopted by the National Marine Fisheries Service as the official landing records for the whiting fishery. With the introduction of the Catch Shares program in 2011, Pacific States Marine Fisheries Commission (PSMFC) electronic tickets were identified as the official record for all catch share landings.

In 2012 Oregon adopted the PSMFC electronic fish ticket as the official record for all its different fish tickets. Oregon dealers who submit tickets electronically are no longer required to submit paper copies of these tickets. This program has been fairly successful in use. 23% of the fish tickets, representing 70% of the landed pounds are captured electronically in Oregon.

Washington is next, adopting the electronic ticket for one of its six ticket types. In 2012, electronic tickets accounted for less than 1% of the total number of tickets submitted but captured almost 19% of the pounds landed.

With respect to the Compliance Monitoring program, an electronic data capture application was developed to capture the data from the monitors and submit it to PSMFC.

This program has been in place since the beginning of the West Coast Catch Shares program.

Second – Electronic Log Books:

On the West Coast, Log Books are a state requirement and each state has its own set of log books. The exception is the Trawl logbooks which is a single logbook adopted by all three states.

In 2008, PSMFC developed an electronic log book at the request of the trawl fleet.

Pacific States Marine Fisheries Commission is considering adopting one of two electronic logbooks currently in use, one developed in Alaska, the other in the Northeast. PSMFC has a grant to adapt the Northeast logbook for use with the highly migratory fleet fishing primarily out of the Southwest.

We believe electronic log books will be a tool in the future especially in IFQ Fisheries. For this to be effective it will require a Federal Log Book program by regulation.

Third – Electronic Monitoring – i.e. Cameras

Pacific States Marine Fisheries Commission has been very involved in developing an Electronic Monitoring Compliance Monitoring Program for the West Coast and Alaska. This program does not replace the current 20% biological sampling program that has existed on the West Coast for some time. The focus is on compliance that is accounting for all the fish that are caught and those that are discarded.

In 2013, we will have cameras on 7 fixed gear boats, 2 whiting boats and 13 trawlers.

Goals:

The goals of the projects are simple. First, we want to first maintain the integrity of the existing system that gathers biological data, second we want to save some money for the fishermen and management, third, we want to insure the confidence of the landing and discard data.

Fourth, we want to integrate with electronic logbooks and,

Fifth, we want to look for opportunities to add to stock assessment interaction.

We have looked closely at the Canadian system and it works. Basically, it compares camera footage to the skipper's log book. Any differences are the basis for further investigation and possible enforcement action.

We are currently comparing observed data to camera images to insure we are confident in accounting for catch and discards.

In order for us to move to cameras the Pacific and North Pacific Councils and the National Marine Fisheries Service have to be confident that cameras can work.

Fishermen may have to change how they fish.

We will have to work out definitions, i.e. “what is a discard”. We have to work out enforcement issues, i.e., “what happens if someone puts a bucket over the camera”, and we have to work out cost issues i.e., “if you carry a camera instead of an observer, how much will that cost the fisherman”.

We have had many discussions with the fleet, with enforcement, and with the scientists and the bottom line is that these are show stoppers.

Concerning amendments to the Act that could provide better data collection activities, I do not have any specific recommendations.

I believe the Act provides the framework that can result in better data collection.

Our experience has been that better data collection is usually related to better funding.

Randy Fisher, Executive Director
Pacific States Marine Fisheries Commission

May 21, 2013



Conference Findings

The following conference “findings”—128 of them—were developed during the conference discussion sessions. Wording was refined by the session chairs and rapporteurs at the conference, and reported on the last day of the conference.

A “finding” was defined as “a legislative, regulatory, or policy change, or idea for improvement identified by session participants as a priority for advancing fishery management and sustainability. A finding could be an endorsement of a regional idea for consideration as a best practice across multiple regions; a modification to the Magnuson-Stevens Act (MSA), other law or policy, to improve an outcome, to remove an existing impediment, or establish a new management tool; a regulatory strategy or implementation guidance to improve an outcome under existing MSA requirements; and/or change in behavior or process needed to improve fisheries management.”

The findings are listed as they were presented at the Managing Our Nation’s Fisheries 3 conference. They are not in priority order and are not intended to reflect or imply consensus among the panelists, and may therefore be complementary or contradictory.

Session 1 Findings: Improving Fishery Management Essentials

TOPIC 1: ANNUAL CATCH LIMIT SCIENCE AND IMPLEMENTATION ISSUES, INCLUDING MANAGING “DATA-LIMITED” STOCKS

- Consider multi-year minimum stock size thresholds and annual catch limit (ACL) framework
- Phase in ACL changes
- Constrain large inter-annual changes in ACLs
- Do not base overfished determination on single year estimate
- Allow and provide guidance for using the mixed stock exemption
- Use management strategy evaluation to evaluate the performance of harvest control rules
- Provide better guidance on setting ACLs for transboundary stocks where no international treaty exists and only U.S. removals are known

DIFFERENT TOOLS AND STRATEGIES FOR MANAGING RECREATIONAL FISHERIES

- Eliminate hard quotas managed in-season for recreational stocks. Adjust pre-season input controls (e.g., bag limits, seasons) to stay within ACL (based on numbers of fish, not poundage)
- Manage with long-term mortality rates for more stability (e.g. eliminate wide fluctuations in catch limits)

ASSESSMENTS AND DATA-POOR STOCKS

- Prioritize assessment of target stocks over non-target stocks
- Set minimum data quality standards for stock assessment
- Do not require ACLs for data-poor stocks
- Improve data-poor assessment methods
- Consider default buffer (e.g., 75 percent maximum fishing mortality threshold)
- More than one indicator species in a complex leads to better estimate of stock status

TOPIC 2: REBUILDING PROGRAM REQUIREMENTS AND TIMELINES

- Revise rebuilding time requirements
- Always set T_{MAX} equal to T_{MIN} plus one mean generation

- Set exploitation rates less than F_{MSY} and rebuilding will occur naturally over time
- Refine and include the mixed stock exception in the Magnuson-Stevens Act (MSA); harvest of one species at its optimal level may result in overfishing another stock, only if strict criteria are met
- Stocks later determined to have never been overfished should no longer be subject to rebuilding requirements
- Replace the term “overfished” with “depleted” (status may not be due to excessive fishing)

MODIFY MSA TO PROVIDE FLEXIBILITY

- Establish a standardized process for reviewing rebuilding progress
- Maintain an existing rebuilding plan when minor changes occur in estimated T_{TARGET}
- Address social and economic issues (e.g., “possible” to “practicable”)
- Extend annual species exemption to short-lived species
- Allow a transboundary exemption when a significant proportion of the stock is outside U.S. jurisdiction
- Increase the frequency and quality of stock assessments and rebuilding analyses and incorporate ecosystem dynamics; recognize limitations of science
- Don’t chase noise: Assessments and projections will always be uncertain; develop smoothing strategies to provide stability
- Utilize management strategy evaluation tools to evaluate stock rebuilding approaches
- Develop harvest control rules that incorporate rebuilding provisions; early investments increase the probability of success

TOPIC 3: INTERNATIONAL FISHERIES MANAGEMENT: LEVELING THE PLAYING FIELD

INTERNATIONAL COOPERATION AND ASSISTANCE

- Help developing countries build fishery management and enforcement capacity
- Support immediate adoption of appropriate target and limit reference points by regional fisheries management organizations (RFMOs)
- Environmental nongovernmental organizations should continue to leverage compliance with RFMO conservation measures (e.g. through supply chains)

COMBAT IUU FISHING

- Increase support for at-sea and in port monitoring and enforcement
- Broaden trade sanctions domestically and within RFMOs to address non-compliance
- Implement stricter imported seafood labeling requirements in the U.S. market
- Ratify Port State Measures Agreement
- Amend MSA to change “vessels” to “vessel” in the illegal, unreported and unregulated certification section

PROMOTE MEASURES TO REDUCE OVERCAPACITY

- Fishery rationalization (e.g., catch shares)
- Restrict national subsidies for fuel and vessel construction
- Limit vessel numbers by RFMO member states

COMMUNICATION AND STAKEHOLDER ENGAGEMENT

- Improve communication among U.S. delegations across tuna RFMOs (e.g. Western and Central Pacific Fisheries Commission, Inter-American Tropical Tuna Commission, International Commission for the Conservation of Atlantic Tunas)
- Maximize participation of fishermen and other stakeholders in U.S. RFMO delegations

OTHER FINDINGS

- Consider a national sustainable seafood certification program
- RFMOs should consider transfer effects when developing conservation and management measures
- RFMOs should adopt measures that reward compliance (e.g. quota allocations)

Session 2 Findings: Advancing Ecosystem-Based Decision Making

TOPIC 1: ASSESSING ECOSYSTEM EFFECTS AND ADAPTING TO CLIMATE CHANGE

- Evaluate ecosystem productivity change
- Evaluate effectiveness and utility of closed/fixed areas
- Engage across disciplines and increase coordination between National Marine Fisheries Service (NMFS), Councils, Science Centers, stakeholders, other governmental agencies
- Increase reliance on industry while shifting Councils' roles in evaluating effectiveness
- Consider broad range of ecosystem services
- Build capacity throughout the fishery management system to use new tools to advance ecosystem-based decision-making
- Establish ecosystem Scientific and Statistical Committee at the Council level.
- Invest in ecosystem-based management (i.e., advancing scientific models, training staff) and identify and remove impediments to the transition from single-species to ecosystem-based management

ASSESSING ECOSYSTEM EFFECTS AND INTEGRATING CLIMATE CHANGE

- Address the root causes of climate change, as MSA is a limited tool and addresses mainly symptoms
- Increase coordination between and across jurisdictions to address changing species distribution and ecosystem change (Regional Councils, states, and international)

PRECAUTIONARY AND ADAPTIVE MANAGEMENT

- Flexibility to respond to spatial, allocative and distributional effects of climate change
- Address rebuilding requirements when environmental conditions may be a predominate factor in a stock's decline
- Assess barriers to adaptation (fishing communities and fish stocks)
- Utilize a precautionary approach for developing/emerging fisheries
- Recognize and manage in response to ecosystem productivity change
- Develop a comprehensive national plan and tools which facilitate development of regional management strategies
- Incorporate environmental trigger mechanism to initiate management action/measure
- Evaluate effectiveness and utility of closed/fixed areas
- Modify reference points as climate changes (precautionary vs. recalibrating maximum sustainable yield [MSY])
- Endangered Species Act: Base listings on actual trends rather than projected trends of climate change
- Assess the efficacy of the National Ocean Policy as a vehicle to address climate change

INTEGRATED ECOSYSTEM ASSESSMENTS

- Integrate Integrated Ecosystem Assessments and all component models into management process
- Derive less data and resource intensive tools for use in management process
- Develop ecosystem models, tools and assessments at a regional level that:
 - Synthesize existing data from non-fishing sources and incorporate socio-economic as well as ecosystem parameters
 - Respond to changing parameters
 - Predict future ecosystem states
 - Provide short- and long-term guidance
 - Account for cumulative impacts of climate change
- Develop decision support tools that allow councils to develop responses to a wide range of uncertainty (such as management strategy evaluation)

TOPIC 2: FORAGE FISH MANAGEMENT

- No changes to MSA are necessary to sustainably manage forage fish
- Establish a new National Standard to ensure adequate forage base
- Require explicit consideration of the impact of forage fish to the ecosystem and fishing communities to inform optimum yield (OY) and ACL decisions
- Prohibit new forage fisheries until scientific and management evaluation are conducted
- Define forage at the Regional Council level
- Use threshold harvest control rules to adopt ecologically-based reference points

- Implement real time data collection to inform adaptive management
- Require scientists to provide managers with an index of key forage species abundance
- Establish an ecosystem Scientific and Statistical Committee at the Council level
- Invest in ecosystem-based fisheries management

BEST PRACTICES

- Improve inter-jurisdictional collaboration and coordination on forage fish management.
- Use meta-analysis/global studies and rules of thumb as a starting point in discussions for forage fish management or as a guide in data poor situations
- Advance tools and develop methodologies to:
 - Evaluate tradeoffs between uses of forage
 - Account for the needs of predators when doing stock assessments and ACLs;
 - Estimate the varying and complex economic value of forage fish;
 - Measure localized depletion; and
 - Evaluate effects of climate change on forage

TOPIC 3: INTEGRATING HABITAT CONSIDERATIONS: OPPORTUNITIES AND IMPEDIMENTS

- Consider a National Standard for habitat: “Minimize adverse impacts on essential fish habitat (EFH) to the extent practicable”
- Build partnerships to achieve landscape and ecosystem level habitat improvements
- Improve understanding of relationships between habitat and productivity to support identification and evaluation of tradeoffs
- Resolve status of artificial substrates with regard to EFH designation
- Establish a timeline for improving the scientific basis for designation of EFH for key species and habitats
- Maintain and strengthen the EFH designation process by developing objectives and metrics for successful habitat protection
- Define “essential” habitat more broadly
- Shift interpretation of EFH from single-species to multispecies and ecosystem focus
- Set measurable conservation objectives and utilize a “common currency” to evaluate adverse and cumulative impacts
- Identify priority habitats that benefit fisheries, focus habitat research
- Provide guidance on “minimize to the extent practicable adverse impacts...caused by fishing” and consider relationship to OY
- Strengthen EFH consultation process and ensure compliance with and effectiveness of existing laws and recommendations
- Develop a long-term, standardized process for monitoring and evaluating habitat to es-

establish a baseline, assess long term impacts, and support rapid response to non-fishing habitat impacts

- Provide tools other than spatial closures for addressing adverse impacts from fishing

Session 3 Findings: Providing for Fishing Community Stability

TOPIC 1: RECREATIONAL AND SUBSISTENCE FISHERY CONNECTIONS

- Idea to be replicated/expanded: Scientists can learn much more from fishing community via greater use of cooperative research. This promotes buy-in, empowers fishermen, and can be more cost-effective
- Fishermen want to be involved with data analysis as well—provides legitimacy to the process and helps build trust
- Councils and NMFS need new creative communication strategies and investments to reach, engage, and support underrepresented fishermen’s participation in process
- Goals specific to each sector and stakeholder group need identification, early in the process, to customize development of a suite of fishery management strategies
- Allocations are not “permanent.” Need to be more proactive in routine review and modification as needed. Decisions should be left to the regions, and creative solutions may result from constructive dialog between sectors
- Recreational and subsistence considerations need higher priority in fishery management policy choices, and in other policy arenas that affect fisheries (e.g., alternative energy)
- Define subsistence fishing in the MSA, and expand recognition of tribes and indigenous people engaged in subsistence fishing
- Qualitative information vs. quantitative. Need more thought/guidance on how to utilize both in fishery management decisions
- Need better data. Target ledger-type submissions and other data collections as condition of access/use of a public trust resource

TOPIC 2: INTEGRATING COMMUNITY PROTECTION, JOBS EMPHASIS, AND DOMESTIC SEAFOOD QUALITY ASSURANCE

- Create, modify and promote financial tools and training to support small and community-based borrowers (e.g., NOAA Fisheries Finance Program, California Fisheries Fund)
- Resolve institutional impediments to fisheries commerce (e.g., establish central registry to facilitate lending; improve aquaculture permitting process)
- Link ecosystem-based management scales to fisheries management and governance (e.g. revise National Standard 3 [management unit])
- Link fishery participation to stewardship obligation
- Need policy statement on devolving governance
- Preserving the past is not always the best path forward

- Diversify Council management actions to accommodate differences between small and large-scale operators (e.g., mobility of fleet, business models, supply needs)
- Anchor quota in communities (utilize ecosystem-based management, Community Fishing Associations)
- Devolve more responsibilities and accountability to communities and industry, engage in science via cooperative research
- Elevate and promote best practices; become a learning organization (e.g. state examples, Fisheries Improvement Projects, National Fish & Wildlife Foundation funded projects)
- Modify Council process to improve participation of small-scale and community sectors
- Cooperative research results needs to be more fully incorporated into management
- Recognize certification of U.S. fisheries that meet the 10 MSA national standards
- Need end-end streamlined regulatory process for aquaculture
- Wild harvest and aquaculture, more similar than different, both needed to meet supply needs, attain economic objectives

TOPIC 3: ASSESSMENT AND INTEGRATION OF SOCIAL AND ECONOMIC TRADEOFFS

- MSA needs to incentivize response to challenges, population growth, climate change, globalization, and budget cuts
- MSA needs to complement other ocean users and relevant statutes that affect fisheries management, such as Endangered Species Act, Clean Water Act
- Give full consideration to impacts from other uses/users for marine resources (non-fisheries)
- MSA should explicitly promote use of adaptive management approaches, particularly for data-poor species where the precautionary approach limits information on stock performance under higher catch rates
- Need to define, identify sideboards and metrics of elements of OY; redefine OY/MSY relationship to no longer be one direction, and social, economic and non-economic values could allow OY to be above MSY
- Expand socioeconomic analysis requirements to include economic value and non-market value quantification
- Trade-off analysis requires giving higher priority than other disciplines for acquiring additional capacity in social scientists including anthropologists, sociologists, and economists at Councils, regional offices and/or externally
- Facilitate cooperation and partnerships with states, local governments, and other agencies
- Improve engagement with competing sectors in scoping process
- Develop mitigation plans to reduce impacts on communities due to management actions

- Reform MSA confidentiality provisions, access to data from public trust resource users while protecting sensitive information

ALLOCATIONS

- MSA mandate for Councils to consider review of recreational and commercial allocations every {x} years after scoping allocations based on a set of objective guidelines
- NOAA standardized methods on how to review allocations
- Improve NOAA support for allocation reviews (contracted analysts/economists)



Reactions Panel Summary

The conference concluded with a presentation of the concurrent session findings to a panel of distinguished and influential persons in the fisheries management arena. This “Reactions Panel” was asked to provide their initial reactions to the conference conclusions, including their views on the merits of the recommendations, the feasibility of acting on the findings, and ways to improve or clarify the conclusions.

Reactions Panel Summary

Bonnie McCay, Board of Governors Distinguished Service Professor, Rutgers University

SOCIO-ECONOMIC ACADEMICS PERSPECTIVE

We are often reminded that fisheries are a classic case of the tragedy of the commons and thus are in need of governance. However, governance goes beyond simply government, as reflected in the innovations of the Magnuson Act (MSA) and the highly participatory regional fishery management process, where government officials as well as citizens have a voice in fisheries management. A strong message of this conference has been the importance of public/private partnerships, co-management, and community-based initiatives: a “communing of the commons,” as Barton Seaver put it, or a recognition of the roles of humans in natural systems, including response to change. “If we can destroy, we can restore and heal.”



Management mistakes are often the result of reduced capacity to adapt to change, or arise from a loss of access by those dependent on resources—those with useful knowledge who are in a position to be stewards. The issue of access for economic, social, and cultural purposes is another strong theme of the conference. As we continue to rebuild stocks, we need to ask whether our biological successes have resulted in acceptable economic, social, and cultural outcomes, including fair and equitable access.

The United States is unique and fortunate in having legislation, such as National Standard 8, that explicitly brings communities into the framework of fishery management. Determining the implementation and effectiveness of these provisions raises questions. Do the goals of stock conservation and rebuilding under National Standard 1 take precedence over National Standard 8? How can we improve the assessment and consideration of community impacts in management decisions? Does our strong preference for the best available science create a bias for quantitative biological and economic values and relatively large-scale fisheries and communities? Can the MSA better acknowledge the role and currency of qualitative data and the experience-based knowledge of fishermen?

The emergence of community-based initiatives in marketing, management, and cooperative research, such as risk pools, community-supported approaches, and permit banks is a testimony to the cooperative social roles of local leaders, non-governmental organizations, foundations, governments, and communities: the “comedy of the commons.” MSA reauthorization should consider the recurring emphasis at this conference on decentralization of fishery management authority, and should recognize and encourage localized initiatives. A local approach can help protect smaller communities from the adverse effects of market-based management systems and can encourage ecosystem-based approaches at the appropriate small scale. MSA language regarding limited access privilege programs could be improved to make them less onerous and more conducive to local, cooperative, community approaches.

In closing, fishery management should move towards a more local approach with a serious focus on emerging challenges that calls for innovation and action at multiple scales—from the very large, such as response to climate change—down to the very small: the fishing crews and families, the seafood businesses, and local communities that are on the front line of trying to cope, adapt, and innovate.

Bob Hayes, General Counsel of the Coastal Conservation Association and the Center for Coastal Conservation

RECREATIONAL FISHING INDUSTRY PERSPECTIVE

The word “recreation” has been more prevalent at this conference than at any other Managing Our Nation’s Fisheries conference, and has appeared more times this week than it appears in the Magnuson Act. This is a direct result of the leadership of Eric Schwaab, Sam Rauch, and others at the National Marine Fisheries Service. There have been many analogies this week to “tsunamis” on the horizon—looming changes in fisheries management. Two significant changes to consider are demographics and budgets.

Regarding demographics, many in the “baby boomer” generation are about to retire, many of them to coastal areas. Although not all retirees will take up recreational fishing, many will. An expanding retirement community, combined with general population growth, will likely add to the pressures on our resources and our Federal fisheries management system.

Budgets have been shrinking and spending has been curtailed, a situation that is not likely to change dramatically in the near future. There will likely be an increase in inflation that will reduce what can be done with already limited funds.

From the perspective of recreational fisheries and with a changing landscape in this country, I would like to offer the following solutions.

We should enhance state management of our fishery resources. There are many stocks that are not directly managed by the Federal government, and this model could be expanded. The time has come to ask who should manage our fisheries. Many species occur primarily in state waters, and yet are unnecessarily subject to the statutory requirements of the Magnuson Act.

The Magnuson Act has largely focused on commercial fisheries for decades, and is only recently beginning to consider the unique role of recreational fisheries. Prevalent thinking for years has been that recreational fisheries were largely state-managed and would not become part of the Federal process. Today, many recreational fisheries are overencumbered with regulations and policies that were shaped with commercial fisheries in mind.

Prescriptive management requires good data and good data collection systems, for recreational fisheries are expensive. Trying to improve data collection by simply redesigning or renaming sampling programs without significantly increasing available funds is futile; a fool’s errand. Recreational fisheries are increasingly held accountable for more detailed information and restricted by quotas, while Federal budgets for increased sampling are slow in coming or do not yet exist. You have to manage to the data you have.

Allocation is currently frozen. Not allocations between commercial gear types or geographic areas; these types of negotiations are relatively common. Allocations between recreational and commercial fishery sectors are in need of review and are often neglected because they are difficult to negotiate without substantial disagreement and deliberation. Therefore, the Magnuson Act should be revised to require routine review and potential revision of recreational and commercial sector allocations.

Lee Crockett, Director of Federal Fisheries Policy, Pew Charitable Trusts

ENVIRONMENTAL NON-GOVERNMENTAL ORGANIZATIONS PERSPECTIVE

First, we should take stock and not lose sight of the conservation successes of the Magnuson Act. Since 2000, 32 stocks have been fully rebuilt and the number of stocks subject to overfishing has been cut in half since National Marine Fisheries Service started publishing the status of stocks. Clearly, we have made substantial progress since rebuilding requirements were added to the act in 1996 and with the annual catch limit requirements of 2006. These successes should not be forgotten as we consider Magnuson Act changes that build on these successes rather than undercut them.



A recurring theme of the conference has been a call for flexibility, particularly in regard to stock rebuilding requirements. It is unclear what is meant by flexibility. Many of the examples put forward this week can be accomplished through policy guidance or modifications to National Standard 1 guidelines. There was a good deal of flexibility in the Magnuson Act prior to 1996, flexibility that allowed stocks to remain depleted and overfishing practices to go unchecked. Flexibility often means lengthy and delayed rebuilding plans. It can be argued that the Magnuson Act already provides considerable flexibility when many of rebuilding targets are in excess of 50 years and the average rebuilding time across all depleted stocks is 19 years.

What is lost in the discussion is the economic and environmental costs of delayed rebuilding. According to National Marine Fisheries Service, the economic benefit of rebuilding all depleted stocks is 32 billion dollars and 500,000 jobs per year. The environmental costs of depleted stocks include increased vulnerability to natural population fluctuations and climate change.

In conclusion, we should build on our successes. The environmental community is supportive of many recommendations we heard this week, including decreased reliance on single-species management, and increased protections for habitat and forage species. As fisheries and resources adapt to climate change, we should take a precautionary approach to the development of new fisheries. We need to change our “fish first and ask questions later” philosophy. Our oceans and the fish in them are a public resource. There is widespread support for the conservation of ocean resources. We all want abundant fish, sustainable fisheries, and vibrant oceans.



Stephanie Madsen, Executive Director of the At-Sea Processors Association

COMMERCIAL FISHING INDUSTRY PERSPECTIVE

Representing commercial fisheries from around the U.S. is a daunting task. Having participated in all three national conferences, it has been interesting to note that this year's conference has not emphasized a strong need for changes to the Magnuson Act. This is not a reflection on the productivity of this conference, but a finding that things are working well and perhaps we need to focus on existing provisions that are not fully utilized or are still in need of implementation. Many of the findings would not require a statutory change and could be addressed through policy or regulatory mechanisms. A good suggestion from the conference is to study these findings through the lens of the “three i’s”: intent, interpretation, and implementation.

The economic environment we live in will require us to do more with less. We need to take a hard look at costs: not just to government agencies, but also to stakeholders, communities, and the public. Additional requirements designed to force action, such as the recommendations to establish a National Standard on habitat or to require expanded socioeconomic analyses, should be carefully reviewed because the benefits may not outweigh the costs. These are worthy goals, but existing provisions present the means to achieve them without the burden of costly requirements.

It will become increasingly important to find cost-effective mechanisms to address data and research needs. Cooperative research and management efforts have been discussed and recommended this week, and yet the Magnuson Act already provides the authority for this important tool, and there are examples of effective implementation in Alaska and other areas. It is not about a loss of governmental authority, but rather a cost-effective shared burden with industry for data collection, monitoring, and reporting.

Regional Fishery Management Councils should be in the practice of identifying objectives when recommending fishery policies and programs. Calls for program reviews have been made this week, but the efficacy of a program can be hard to assess if there are not clearly established objectives. The old saying is true, “if you don't know where you are going, any path will get you there.”

A strong theme this week has been a call for more responsive and adaptive management in the face of changing environments. However, our regulatory process is cumbersome and in need of streamlining if we are truly going to have an adaptive system. Streamlining our management regime is a challenge because it is difficult to simplify management actions without limiting public input and/or disenfranchising stakeholders.

We have also heard a call for an MSA certification process. Fishery certifications have proven useful, but they come at a high cost and can have limited benefits to a fishery if the certification does not garner wide support from processors and buyers and meet the needs of customers. With limited resources, it would be better to invest in enhanced stock assessment efforts. Assessments are at the core of fishery management.

In closing, we need to maintain the ability to manage in response to regional differences, and we need to align our expectations with the economic realities we are facing.

Ed Johnstone, Policy Representative for the Quinault Indian Nation

INDIGENOUS PEOPLE PERSPECTIVE

Indigenous people have had a difficult history and are proud to participate in the conference and to have a role in the process. The rights and responsibilities the tribes have today are the result of hard fought battles, forward thinking organization, and mutual support between tribes. Coordination and support continue to be one of the keys to maintaining tribal and subsistence opportunities. Subsistence fisheries should have a high priority when setting fishing policy because those communities are not catching fish for sport or for profit, they are fishing to survive. Too often, a gauntlet of fisheries is allowed to proceed ahead of a subsistence fishery that is curtailed to meet management objectives.

The tribes have long been proponents of ecosystem-based management approaches and brought the idea to both the Regional Fishery Management Councils and National Marine Fisheries Service ten years ago. Area management, a broad perspective, and local knowledge have been a large part of tribal resource management over long time spans. The tribes are very supportive of maintaining healthy communities, both tribal and non-tribal. We have a shared responsibility to maintain that economy and to manage our stocks for thousands of years.

The tribes strive to ensure that treaty rights are respected and not forgotten. The tribes of the Pacific Northwest have a proud tradition with the Pacific Council where tribal ideas and concerns are considered, where co-management has been a success. This reality did not come easily and it has been a long struggle, but it has been rewarding to see indifference give way to cooperation.

Randy Fisher, Executive Director of the Pacific States Marine Fisheries Commission

INTERSTATE MARINE FISHERIES COMMISSIONS PERSPECTIVE

The Atlantic, Gulf, and Pacific Marine Fisheries Commissions are heavily involved with data programs in support of fisheries management. Interstate Marine Fisheries Commissions are able to lobby Congress and do so in support of funding for the data collection that is critical to management.

The findings from this week's conference indeed imply that the Magnuson Act has been a success and is not in need of major revision. As it has been noted, many of the findings are important improvements that can be implemented under the existing authorities and provisions of the act. Budgets are a major concern from the perspective of the commissions. Prioritizing and implementing these findings will require tradeoffs, and available funding will be a key factor in that process.

An ecosystem approach to fishery management has been a consistent theme and topic this week. In many ways, the Regional Fishery Management Councils are already engaged in ecosystem-based fishery management. However, the specifics of ecosystem-based management are undefined, and the complexities of such a broad perspective make it difficult to implement on land and even more difficult to implement in our oceans.

Regional differences are important because programs that work in one region may not in another. On the Pacific coast, we are lucky to have strong data collection systems in place for recreational fisheries, but discussions with other commissions indicate that similar systems would be difficult to implement in other parts of the country.

Three words come to mind when considering the need to revise the Magnuson Act: creative, committed and compe-



tent. The conference findings have touched on issues that may be best addressed through creative implementation of the existing Act. There is no doubt, as evidenced by the strong work this week, that there are many people committed to fishery management. It is worth noting that the conference has not resulted in a great deal of criticism of National Marine Fisheries Service. At the core of our competency is the quality of our data and the degree to which our data is trusted and supports good decisions. Fishery management is becoming more and more complex and detailed, requiring more and more data to support it. In response, expectations are high and we may not be able to meet them with available resources.



Philip Anderson, Director of the Washington Department of Fish and Wildlife

STATE FISH AND WILDLIFE AGENCIES PERSPECTIVE

There is a stark contrast between this conference and the first two Managing Our Nation's Fisheries conferences of 2003 and 2005. The first two conferences focused more on defending the Regional Fishery Management Council system against a multitude of people who were finding fault in the way fishery management was being done. At this conference, we are on the offensive. We are demonstrating our successes, but more importantly we are looking for ways to improve.

If we leave this conference with a set of findings that can be chosen to best fit regional needs, the conference will have been a huge success.

The states have played a very important role in the regional fishery management system. Washington participates in both the Pacific and North Pacific Council forums. It has been a successful and mutually beneficial partnership.

Several of the findings jump out as an easy choice for improvement. As mentioned earlier, stock assessments are the foundation from which we build our fishery management systems, and increasing the quality and number of stock assessments and developing ways to improve on those stocks that are not data-rich or are unassessed is an obvious improvement. Promoting regimes that reduce overcapacity is imperative, and has been the focus of a West Coast collaboration to implement catch share programs. Coordination between Councils, the Regional Fisheries Science Centers, and the states is particularly important and, as we have learned on the West Coast, takes commitment. If Mr. John Royal, a founding member of the Pacific Council, were here, he would join me in supporting the finding that urges improved international collaboration on forage fish, because John was a strong advocate for better coordination with Mexico on Pacific sardines.

The need to react to climate change and ocean acidification in a timely way is an important finding that will require us to streamline and harmonize our regulatory regimes. It is simply unacceptable that it currently takes 18 months to update harvest specifications for groundfish on the West Coast. It is critical that we find a way to maintain our open and transparent process while adapting our management measures in a more timely fashion. Forage fish management is critical to our success, and fishing must be limited to those instances where we have solid information about those forage fish species and the ecosystem needs of those species before we authorize fisheries, particularly new fisheries.

Despite significant investment and effort, we are losing habitat in the Pacific Northwest faster than we can restore it. Essential fish habitat and its consultation requirements have been largely ineffective at making substantial change. We need to be more effective at influencing those with the regulatory authority to protect, preserve and restore our important habitats.

Finally, as it has been said at this conference that "preserving the past is not always the best path forward." This is true now more than ever. With climate change well on its way, we need to develop ways to anticipate those changes and modify the way we manage. Standing still in the face of climate change will be like standing still on a descending escalator: we will continue to move backward. We can't afford to move backward.

Rick Robins, Chairman of the Mid-Atlantic Fishery Management Council

REGIONAL FISHERY MANAGEMENT COUNCILS PERSPECTIVE

The United States has the strongest fishery management system in the world. We should affirm our core strengths. We have a system that prevents overfishing and consistently rebuilds overfished stocks. Despite these successes, there is lingering sense that U.S. fishermen and fisheries have been vilified. This deserves to be corrected; U.S. fishermen fishing under today's Magnuson Act should stand tall. In a market transformed by globalization, the sustainability of U.S. fisheries needs to be affirmed, and the finding to develop a certification process warrants further exploration.

A recurring theme at this conference has been a call to maintain a big picture perspective, particularly when you consider the strong influence that climate change is likely to have on our fisheries and fishing communities. Our fisheries may be like canaries in a coal mine that we don't operate, but we need to prepare for changing environmental conditions, and we should engage our scientific resources to better understand the vulnerabilities of our ecosystems.

When Council members take their oath of office, they agree to manage fisheries to the greatest overall benefit to the nation. This concept resides explicitly in the definition of optimum yield and lies at the very heart of the Magnuson Act. The concept is broader than biological yield; it includes social, economic, and ecological considerations. It is time to assess whether we are truly achieving the greatest overall benefit to the nation. This week's discussions clearly show an interest in applying greater flexibility, and most agree this can be done through fine-tuning rather than re-writing the Magnuson Act. Collective success in rebuilding stocks indicates that modifications to the current system should preserve its integrity and improve sustainability.

Carefully crafted and targeted flexibility in the Magnuson Act or its implementation could facilitate several important outcomes. Examples offered this week include improving regulatory stability and preventing abrupt disruptions to fisheries by providing more tempered responses to stock assessment results, improving stability in recreational fisheries by managing for a rate of removal and allowing more flexibility in our response to recreational catch estimates, and exploring rebuilding flexibility by gaining a broad consideration of social, ecological, and biological tradeoffs, particularly when ecological forces are impeding recovery. In many cases we have been highly successful at rebuilding stocks when defined by biological terms, but these successes often come at the expense of the economic resilience of our coastal communities.

Many agree that high quality and timely stock assessments are critical to our successful management, but we will need to develop careful strategies in this fiscally-limited environment to ensure we have adequate scientific support.

We need to continue to build on our effective interjurisdictional coordination, not only with the states on domestic fisheries, but also at the international level to ensure positive outcomes for U.S. fisheries operating under the Magnuson Act's gold standard.

There is a growing interest in incorporating ecosystem approaches in fisheries management, but these approaches should be supported through a transparent evaluation of costs, benefits, and tradeoffs, including non-market values.

The U.S. has the strongest fishery management system in the world, and we can make it better. Chef Barton Seaver said, "it's about what we want for dinner." I would add that we need to provide recreational access that sustains a healthy recreational fishing industry and a healthy ecosystem. We need to define and pursue success in terms that result in the management of fisheries to the greatest overall benefit to the nation—not just in biological terms but socially, economically, and ecologically. As strong as the system is, we can improve it by working together to fine-tune the Magnuson Act, its implementation, and our practices.

We can make it better. Let's get started.





Sam Rauch, Acting Assistant Administrator, NOAA

NATIONAL MARINE FISHERIES SERVICE PERSPECTIVE

This has been a successful conference that has been approached by most everyone involved in a professional, constructive, thought-provoking manner. This has resulted in far too many good findings to respond to in the allotted time. Many of the findings do not require any statutory or regulatory changes; they just need to be put into practice. Others require National Marine Fisheries Service to adopt corresponding regulations or policies. And there are a few that may require legislative action. National Marine Fisheries Service intends to meet the challenge head on.

Among the themes we heard this week is the need for sustainability and the wisdom to build on our current successes. The terms “devolution” and “decentralization” have come up several times. These concepts are the hallmarks of the Magnuson Act and the Council process, taking fishery management out of the exclusive hands of the agency and placing it in the hands of the regional Councils, the fishermen, and the states. There may be ways to improve, but incorporating the needs of fishermen and fishing communities through direct participation is something the agency embraces.

We have heard about the need for flexibility in a variety of contexts, but we also heard a call for stability, the notion that without stability we create distrust in the system and we suffer economic loss through our inability to plan. There is tension between being flexible and being responsive to the science while providing stability. This is a challenge, a challenge that the regional Councils address regularly. We need to find a path forward given these seemingly contradictory mandates.

Within the concept of flexibility, we heard a lot about tailoring our management tools to the kind of system we have. Recreational, commercial, and subsistence fisheries have very different needs and challenges. Approaches that work for data-rich species may not work for species with less information, and we need to tailor our management tools accordingly.

Many of this week’s findings can be dealt with through regulation. The agency has been working on our National Standard 1 guidelines. Several of the findings mirror comments and issues submitted to the agency as it begins the process of potentially revising the guidelines. The intent is to take the feedback from this conference and to incorporate the findings as appropriate.

In terms of becoming more adaptive to climate change and achieving a better understanding of the role of forage, we have the regulatory capacity to address these issues, but they will require investment in new decision-making tools and research which may be difficult in this budget climate. It is encouraging that the agency’s requests for additional funds in support of stock assessments have largely been met while many other funds have been reduced. However, we will not likely ever get to a point where we have all of the science our management systems call for. We should address the problem by finding better ways of aligning available science with our management needs, and by exploring cooperative and technological solutions for more cost-effective information collection.

The critical role of healthy habitats and ecosystems in sustainable fishery management was raised several times this week. Tools exist for developing goals and measurable criteria for assessing and adapting to changes, and the agency is interested in working with the Councils on this important issue. But the agency, through fishery regulation, cannot alone address the problem. Habitat protection requires a broad range of stakeholder input and collaboration.

In closing, two of the great achievements of the Magnuson Act are stakeholder engagement and communication. We have a unique system that provides frequent opportunities for public participation, but communities want to be more involved and there is room for growth and improvement. This conference is about shared governance. The agency encourages everyone’s continued participation as these findings are put into practice.

Dave Whaley, Senior Fisheries and Oceans Staff

HOUSE OF REPRESENTATIVES, NATURAL RESOURCES COMMITTEE PERSPECTIVE

It has been a pleasure to see old friends at the conference, and it has been rewarding to meet new people who are getting involved with fisheries management. It was very difficult to decide which of the concurrent conference sessions to attend because there were many good topics and, as evidenced by the many findings, there were excellent deliberations.

It has been difficult to take in all of the findings in a short time, and it will require some time to study the outcomes of this conference and share them with members of Congress. It is great that the conference has generated so many good findings. Chairman Hastings and Senator Begich are interested in looking carefully at these recommendations and in using them as a basis for Magnuson reauthorization.

Some of the findings present difficulties from a legislative perspective. Many of the findings are scientific in nature, and when Congress attempts to address scientific issues statutorily, it doesn't always go well. We will work with the agency on the findings that can be addressed through executive action rather than statute. Other findings represent great ideas, but will be very difficult to put into legislative language. The Magnuson Act provides a desirable regional flexibility, and we need to be careful how legislation is drafted. We don't want to add language that solves one region's problem while creating new problems for other regions.

New mandates have been suggested this week. The Councils have a difficult job with limited resources, and we need to approach new requirements with caution. Mandates can also lead to increased litigation that further burdens the system.

The findings include improvements that are not improvements to the Magnuson Act, but rather to its implementation. As we heard, National Marine Fisheries Service has started a process to review the National Standard 1 guidelines. There are those who feel that Congress should step in and address some issues through legislation. This is a bit of a circular matter where it may be best to allow the agency to revise the guidelines before addressing disagreements through legislation or, conversely, it may be more desirable to make legislative changes in advance of the guideline revisions. Given that these two processes are on different schedules, Congress intends to work closely with the agency as both efforts unfold.

The next hearing scheduled for the National Resource Committee is on data collection. It has been said many times during the conference that with better information comes better management. Funding issues will continue to be a challenge, and it will be important to reduce costs through innovations, efficiencies, and technology.

The panelists this week were asked to share one new idea in their papers and presentations. One issue that has not been addressed this week is the graying of the fleet. We seem to be creating barriers to new fishery participants, and we have policies in place that hinder new vessel construction. If we desire safety and economic efficiency, we need to find long-term ways to bring new participants and new vessels into our fisheries.

Congress is appreciative of recommendations that have come from the conference. We look forward to working through them in greater detail as we approach reauthorization.

Jeff Lewis, Counsel to the Chairman and Majority Leaders of the Senate Committee on Commerce, Science and Transportation

SENATE, COMMERCE SUB-COMMITTEE ON FISHERIES AND OCEANS PERSPECTIVE

The conference has been impressive in many ways, not the least of which is the reasoned and objective way in which the findings were developed and presented. That is not usually the case in the legislative realm. It shows that those in attendance are truly interested making improvements.

Moving new legislation through the Senate can be a difficult task, particularly when substantial changes are pro-



posed. It has been encouraging to hear at this conference that people are in general agreement that the Magnuson Act is working well and that many of the suggested improvements can be initiated through non-legislative means.

It is not possible to speak for the Senate, and the ideas shared today may change, but there are a few items to highlight. Management strategy evaluations that bring stakeholders together in the development of a fishery management program with agreed goals and triggers hold promise, but they are expensive. Also, the smoothing of abrupt changes in harvest levels to minimize disruptive events without compromising our sustainability goals is something we should be working towards. Congressional members are interested in further exploring these improvements.

The finding to develop new tools and strategies for the management of recreational fisheries is interesting and appropriate because we should always be thinking about the commonalities and differences between the segments of a multiuse fishery. However, the development of these tools requires a great deal of information and supporting analyses. Many have expressed the notion that recreational fisheries have been underrepresented in Federal fishery management. Although the Magnuson Act itself clearly recognizes the importance of recreational fisheries and their economic contributions, perhaps the implementation of the Act has had a more commercial focus. Recreational fisheries have been described in greater detail in previous reauthorizations, and there is now a call to complete a similar exercise for subsistence fisheries.

Finally, regarding illegal, unreported, and unregulated harvest at the international level, many of the goals recommended this week are included in bills currently in Congress that explore both “carrot” and “stick” solutions to this significant problem.



Bill Hogarth, Director of the Florida Institute of Oceanography, University of South Florida

ACADEMIA PERSPECTIVE

It has been a pleasure to meet with familiar faces this week and to hear from those in a position to address these recommended improvements. The deliberations this week have confirmed for me that it was wise to retire. Seriously, the Magnuson Act is working, and has been implemented well by NMFS and the Councils. Many of the recommendations are concepts that we attempted to tackle in the last reauthorization. At that time, there was a strong desire in Congress for certainty, certainty in our rebuilding efforts and certainty in ending overfishing.

We have to operate and approach our fisheries as a business, one of the largest in the country. We are not currently doing so, and this is an area for improvement. Commercial fisheries operate for profit, while recreational and subsistence fisheries have different objectives. We should therefore be doing a better job of managing to these unique needs.

New technologies will continue to be an important aspect of fishery management improvements. Fishery monitoring and observing are areas undergoing extensive research today with the potential to advance management. Cooperative research and partnerships will be critical to fishery innovations.

Trust is the key, and it is in short supply. This lack of trust often gets in the way of effective management tools, including catch shares. We have to learn to trust each other and to operate our fisheries as an efficient business to get the most from the available resources.



Poster Abstracts

The Managing Our Nation's Fisheries 3 Conference featured 70 posters spanning all three conference themes: Improving Fishery Management Essentials, Advancing Ecosystem-based Decision Making, and Providing for Fishing Community Sustainability. The posters were displayed for two days, allowing for several opportunities for poster viewing and discussion with presenters. In addition to posters, several Regional Fishery Management Councils and other organizations staffed display booths.

Poster Abstracts

Quantity or Quality—Crew Jobs and Community Benefits as a Function of Fleet Size

RICHARD ALLEN, R.B. ALLEN ASSOCIATES, RHODE ISLAND. RBALLEN63@GMAIL.COM

The Gordon-Schaefer bio-economic model is widely used to illustrate the relationship between fish population dynamics, fishing revenue, fishing costs, and net benefits to society. For the purpose of measuring net benefits to society from a fishery, all inputs are valued at their opportunity cost, which is what they would be worth in their next best use. The standard approach produces the familiar straight line for total fishery costs because opportunity costs don't vary as fishing effort increases. In order to truly understand the dynamics of a fishery, however, including the quality of crew jobs, it becomes necessary to take into account the share system, under which fishing vessel crews are paid a share of the revenue from the catch. Under most share systems, the crew pays part or all of the variable costs of fishing. When the share system is considered, the effective cost and earnings structure facing fishing businesses departs from the classic model. Annual catch limits also change the shape of the yield curve compared to an unregulated fishery. The modification of the usual fishery production function illustrated here does a better job of explaining the trade-off between the number of crew jobs and the quality of those jobs as a function of fleet size when catch limits cap revenues. By looking at costs and earnings in more detail, the loss of economic benefits to communities that occurs with excessive fishing capacity also becomes clear.

Alaska Community Profiles: Delivering Critical Information to Alaskan Coastal Communities

ROB AMES, PACIFIC STATES MARINE FISHERIES COMMISSION; AND CAMILLE KOHLER, RESOURCE DATA, INC.
RAMES@PSMFC.ORG

Developing effective fisheries policies and regulations that consider the importance of fishery resources to fishing communities is challenging because comprehensive and consolidated sources of community-based data have not been available for most regions. To fill this need, Alaska Fisheries Information Network (AKFIN), in collaboration with the Alaska Fisheries Science Center, acquired and processed Alaska commercial, recreational, and subsistence fisheries data along with census demographics data into a comprehensive collection of over 600 pre-calculated annual statistics for each of the 350 selected Alaska communities from 2000 to 2011. These metrics are available to authorized users through an online Oracle Business Intelligence reporting tool, which has allowed social scientists from the Alaska Fisheries Science Center to publish an expanded and updated technical memorandum entitled Community Profiles for North Pacific Fisheries—Alaska. These published community profiles, along with AKFIN's comprehensive collection of community metrics, will assist state and Federal agencies to shape government policy and to evaluate the social and economic impact of existing regulations on these Alaska communities.

The Marine Stewardship Council as a Tool to Recognize and Improve Global Fisheries Management

DAN AVERILL, MARINE STEWARDSHIP COUNCIL DAN.AVERILL@MSC.ORG

The Marine Stewardship Council (MSC) is an independent third party global certification and ecolabel program that has developed a scientifically robust standard and associated methodology, based on inter-

national norms for ecolabel programs. The standard assesses whether fisheries are ecologically sustainable and well managed and is applied equally to all fisheries that voluntarily enter into assessment. It is a market-based program designed to recognize and reward sustainable fishing practices through purchasing decisions. MSC works collaboratively with the fishing industry, seafood businesses, governments, scientific and conservation communities to achieve our mission. Fisheries are assessed by a team of independent scientific experts in a transparent, stakeholder inclusive process, and the work is peer reviewed by independent scientists. If successful, a fishery can make the claim that it is MSC certified. The MSC adopts a rational, consultative process based on the best science available to ensure it consistently reflects global best practice. The program assesses health of the stock, impact on the marine ecosystem and fisheries management and fishing practices, and can be a useful performance evaluation tool to leverage improvements in fisheries.

Several highly migratory species fishery assessments and certifications reside within the MSC portfolio, intersecting with many regional fisheries management organizations across the global landscape, and many fisheries use MSC as a tool to gauge performance. The rigor within the indicators of the MSC standard is designed to capture principles of a) sustainable stock status using reference points, harvest control rules, and rebuilding timelines; b) minimal environmental impact on bycatch, benthos and the ecosystem, and c) an effective overarching management system including eliminating illegal, unreported and unregulated fishing. Over 50 percent of U.S. fisheries are certified as sustainable under the MSC program and products from those fisheries are eligible to use the MSC label in the marketplace. That success in the U.S. helps incentivize fisheries elsewhere to achieve sustainable fishery management practices and exploitation levels already evident in the U.S. The MSC can help level the playing field as an important instrument to promote and achieve consistency, through assessments and certification, in the ecological and management outcomes across the global fishery management landscape.

Community Fisheries Network: Building Capacity for Commercial Fishing Communities

NICK BATTISTA, ED BACKUS, MEGAN MACKEY, STEPHANIE WEBB, AND SUSIE ARNOLD, ISLAND INSTITUTE, MAINE.
NBATTISTA@ISLANDINSTITUTE.ORG

The Community Fisheries Network is a group of 15 community-based fishing organizations and supporting organizations from around the United States that have joined together to address common challenges faced by small-scale fisheries. While the fisheries differ from community to community, members find common ground by sharing information about their work on and off the water, the management challenges they face, and how they can best adapt to change. The goal of the Network is to increase the long-term sustainability of commercial fishing communities by building business-planning acumen, strengthening social networks, and creating economic resilience through expanding markets.

The Network is committed to pursuing “triple-bottom line” community fisheries sustainability strategies, ensuring fisheries are ecologically, economically, and socially sustainable for the long-term. Members agree to operate under these principles, and seek to improve practices to meet the standards. Specific goals include improving or sustaining ecosystem and species health, ensuring equitable access to fishery resources, and improving the economic performance of local fisheries businesses and associated community infrastructure.

As the Network develops a national brand and markets for its fish, the underlying triple bottom line standards and metrics tell a story about how the fish, fishermen, and their community are intertwined. Keeping this story with the fish as it moves through the seafood product chain is a key goal for members.

Successful community based fishing businesses can help coastal communities preserve their working waterfronts. By investing in infrastructure, businesses, communities, deckhands and crew, and by engaging in creative marketing, small scale fisheries across the country can help ensure there is enough revenue crossing the wharves they rely on to ensure the long term sustainability of their communities. The National Marine Fisheries Service can aid in this process by providing much needed guidance on the development of Community and Regional Fishing Associations and associated sustainability plans in catch share programs to

ensure equitable access. In both catch share and non-catch share fisheries, ideas like the Community Fisheries Network present fishermen and fisheries managers with non-regulatory solutions that help improve the health of the ocean ecosystem and sustain fishermen and their communities.

Defining Ecosystem-Based Fisheries Management: Comparisons Between the Mid-Atlantic and New England Fishery Management Councils

INGRID BIEDRON AND BARBARA KNUTH, CORNELL UNIVERSITY. IB49@CORNELL.EDU

Debates about the definition and scope of concepts included with the notion of “ecosystem-based fisheries management” abound. We compared how different stakeholder groups in the New England and Mid-Atlantic regions define ecosystem-based fisheries management (EBFM). We considered how each selected stakeholder group defines EBFM, the content of those definitions, differences in definition between groups, and the extent to which Council decision makers are able to characterize the views of selected stakeholder groups. We used the Coorientation Model to characterize communication processes and understanding between regional fishery management council members, staff, and scientists, commercial and recreational fishermen, and environmental nongovernmental organization leaders in the New England and Mid-Atlantic regions. The Coorientation Model is an approach that can measure the dynamics of the communication exchange and the levels of agreement in values between Council leaders and stakeholders. Approximately 5,500 questionnaires were mailed to selected stakeholders. Two versions of the survey were sent. The first version targets Council members, Council staff, and Scientific and Statistical Committee members and inquired about what survey recipients thought and also asked how the survey recipients thought the other stakeholder groups would respond. The second version targets commercial fishers, recreational anglers, and environmental nongovernmental organization leaders and inquires about what the recipients themselves thought. The question referring to the definition of EBFM asks, “Please indicate to what extent YOU agree or disagree that the definition of ‘ecosystem-based fisheries management (EBFM)’ should include the following concepts?” Commonly selected definition components include: “Considering the interactions between the physical, biological, and human factors that affect the health of fisheries,” and “Protecting and/or enhancing habitat.” Data analysis includes comparisons of stakeholder responses about the definition of EBFM, grouped and displayed visually using charts, graphs, and figures. The findings from this research will provide information to regional fishery management councils regarding what aspects of EBFM stakeholders find most important and how well priorities about EBFM are communicated among stakeholders.

The Community Development Quota Program: Developing Sustainable Communities in Western Alaska

AGGIE BLANDFORD, WESTERN ALASKA COMMUNITY DEVELOPMENT ASSOCIATION. ABLANDFORD@WACDA.ORG

The Western Alaska Community Development Quota (CDQ) Program is widely viewed as one of the most successful rural development programs ever undertaken in Alaska. The CDQ program does not depend on direct government funding for its programs and activities; rather, the six nonprofit organizations that make up the program are sustained by their ability to harvest a small percentage of the fishery resources of the Bering Sea.

Established by the North Pacific Fisheries Management Council in 1992, this innovative Federal community and economic development program provides its sixty-five eligible communities with roughly ten percent of many of the Bering Sea and Aleutian Islands’ harvestable fish stocks.

The goal of the CDQ Program is to encourage fisheries-related economic development in rural Western Alaska communities, helping to build the infrastructure required to support long-term participation in the fishing industry.

For over twenty years, residents of Western Alaska, through six nonprofit CDQ entities or community coalitions, have implemented the CDQ Program in an effort to overcome the geographic isolation, heavy reliance on subsistence activities, high cost of living, high unemployment, and limited economic opportunities

that make this area one of the most economically-challenged in the United States. In working to fulfill their mission, the CDQ organizations have created jobs, infrastructure and opportunity in some of the nation's most geographically isolated and economically depressed communities.

The CDQ entities work both independently and through partnerships to generate revenues from the Bering Sea and Aleutian Islands commercial fisheries, which make it possible to invest in community, human, and economic capital. By balancing these investments, eligible communities are provided the right mix of resources and assets to achieve future economic sustainability, giving residents more control over their economic future.

This poster presentation will highlight some of the successes realized through the CDQ Program, illustrate the tremendous impact of CDQ investments, programs, and jobs on the 27,700 residents who inhabit the 65 western Alaska Coastal communities included in the program, and address some of the ways the CDQ entities are responding to the ongoing and future challenges faced by Western Alaska.

The Partnership for Mid-Atlantic Fisheries Science

ELEANOR BOCHENEK AND ERIC N. POWELL, RUTGERS UNIVERSITY. BOCHENEK@HSRL.RUTGERS.EDU

The Partnership for Mid-Atlantic Fisheries Science (PMAFS) is a multi-state, multi-institutional partnership formed in 2008 that combines the commercial and recreational fishing industries with the expertise of leading academic institutions in the Mid-Atlantic region. PMAFS is the first and only organization of its kind in the Mid-Atlantic and was formed primarily to address the most urgent scientific issues limiting successful management of fisheries in the Mid-Atlantic region. Much of the science undertaken by PMAFS is directly applicable to solving the most important impediments limiting the stock assessment programs of finfish stocks. PMAFS is currently focusing their efforts on summer flounder (*Paralichthys dentatus*) and black sea bass (*Centropristis striata*). A Board of Trustees was formed that consists of commercial and recreational fishing industry leaders from New York and New Jersey. The Board oversees the partnership. A Science Director was selected from an academic institution. A Science Advisory Committee was appointed by the Board and consists of academic and National Marine Fisheries Service scientists and representatives from important fisheries management groups including the Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission. The Science Advisory Committee met and set priorities for the 2009 and 2010 research programs. The fishing industries obtained Federal appropriations totaling one million dollars in each of two years to fund the Advisory Committee priorities. Seven research projects were funded in the first year addressing summer flounder management and stock assessment issues. In Year 2, seven projects were funded that address both summer flounder and black sea bass management and stock assessment issues.

Assessing Catch Share Results

KATE BONZON AND KENT STRAUSS, ENVIRONMENTAL DEFENSE FUND. KBONZON@EDF.ORG

The 2010 State of World Fisheries and Aquaculture report estimates more than 80 percent of global fisheries are fully or over exploited. Decades of overfishing and poor fishery mismanagement have had negative impacts on fishermen and our oceans including job loss, stock depletion, habitat damage and even on-the-job death. Also, jeopardized is the food security of billions of people worldwide. However, there are a growing number of examples where effective management has prevented these issues by aligning fishermen's economic interests with ensuring biologically robust fish stocks (e.g. catch shares). A recent study of 15 North American catch share fisheries reveals that when carefully designed and implemented, these programs result in environmental, economic and social improvements. Impacts include higher revenues, a reduction in discarded fish, improved safety for fishermen on the job and greater economic and employment stability. This presentation, *A Turning Tide for America's Fisheries*, will discuss the results of this analysis and examine how well-designed and implemented fishery management programs can address environmental, social and economic concerns using examples of fisheries that have transitioned from traditional management to catch shares.

Community Fisheries Action Roundtable: Industry Participation for Social Learning

JENNIFER BREWER, EAST CAROLINA UNIVERSITY; CARLA GUENTHER AND ROBIN ALDEN, PENOBSCOT EAST RESOURCE CENTER. BREWERJ@ECU.EDU

Research demonstrates that public participation in environmental decision making can increase understanding of diverse worldviews and knowledge bases, public faith in governance institutions, and compliance with resulting rules. Concerns linger around costs, polarization and decreased legitimacy in cases of poorly executed processes, and the ability of newly empowered groups to gain political leverage over others. If participants in public processes can bracket their personal experience to better assess other viewpoints, establishing mutual respect and understanding through civic debate, they are more likely to maximize public benefits from their involvement and minimize corresponding risks. This is “multiple-loop” social learning, social change undertaken through collective discussion and interaction. A capacity-building workshop program aims to foster such learning within the Maine fishing industry. In social contexts removed from the norms of daily life and the frustrations of past fishery management confrontations, harvesters acquire knowledge and skills that facilitate more strategic and productive engagement in formal and informal decision processes. Key learning moments include suspension of longstanding assumptions and recognition of tradeoffs. Evidence indicates corresponding changes in industry attitudes and actions. Case material draws on participant observation and interview data, analyzed using grounded theory as a standard qualitative social science method.

Managing for Sustainability: Full Catch Accountability in New England and Beyond

GILBERT BROGAN, AMANDA KELEDJIAN, AND ERIC BILSKY, OCEANA. GBROGAN@OCEANA.ORG

The Magnuson-Stevens Act (MSA) mandates that the National Marine Fisheries Service (NMFS) implement measures to establish Annual Catch Limits (ACLs) with corresponding Accountability Measures (AMs) as the primary means to control catch and end overfishing across U.S. fisheries. Additionally, all fisheries must employ a Standardized Bycatch Reporting Methodology (SBRM) and minimize bycatch. To date, very few Fisheries Management Plans successfully implement robust catch monitoring and reporting. Without representative information about catch, fisheries managers are unable to control mortality and prevent overfishing while achieving Optimum Yield.

Oceana advocates improving the quality of catch monitoring and reporting for the dual purposes of stock assessment and catch management. Robust monitoring must track all catch (including bycatch) from all sectors, including from different fleets and different regions that affect the same stock. Effective catch monitoring programs will produce accurate data for use in developing stock assessments, setting ACLs, administering AMs, and improving long-term fishery productivity. These modern monitoring programs can create sustainable and more abundant fisheries.

Oceana has conducted advocacy, including litigation, to compel NMFS to improve catch monitoring. Because of these efforts, the Northeast Region SBRM is being redeveloped to establish a rational approach to setting coverage levels which will improve assessments and the management of both target and non-target catch. In the New England groundfish catch share fishery, a Court ruling established that effective monitoring is essential to the administration of this fishery. NMFS must demonstrate that the catch monitoring program would provide reliable data for in-season management of the fishery.

Accurate estimates of bycatch are essential for understanding the full scope of fishing mortality. Oceana recommends an approach that enables NMFS to reliably count everything that is captured, cap the amount of allowable catch, and control fishing to ensure catch does not exceed these caps. Once established in New England, we suggest that such an approach can and should be developed and implemented in other U.S. fisheries to improve catch management in other regions.

Utilizing State Management to Comply with MSA Requirements

KARLA BUSH, NICOLE KIMBALL, AND BRAD ROBBINS, ALASKA DEPARTMENT OF FISH AND GAME. KARLA.BUSH@ALASKA.GOV

The Magnuson-Stevens Reauthorization Act of 2006 expanded the requirements for fishery management plans (FMPs) to include provisions intended to prevent overfishing through the use of annual catch limits (ACLs). This poster focuses on recent revisions to two FMPs under the jurisdiction of the North Pacific Fishery Management Council: the FMP for Bering Sea/Aleutian Islands King and Tanner Crab and the FMP for the Salmon Fisheries in the Exclusive Economic Zone off the Coast of Alaska. The crab and salmon FMPs are unique in that management of these two fisheries in Federal waters is delegated to or shared with the state of Alaska.

The crab FMP establishes a state/Federal cooperative management regime that defers many aspects of crab fisheries management to the state. For crab stocks, the ACL is set equal to the acceptable biological catch (ABC) and the ABC control rule is a function of the scientific uncertainty in the estimate of the overfishing level and any other specified scientific uncertainty. The state sets harvest limits in the directed crab fisheries and takes into account any scientific uncertainty not already accounted for in the ABC. The existing state process for setting harvest limits was recognized by the North Pacific Council as a more clearly defined, flexible, and precautionary method of incorporating additional uncertainty in order to meet National Standard 1 (NS1) Guidelines.

The geographic scope of the salmon FMP was recently amended using an alternative approach to satisfy NS1 requirements. Salmon fisheries are managed by the state throughout Alaska using an escapement and abundance based system with real-time monitoring and inseason management actions to control catch and prevent overfishing. The revisions to the FMP serve to facilitate continued state management of salmon fisheries by avoiding the creation of a dual Federal and State management structure and reaffirming that commercial and sport salmon fishery management is delegated to the state in accordance with the Pacific Salmon Treaty and other Federal law. With this action, the Council acknowledged that salmon warrant an alternative approach, per the NS1 Guidelines, to best control catch, prevent overfishing, and achieve optimum yield.

Evaluating Methods for Setting Annual Catch Limits for Data-Limited Stocks

TOM CARRUTHERS, MURDOCH MCALLISTER, AND CARL WALTERS, UNIVERSITY OF BRITISH COLUMBIA. T.CARRUTHERS@FISHERIES.UBC.CA

The requirements for science-based catch limits for most federally-managed fish species in the U.S., combined with the large number of data-limited stocks, has spurred an emerging field of methods for setting annual catch limits for data-limited stocks. The purpose of this research is to simulate and evaluate the performance of different data-limited methods and management approaches, including 15 that have been adopted or recommended for use in U.S. fishery management plans, 10 alternative approaches and six reference methods. Management strategy evaluation is a cost-effective approach to testing these methods. MSE also provides an opportunity to better understand the trade-offs among management objectives for any given management approach and to quantify the value of various types of information and data to the accuracy of model outputs.

In total, 31 methods are applied to six “case study” stocks exemplifying a range of life-histories, exploitation scenarios, and relevant management approaches. Each method is simulated 10,000 times for each stock over a 30 year time period. Performance of the different methods is evaluated in terms of preventing overfishing, rebuilding overfished populations, relative yield, depletion over time, and sensitivity to a credible range of error in user inputs.

Preliminary results indicate that many data-limited methods currently in use in U.S. fisheries management that rely mainly on historical catch do not perform well in preventing overfishing and avoiding or recover-

ing from an overfished condition. These methods perform particularly poorly when starting from depleted conditions (e.g. less than 50 percent biomass at maximum sustainable yield). In contrast, methods that rely more on current abundance than on historical catch perform markedly better in preventing overfishing and avoiding or recovering from an overfished condition. The performance of different methods also does not change markedly under different life-history scenarios.

Sea Grant and Alternative Marketing of Seafood—Helping to Build Fishing Community Resiliency in Challenging Times

ERIC CHAPMAN AND JOSHUA STOLL, NEW HAMPSHIRE SEA GRANT AND NMFS. ERIK.CHAPMAN@UNH.EDU

Fishing community resiliency depends on their ability to adapt to dynamic and unpredictable ecosystems, management, and markets. One way fishermen can adapt is to develop alternative or value-added markets for their products that captures the value of their catch before it leaves fishing communities. Alternative marketing has also helped fishermen organize, enabling them to participate in cooperative research and management and produce fine scale economic data that has not been readily available before. These efforts have gained traction in fishing communities as they also achieve a range of other social and environmental goals. As a result, interest in these forms of marketing from fishermen, fishery scientists, managers and fishing communities has been widespread. Despite its potential, there are a variety of technical barriers, risks, and overarching questions about the long-term viability of alternative marketing. In particular, these business models require that fishing communities develop skills and expertise in new areas such as processing, distribution, handling, pricing, and marketing of seafood. In many cases, permits, licenses, insurance, new relationships, and careful business planning are required. For fishermen and others in fishing communities, this is often a brand new skill-set and business setting, and developing businesses without these capacities runs the risk of losing money and missing business opportunities; an outcome that many fishing communities simply cannot afford. Sea Grant is playing a critical role in helping fishing communities meet some these challenges by providing training, access to new technologies and facilitating new partnerships. Inspired by Sea Grant's ongoing commitment to a safe and sustainable seafood supply, burgeoning demand from coastal communities, and alignment with broader NOAA objectives, direct and alternative marketing is an important and timely topic for fishermen and fishing businesses as well as an opportunity for partnership. Crosscutting a multitude of stakeholders and disciplines, alternative marketing is of economic and social significance to constituents; it represents a unique opportunity for Sea Grant and NOAA to engage with stakeholders; and it has the potential to inform and be informed by management and policy decisions.

Measuring Social and Economic Indicators in Northeast U.S. Fisheries and Fishing Communities

PATRICIA CLAY, NOAA/NMFS. PATRICIA.M.CLAY@NOAA.GOV

Over the past several years the Social Sciences Branch of the National Marine Fisheries Service, Northeast Fisheries Science Center has been developing indicators to track the social and economic performance of fisheries. Indicator development has focused on the following topics: fishery performance, vessel costs, and community vulnerability. The Fishery Performance Indicators cover five theme areas: financial viability, distributional outcomes, stewardship, governance, and well-being. These theme areas were developed in a year-long process involving literature searches, stakeholder meetings, and an academic workshop. Vessel Cost Indicators cover variable and fixed costs related to fishing, including: trip costs; the costs of repair, maintenance, upgrade, and improvements; business costs; and crew payments. We also use cost information to calculate net revenue and profitability indicators. Community Vulnerability Indicators are grouped in three categories: social vulnerability, gentrification pressure, and fishing dependence. The Social Sciences Branch has implemented new regional-level data collection efforts to support indicator development, including an annual cost survey, a vessel owner survey, and a crew survey. We have already published initial reports on the fishery performance indicators based on secondary data. Reports for fishery performance and annual cost indicators based on new survey data will be prepared after data are audited and analyzed. A publication is also being developed on community vulnerability indicators.

Marine Resource Education Program for Fishermen in the Southeast Fisheries Region

ALEXA DAYTON, BOB GILL, AND DUANE HARRIS, GULF OF MAINE RESEARCH INSTITUTE. ADAYTON@GMRI.ORG

The Gulf of Mexico, South Atlantic and Caribbean Fishery Management Councils look to their many advisory panels for advice and recommendations, but broad constituent participation is also an extremely important part of the fishery management process. All too often, commercial and recreational fisheries constituents feel intimidated or remain unclear on best ways they can contribute, and feel the science underlying the management process is difficult to absorb and understand. In response, fishermen have sought additional ways of obtaining foundational knowledge necessary to navigate fishery data and understand how this data is used in management.

The Gulf of Maine Research Institute is collaborating with partners from the three regions to develop and implement a multi-day Fishery Science & Management Education Program for commercial and recreational fishermen, modeled after the highly successful New England Marine Resource Education Program. This education enables fishermen and others to participate productively in the fisheries management process, and leads to improved cooperation and trust between fishermen, scientists and managers. Fundamentally, a co-learning approach is used in this program, where program developers, program participants and program presenters all learn from one another through their interactions and collaborations.

The strength of the Marine Resource Education Program model is that it is “for industry by industry”. Extension of the model to the Southeast fisheries region has mirrored this, and draws upon local fishing industry representatives to serve as leaders in regional implementation, and building long-term capacity within the region. The curriculum has been developed by a Steering Committee—consisting of 18 industry members who represent a balanced mix of fishing effort types, gear types and regions—and is tailored to the region’s fisheries, fishing communities, and management practices. Program presenters have been drawn from local and regional Federal agencies and provide a unique opportunity for scientists and managers to communicate with fishermen in a neutral setting, build trust, and overcome barriers to cooperation.

The Steering Committee will meet annually to guide evolution of content for future workshops, and also recommend new workshop locations throughout the three regions, to ensure a broad reach and best possible accessibility.

Empirical Move-on Rules to Inform Fishing Strategies: A New England Case Study

DANIEL DUNN ET AL., DUKE UNIVERSITY. DANIEL.DUNN@DUKE.EDU

Increasingly, fisheries are being managed under catch quotas that are often further allocated to specific permit holders or sectors. At the same time, serious consideration is being given to the effects of discards on the health of target and non-target species. Some quota systems have incorporated discard reduction as an objective by counting discards (including unmarketable fish) against the overall quota. The potential effect of the introduction of a quota system that includes accountability for discards on the fishing strategies employed by fishermen is enormous. This is particularly true for multispecies fisheries where healthy and depleted stocks co-exist; resulting in a trip’s catch being applied to very large and very small stock quotas simultaneously. Under such a scenario, fishermen have a strong incentive to minimize (i) catch of low-quota or ‘choke’ stocks, (ii) regulatory discards due to minimum size limits and (iii) catch partially consumed by predators. ‘Move-on’ rules (i.e. event-triggered, targeted, temporary closure of part of a fishery when a catch or bycatch threshold is reached) have been employed in a variety of fisheries. However, their efficacy has been limited by a lack of empirical analyses underpinning the rules. Here, we examine the utility of spatiotemporal autocorrelation analyses to inform ‘move-on’ rules to assist a sector of the New England Multispecies Fishery to reduce discards and maximize profits. We find the use of empirical move-on rules could reduce catch of juvenile and choke stocks between 27 and 33 percent, and depredation events between 41 and 54 percent.

FishSmart: Using Technology to Create Access

RUSSELL DUNN AND DANIELLE RIOUX, NOAA/NMFS. RUSSELL.DUNN@NOAA.GOV

FishSmart is a NOAA-funded, angler-led program to improve the survival of fishes released by anglers. This collaborative effort is focused on developing fishing techniques, tackle, and management approaches to reduce catches of fish that need to be returned to the water and improve the survival of fish that are released.

FishSmart has spurred and highlighted innovation, research, and management consideration of devices and practices to counter barotrauma, a condition deep water fish suffer from when brought to the surface quickly. Barotrauma involves the rapid expansion of gasses in a fish's body which can cause significant tissue damage and impaired swimming ability, resulting in mortality or increased rates of predation. In part, due to this phenomenon, high post-release mortality rate estimates are applied in the stock assessment process.

High post-release mortality rates can contribute to reduced access for fishermen when stock status is assessed. The FishSmart program is innovating to counteract barotrauma, while simultaneously encouraging research on the survival of descended fish and broadly promoting the importance of proper handling and release of fish to maximize survival. The initiative has led to reconsideration of how release mortality is handled in some fisheries and a recently initiated examination of NOAA Fisheries scientific approach to release mortality. Through this program there is the possibility to produce real conservation gains and improved science, which could result in improved survival and ultimately greater fishery access.

An Ecosystem Approach to Fisheries Management: A Voluntary Environmental Management System Approach to Fisheries Practices in a Large Marine Ecosystem Framework

FRANK GABLE AND DANIEL DICKINSON, FLORIDA GULF COAST UNIVERSITY. FGABLE@FGCU.EDU

This study/poster addresses international aspects of fisheries sustainability as part of the Large Marine Ecosystem modular approach. Consideration is given to consensus-based voluntary environmental management systems (VEMS) as an adaptive management aspect of fishing practices being integral strategic parts of marine ecosystems. A VEMS is a unique means or tool for managing the impacts of a fisheries enterprise's activities on the marine environment.

For sustainability planning and implementing environmental protection measures, the VEMS provides a structured approach. A VEMS integrates environmental management quality at various scales into an organization's everyday operations as well as its long-term planning. A VEMS is an important "ecosystem consideration" component of the Large Marine Ecosystem approach as it is intended to lead toward improved valuation assessments and movement to sustainability of vulnerable resources. The fisheries practice VEMS is meant to promote dialogue on VEMS being a scientifically based tool ("best scientific information available standard") for ecosystem-oriented management of living marine resources.

Avoiding No-Win Management Scenarios Through Development of Bycatch Reduction Devices in Alaska

JOHN GAUVIN, ALASKA SEAFOOD COOPERATIVE; JOHN GRUVER, UNITED CATCHER BOATS ASSOCIATION.
GAUVIN@SEANET.COM

Bycatch management of Alaska groundfish fisheries must balance large scale commercial fisheries with interests of subsistence users and small-scale commercial and recreational users of the bycatch species. The North Pacific Fishery Management Council (NPFMC) is diligently addressing salmon and halibut bycatch in groundfish fisheries, but solutions often involve difficult and non-productive tradeoffs. This is because traditional bycatch management tools typically reduce efficiency and create potential for leaving large amounts of groundfish un-harvested. Use of closed areas has proven problematic because the degree of spatial overlap between groundfish and bycatch species is highly variable. Once in place, closure regulations take years to modify and in some cases have actually resulted in closures of areas where bycatch rates

would be much lower than the areas left open to fishing. Implementation of hard bycatch caps administered through cooperatives has created strong incentives for bycatch minimization and hotspot avoidance. Nevertheless, when spatial and temporal overlap between bycatch and target species is strong, attainment of the bycatch cap before groundfish total allowable catches can be inevitable. In an attempt to create potentially better outcomes or at least a different set of tools in the toolbox, the Alaska groundfish industry and National Marine Fisheries Service's Resource Assessment and Conservation Engineering Division have successfully partnered to develop and systematically test bycatch reduction devices. Resulting excluders are now widely used, with demonstrated bycatch escape rates of 25 percent to 42 percent for Chinook salmon by pollock trawlers and up to 60 percent to 80 percent escapement of halibut for flatfish and cod trawlers. Loss rates of target species are less than one percent with use of salmon "excluders" in pollock fishing and loss rates of target catch range from 10 percent to 20 percent in cod and flatfish fisheries. These devices are proving to be critical tools to help industry manage its bycatch under the NPFMC's hard caps, incentive plan agreements, and rolling hotspot bycatch management programs.

How the Sustainability of Reduction Fisheries is Being Assessed and Addressed and Suggestions for Moving Forward

TESS GEERS, NEW ENGLAND AQUARIUM. TGEARS@NEAQ.ORG

Much attention has been given to forage fish science and management in recent years. In particular, it has been noted that forage fish fisheries, which are primarily destined for reduction to fishmeal and fish oil, may require different management measures than those traditionally used to manage wild-capture fisheries. This is a result of their vital role in the food web, as well as their unique life-history characteristics. In this review we have identified the main management requirements for forage fish fisheries and questions that can be used to address a reduction fishery's sustainability, including: accounting for predator needs through reduced catch limits as well as spatial management, incorporating stock fluctuations due to climate variability (e.g., El Niño/La Niña, decadal oscillations, etc.), evaluating the economic value of the fish as wild prey versus their value as feed, use of real-time management, and implementation of precautionary harvest strategies. Precautionary harvest strategies are particularly important given the lack of adequate stock assessments for many of these species, due to their short-lived nature and a dearth of resources for monitoring and assessing the stocks. Furthermore, we have looked at how various non-governmental organizations working in the sustainable seafood sphere address reduction fisheries in their assessments of wild-capture fisheries, and also to what degree reduction fisheries management is addressed in assessments of aquaculture species. In general, we found that non-governmental organizations do account for the role of forage fish in the ecosystem, but the majority does not ask detailed questions regarding how forage fish are managed. We conclude with a list of questions that we believe should be the basis for any evaluation of reduction fishery sustainability.

Fishery Access Strategies to Support Ecosystem-Based Management

CARLA GUENTHER AND ROBIN ALDEN, PENOBSCOT EAST RESOURCE CENTER, MAINE; JENNIFER BREWER, EAST CAROLINA UNIVERSITY. CARLA@PENOBSCOTEAST.ORG

Fishermen, fishery managers, academics, and non-governmental organizations agree that single-species systems of fishery management are not working. Illegal leasing of fishing rights, decades-long waiting lists, and "boxed-in fishermen" are just a few of the many problems identified at a licensing policy workshop held by Penobscot East Resource Center and Maine Sea Grant in 2012. In addition, today's licensing systems present a significant obstacle to the transition away from single species management and toward an ecosystem-based fishery management approach that protects biodiversity and resilience.

In 2012, Penobscot East and Maine Sea Grant gathered ideas and insights on this problem from Maine fishermen and fishery leaders and thinkers from New England, Atlantic and western Canada, California and Alaska. Together these experts began to frame a new approach to licensing coastal fisheries; one that could

help relieve some of the problems facing today's fisheries while at the same time facilitating the transition toward ecosystem-based fishery management.

The underlying concept for this licensing system is to create a system that enables adaptive access to multiple fisheries based on a denomination that could be called stewardship credits—credits that would be accumulated by individual, owner-operator fishermen learning, doing, and sharing the practices of sound stewardship, on the water and in their communities. Credits would qualify individual fishermen to obtain endorsements on a state-issued, multi-purpose commercial fishing license. The state license would qualify a fisherman to obtain one or more endorsements issued by a state, regional, or local fisheries management body (depending on which scale of governance was most suited to a given fishery). An endorsement from the appropriate governing body, would permit a fisherman to commercially harvest a managed or emerging, living, ocean resource.

Framing the Message about Seafood: Outcomes of a Conference About Communicating Seafood Safety

DORIS HICKS ET AL., UNIVERSITY OF DELAWARE SEA GRANT, LORI PIVARNIK, RHODE ISLAND COOPERATIVE EXTENSION; KEN GALL, NEW YORK SEA GRANT; DR. MICHAEL MORRISSEY, OREGON STATE UNIVERSITY; PAM TOM, CALIFORNIA SEA GRANT; AND STEVE OTWELL, UNIVERSITY OF FLORIDA. DHICKS@UDEL.EDU

The Framing the Message About Seafood conference represented the first time that a very diverse group of stakeholders convened to discuss the information that has been presented to the public on seafood health benefits and risks in a format designed to specifically explore and identify alternative approaches to reduce confusion and misinformation. It was remarkable that a consensus was reached on an alternative approach that could be readily translated to an existing Web-based resource.

The Seafood Health Facts Website is designed to be a comprehensive resource on seafood products for healthcare providers and practitioners and their patients. It is also intended to be a resource for consumers to obtain objective information on seafood products. The information on this site is organized by topic and includes resources for seafood nutrition and the benefits of seafood consumption, seafood safety and the risks associated with certain types of seafood, a comparison of the risks and benefits of seafood consumption, and the seafood supply in the U.S. It is also organized to provide different types of resources appropriate for different groups of people. The educational materials and other resources for each of the seafood and health related topics are organized into three different sections based on their usefulness for: the general public; healthcare professionals; and scientific publications for all groups. Customize Your Seafood Consumption Information: Based on the consensus that was reached during Framing the Message About Seafood conference a new web tool was developed for the Seafood Health Facts Website. This tool is designed to help consumers determine whether they are eating the right amount of seafood based on current dietary recommendations, and what (if any) specific food safety advice may pertain to them based on where they get their seafood and other issues such as sustainable fisheries.

Guidance on Electronic Technologies and Fishery-Dependent Data Collection

MARK HOLLIDAY ET AL., NOAA; JOSHUA STOLL, PRESENTER. MARK.HOLLIDAY@NOAA.GOV

Monitoring is an important component of fisheries management and with annual catch limits and accountability measures in place, the demands for fishery dependent data for the agency's science and management use will continue to rise. The implementation of fisheries management regulations that require near real time monitoring of catch by species at the vessel level have challenged the traditional methods of self-reporting, on-board observers and dockside monitoring. There has been growing concern that the current trend in catch monitoring in the United States is neither economically sustainable nor meeting the needs for quality, timeliness and coverage across fisheries, regions, or regulations. Recognizing these issues, NOAA Fisheries in partnerships with Regional Councils and the fishing industry is developing policy and technical guidance that will support and encourage the adoption of electronic technology solutions for fishery-dependent data collection programs, where feasible. Electronic technologies include the use of vessel monitoring systems, electronic logbooks and the use of video cameras for electronic moni-

toring. The goal is to achieve a more cost-effective and sustainable approach to fishery-dependent data collection, and take advantage of the range of current/emerging electronic technologies. This poster provides information about the process for evaluating electronic technologies and technical guidance on its implementation.

Sustainable Seafood in the U.S.—What Challenges Remain?

JENNIFER ISE AND SEEMA BALWANI, NOAA. JENNIFER.ISE@NOAA.GOV

In the United States seafood market, consumers are increasingly looking for sustainable seafood options, as evidenced in part by the proliferation of various environmental organizations' sustainable seafood purchasing guides. Retailers and restaurants are responding and taking steps to meet the demand by adopting some of these guides as a basis for their seafood purchases. Eco-labels, such as the Marine Stewardship Council, are another basis upon which consumers and retailers are making their seafood decisions. While eco-labels provide consumers with a clear and quick indication that the product meets specific criteria, and producers using the label can gain a market advantage, third party verification programs can be costly and time-consuming. With various eco-labels and seafood recommendation guides, consumers can feel confused and frustrated.

The Magnuson-Stevens Act (MSA) contains strong provisions that incorporate the three key factors of sustainability – ecological, economic, and social—into fisheries management. As a result, U.S. fisheries are managed under some of the most rigorous regulations in the world, particularly when combined with other U.S. laws. In contrast, many of the consumer guides for sustainable seafood are based solely on ecological factors, disregarding the economic and social.

When consumers learn that the MSA addresses the three aspects of sustainability, they often feel reassured and seek to buy U.S. harvested seafood. Unfortunately, at markets and restaurants, they can have a hard time finding out where seafood products were harvested. Labels with country- and/or fishery-of-origin are difficult to find. In order to have these, systems are needed that trace seafood through the supply chain and verify product claims.

These market challenges are increasingly affecting fulfillment of MSA goals—U.S. fisheries that provide benefits to the nation through food, jobs, and revenue. Innovative models, such as Trace & Trust, Gulf Seafood Trace, and FishTrax, are emerging around the country to connect seafood consumers with U.S. suppliers. In what ways can NOAA work more with other agencies, non-governmental organizations, and industry to help support efforts that will better identify U.S. seafood options for consumers?

Challenges to Leveling the Playing Field: A Case Study of Mitigating False Killer Whale Impacts in the Hawaii-Based Tuna Longline Fishery

ASUKA ISHIZAKI, WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL. ASUKA.ISHIZAKI@NOAA.GOV

The Magnuson-Stevens Act (MSA) requires compliance with other applicable laws, including the Endangered Species Act and Marine Mammal Protection Act (MMPA). Fisheries are frequently impacted by requirements to comply with domestic environmental policies, presenting a disadvantage in leveling the playing field in the international arena. The Hawaii-based tuna longline fishery has faced new challenges in recent years with false killer whale interactions.

False killer whales are distributed worldwide in tropical to temperate waters. Depredation by false killer whales and other cetaceans on longline fisheries is common around the world and is a significant problem to fishers due to the economic loss experienced as a result of these events. Occasionally, false killer whales become hooked or entangled if they are not successful in avoiding the gear. Research to develop technological solutions has thus far been unsuccessful in developing effective long-term solutions.

The occasional interactions with false killer whales have become a challenging issue to the Hawaii-based tuna longline fishery in recent years, as National Marine Fisheries Service (NMFS) estimates that the annual number of interactions exceeds the potential biological removal, a level thought to be sustainable to

the long-term health of the false killer whale population in the area. Under requirements of the MMPA, NMFS initiated the False Killer Whale Take Reduction Plan process in 2010 to develop strategies to reduce the interactions.

At issue are the timeline for developing a plan and the lofty implementation goals set forth under the MMPA. According to the process, the Take Reduction Team must develop a draft plan within six months of convening, with a short-term goal of reducing take below potential biological removal within six months of the plan's implementation. As a result of these constraints to the process, the resulting Take Reduction Plan includes measures to reduce serious injuries that count against the fishery by requiring gear modification and to reduce interactions within the target management area under the Take Reduction Plan by closing large portions of the U.S. Exclusive Economic Zone around Hawaii. However, the Take Reduction Plan process failed to develop measures to reduce depredation events, a solution that would simultaneously reduce impacts on false killer whales and provide economic benefits to U.S. fishers to help them survive in an increasingly competitive and unlevel playing field against international fisheries.

Bottom Communities in the Mid-Atlantic Bight

ROMAN JESIEN AND ARLO HEMPHILL, MARYLAND COASTAL BAYS PROGRAM. RJESIEN@MDCOASTALBAYS.ORG

The coastal ocean off the Delmarva (Delaware, Maryland, Virginia) peninsula has supported a variety of fisheries for over 300 years. This area of the Mid-Atlantic Bight ranges from sand swept beaches along the shore to the canyons along the continental slope, which are the Pleistocene remnants of the great eastern rivers. Ocean depth is up to 200 m, and the bottom is primarily a mix of sand ridges and muddy hollows, with infrequent hard bottom formed from low relief rock outcrops, or compact sediments of biological origin. The area is in the midst of major population centers that heavily use the coastal waters for recreation, transportation, food production and, of late, power generation. Anthropogenic impacts have resulted in decreases in bottom relief from decades of bottom trawling along with enhancement of relief from centuries of shipwrecks, and more recently, attempts at artificial reef construction. We present a summary overview of the biological communities that are associated with the various bottom types found here with special emphasis on natural hard bottom. These natural and some artificial structures support valuable recreational and commercial fishery resources that far outweigh their areal makeup of the bottom. The overview is meant to encourage managers and researchers to strongly consider these habitats in future planning agendas.

Climate Change, Thermal Habitat Dynamics, Habitat Coverage Bias and Food Web Dynamics with Special Reference to Keystone Forage Species in the Mid-Atlantic Bight

JOSH KOHUT ET AL., RUTGERS UNIVERSITY. KOHUT@MARINE.RUTGERS.EDU

Two important considerations for ecosystem-based fishery management are habitat and predator-prey relationships. The Mid-Atlantic Bight experiences some of the largest seasonal fluctuations in water temperature and other features defining marine habitats. As a result, many mobile ectotherms in the region are migratory, behavioral thermoregulators. Many track their thermal niche envelopes across the ecosystem using productive shallow coastal habitats to the northwest as summer feeding/nursery grounds and overwintering in deeper offshore habitats near the shelf break. Atlantic butterfish (*Peprilus triacanthus*) and longfin inshore squid (*Doryteuthis pealeii*) are short lived, pelagic species central to the Mid-Atlantic Bight food web that exhibit migratory thermoregulation. Recent changes in climate are causing spatial and temporal expression of thermal niches in the ocean to change.

Changes in spatial and temporal expression of thermal niches in the Northwest Atlantic have the potential to confound population estimates based on surveys conducted during fall and spring transition periods that don't sample the entire ecosystem, creating habitat coverage bias that may be systematic under a climate change scenario. Large scale forces changing quantity and quality of thermal habitat could also affect

the fundamental processes regulating populations. We are developing approaches to parameterize thermal niche models based on fundamental principles of metabolism and thermal ecology. We are projecting these models and thus habitats in space and time at the scale of the whole ecosystem using hydrodynamic models. We are using these projections as tools to account for habitat coverage bias in traditional surveys, design cooperative industry based surveys for behavioral thermoregulating species, and understand mechanistic relationships between habitat and population dynamics including modulation of density dependent mechanisms of population regulation by habitat dynamics.

We are developing our analyses and models using an “open source” collaborative approach. Our working group, Open Ocean, has been formed to collectively move from inception of ideas through delivery of evaluated products. It includes partners with expertise in physical oceanography, ecosystem science, and assessment science from government, academia, and the fishing industry. We believe that our collaborative approach of sharing responsibility of developing best available science with expert ecosystem users is required for effective management of marine ecosystems.

Successful Rebuilding of Bristol Bay Red King Crabs and Current Management Under an Annual Catch Limit Control Rule that Incorporates Uncertainty

GORDON KRUSE AND JIE ZHENG, UNIVERSITY OF ALASKA; DIANA STRAM, NORTH PACIFIC FISHERY MANAGEMENT COUNCIL. GORDON.KRUSE@ALASKA.EDU

The Bering Sea and Aleutian Islands crab fisheries management plan (FMP) provides for a state/Federal cooperative regime that defers most crab fishery management to the state of Alaska with Federal oversight. After peak landings in 1980, the red king crab fishery in Bristol Bay was closed in 1983 because of stock collapse. In the ensuing decade, small harvests and additional fishery closures associated with depressed stock status prompted a reappraisal of the management strategy. A length-based population model was developed to provide improved stock assessments for setting annual total allowable catches (TACs). A management strategy evaluation revealed that a harvest strategy, which included a stair-stepped harvest rate of 10 to 15 percent of mature males and a threshold for effective spawning biomass below which no fishing is permitted, provides for relatively high long-term yield, greater stability in yield, fewer fishery closures, and higher effective spawning biomass. This strategy for setting TACs was adopted by the State of Alaska in 1996; at the same time the North Pacific Fishery Management Council amended the groundfish FMP to include crab bycatch caps and area closures protecting sensitive crab habitats. The stock responded well to these conservation measures and has been rebuilt since 2003. Over 1996-2008, abundance of legal-sized males increased by 58 percent, mature males doubled, and mature female abundance and effective spawning biomass tripled. The stock remains healthy today, although it is now experiencing a declining trend owing to lack of recent above average year classes. A sharp reduction in fishing capacity, after implementation of an individual fishing quota program in 2005, substantially improved fishery profitability. Other recent FMP changes include revised overfishing definitions using a five-tier system based on the level of available information for any given stock and establishment of annual catch limits (ACLs) implemented in 2008 and 2011, respectively. ACLs are set equal to the annual biological catch based on a control rule that accounts for a level of risk of overfishing (P^*) corresponding to scientific uncertainty in the overfishing limit. The Council selected $P^* = 0.49$ (i.e., 49 percent chance of overfishing), recognizing that additional buffering to account for outside-of-model scientific uncertainty is accomplished by the State of Alaska during the annual TAC-setting process.

Implementing Sector Management in New England's Groundfish Fishery

JONATHAN LABAREE, GULF OF MAINE RESEARCH INSTITUTE. JLABAREE@GMRI.ORG

In 2010, New England's groundfish fishery began operating under sector management, an output-based management system under which communities formed harvesting cooperatives—called sectors—that receive an annual allocation of groundfish stocks. The poster presents the key design elements of the sector

system.

Establishing and maintaining durable sectors is essential to sustaining New England's groundfish communities. To that end, Gulf of Maine Research Institute (GMRI) provided technical assistance to 14 of the 16 active sectors, helping them draft and submit by-laws, rosters, operational rules, harvesting plans, and environmental assessments.

Sector management required a new level of monitoring, including dockside and at-sea monitoring, to verify stock area, discards and landings. GMRI convened a group of industry, nonprofit, and NOAA leaders to design the dockside monitoring program and strategize on how to implement cost-effective and accurate at-sea monitoring.

With sector management now well established, GMRI is focusing on organizational and business development for the sectors, reducing the costs of sector management, and improving data collection and monitoring. We also engage in cooperative research to test and develop industry-developed gear modifications to increase species and size selectivity.

History of the Magnuson-Stevens Act and National Standard 1 Guidelines

DEBRA LAMBERT ET AL., NATIONAL MARINE FISHERIES SERVICE. DEB.LAMBERT@NOAA.GOV

Marine fisheries management in the United States is primarily governed by the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The overarching principles of the MSA is that fisheries should not jeopardize the capacity of a fish stock to produce maximum sustainable yield (MSY), and that overfished stocks (i.e., biomass is too low) should be rebuilt to the level that will support MSY. To address these challenges, the eight Regional Fishery Management Councils and NOAA Fisheries use National Standard 1 (NS1) of the MSA and its associated guidelines as their primary resource. The MSA and the NS1 guidelines have been revised a number of times to address ongoing challenges in fisheries management, including ending and preventing overfishing and rebuilding depleted fish stocks. Here we briefly recap the basis and history of the MSA and the National Standard 1 guidelines with regard to provisions to prevent overfishing, achieve optimum yield, and rebuild overfished stocks and highlight some of our major accomplishments.

Northeast Regional Ocean Council Commercial Fishery Mapping Project

GEORGE LAPOINTE ET AL., CONSULTANT. GEORGELAPOINTE@GMAIL.COM

The Northeast Regional Ocean Council, a New England planning organization, mapped commercial fishing activity for use in future ocean planning. The Commercial Fishing Mapping Project used vessel trip report (VTR) and vessel management system (VMS) data, filtered to protect confidentiality, to produce maps of commercial fishing activity in New England. Preliminary maps were used for stakeholder engagement to verify mapping information, add information missing from VTR and VMS based maps, and to ask questions about past fishing patterns.

VMS based maps show great promise in accurately portraying spatial use patterns for selected commercial fisheries (Atlantic herring, Northeast groundfish, scallop, monkfish, and surf clam/ocean quahog). VTR data exists for many more fisheries but are limited to broad patterns of fishing activity, e.g. inshore and offshore. Future work includes separation of transit/steaming time from fishing for VMS maps and development of mapping approaches for fisheries that are not well represented by VTR or VMS data, most notably the American lobster fishery.

The maps provide accurate information about commercial fishing activity to use in future decisions about ocean uses. Future ocean use planning will minimize conflicts when based on accurate, publicly available information about current uses.

United Nations Food and Agricultural Organization Framework Assessment of U.S. Management Systems

THOR LASSEN, OCEAN TRUST; MICHELLE WALSH, NMFS. TJLASSEN@OCEANTRUST.ORG

NOAA has often stated that “fisheries managed under the Magnuson-Stevens Fishery Conservation and Management Act are sustainable” but has not provided a program to formally document its sustainability and distinguish U.S. managed seafood products in the marketplace.

Ocean Trust with the support and cooperation of the Gulf States Marine Fisheries Commission and NOAA Domestic Fisheries Division are exploring a framework evaluation process and pilot assessment of Federal and state management conformance to the United Nations Food and Agriculture Organization’s (FAO) Ecolabelling Guidelines for Marine Capture Fisheries.

The initiative builds upon recent “Science & Sustainability Forums” conducted with participation from leading fishing nations and scientists which concluded that fisheries sustainability is best defined by management systems, not snapshots of the stock status or fishing levels at any given point in time or of one fishery in isolation, but rather by the capacity of the system to respond to changes in stock levels or impacts via management measures in all fisheries under its jurisdiction.

The pilot assessment framework process we present is based on the 2010 FAO Draft Evaluation Framework to Assess the Conformity of Public and Private Ecolabelling Schemes with the FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries, which provides benchmarking indicators to validate U.S. management systems conformity with the FAO Guidelines for ecolabelling and subsequent potential designation of the sustainability of U.S. managed fisheries.

Our approach is to evaluate the management and stock assessment process, identify gaps between Federal/state systems and FAO criteria, and develop recommendations for consideration by NOAA, Regional Councils and state managers. The pilot conformance assessment describes Applicable Statute(s) as well as regulations and guidelines that apply to Federal and state fisheries, followed by a discussion section on major stocks that illustrates how fisheries are managed. We then assess conformance with FAO criteria for sustainable fisheries, identify gaps, and provide recommendations to address those areas of non- or low-conformance.

We view this exercise as a very significant initial step for improving fishery management systems and providing a process to systematically document the sustainability of U.S. managed fisheries.

Communicating Seafood Sustainability from the Gulf Coast: a Two-Pronged Approach

RENE LEBRETON AND KATIE SEMON (PRESENTER), LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES; JULIANNA MILLER, AUDUBON SOCIETY; AND ALEX MILLER, GULF STATES MARINE FISHERIES COMMISSION. RLEBRETON@WLF.LA.GOV

Pressure on seafood buyers to demonstrate that the seafood they are sourcing is “sustainable”, has created an influx of sustainability models and programs. This has created an increased amount of pressure on government fishery management agencies to provide communications and assurances to the supply chain with limited budgets and staff. Louisiana Department of Wildlife and Fisheries is working on two approaches to help fill this communication void by providing a transparent source of data on our fisheries and to provide a third-party level of confidence to the buyers of our seafood.

1. One of the key projects the Gulf Coast states are embracing is a “Gulf Watch” website. This would be similar to the NOAA FishWatch website, but would emphasize those species managed at the state level—species not currently covered by the federally managed species on FishWatch. This site will be a transparent resource of information for buyers and consumers to make educated decisions about our fisheries.
2. The second key project is to combine efforts with the Audubon Nature Institute to develop a program

that can verify if a fishery is in conformance to the United Nations Food and Agriculture Organization's (FAO) Code of Conduct for Responsible Fisheries. This project will also utilize the concept of fishery development plans for those fisheries with challenges to conformance or for those fisheries where the market only requires a fishery development plan—not full certification.

The Audubon Nature Institute is a conservation organization with a strong reputation on the Gulf Coast, and will lend third-party credibility to this program. This program will be made available to any Gulf Coast fishery and will highlight the strengths of the major Gulf Coast fisheries and indicate areas that need improvement to conform to the FAO Code of Conduct for Responsible Fisheries—a balanced/accurate view of Gulf Coast fisheries.

Integrating Habitat Conservation into Sustainable Fishery Management: Recommendations from the NOAA Habitat Blueprint Symposium at the 142nd Meeting of the American Fisheries Society

TERRA LEDERHOUSE AND KAREN ABRAMS, NOAA HABITAT OFFICE. TERRA.LEDERHOUSE@NOAA.GOV

In 1996, Congress added the “essential fish habitat” (EFH) provisions to the Magnuson-Stevens Act (MSA) in recognition of the decline of fish habitat that threatened our nations’ sustainable fisheries. Since 1996, NOAA and the regional fishery management councils have identified EFH for more than 1,000 species, designated over 100 habitat areas of particular concern, and protected over 700 million acres of EFH from the impacts of fishing. Despite these accomplishments, habitats essential for healthy fisheries are still at risk, many fish stocks are not meeting biomass targets, and fishery scientists and managers struggle to effectively demonstrate a link between specific habitat improvements and fishery productivity.

The NOAA Habitat Blueprint is a new strategy to address the growing challenge of coastal and marine habitat loss and degradation, increase the effectiveness of NOAA’s habitat programs to achieve sustainable and abundant fish populations, recover threatened and endangered species, and protect coastal and marine areas and habitats at risk. To advance this effort, NOAA hosted a symposium on the NOAA Habitat Blueprint at the 142nd Annual Meeting of the American Fisheries Society on August 22nd, 2012 in St. Paul, Minnesota. Panelists included representatives of NOAA, the Councils, and other non-government organizations who discussed the impediments to applying existing habitat conservation authorities in MSA to achieve fishery goals, options for developing habitat conservation objectives for fishery managers, and recommendations for implementing such objectives.

The panelists concluded that many opportunities exist for fishery managers to act now to strengthen habitat conservation to achieve sustainable fisheries:

1. NOAA should work with the Councils to develop strong, actionable objectives for some habitat-dependent fish stocks.
2. NOAA can work immediately with the Councils on ecosystem-based fishery management plans.
3. Stronger procedures for Council engagement in key EFH consultations will help NOAA achieve its objectives for sustainable fisheries.
4. A potential reauthorization of the Magnuson-Stevens Act would offer opportunities for NOAA and the Councils to improve their habitat authorities and adapt to the growing number of challenges faced by our nation’s fisheries.

Fisheries Management Policies and Their Effects on Safety in the Commercial Fishing Industry

JENNIFER LINCOLN AND GUNNAR KNAPP, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH. JLINCOLN@CDC.GOV

Background: Studies from many countries have suggested that fisheries management may affect fishing safety. However, there has been relatively little systematic analysis of how fisheries management affects safe-

ty or the extent to which changes in management can make fishing safer or less safe. This poster outlines some of these effects.

Methods: To better understand the relationship between fisheries management and fishing safety, the Food and Agriculture Organization of the United Nations and the U.S. National Institute for Occupational Safety and Health are cooperating in an international effort to document the relationship between fisheries management and fishing safety to provide practical guidelines for fisheries managers and safety professionals. International case studies were collected and reviewed for evidence to four hypotheses of how fisheries management policies could affect safety.

Results: Each case study provided evidence supporting at least one of the hypotheses. The review of the case studies resulted in establishing the following:

1. a conceptual framework, terminology and hypotheses about the relationship between fisheries management and fishing safety;
2. a review of the evidence provided by the international case studies with respect to these hypotheses;
3. a review of other evidence in the published literature supporting these hypotheses;
4. preliminary recommendations for fisheries managers and safety professionals about how they can help make commercial fishing safer; and
5. suggestions for important areas for future research.

Conclusions: Fishery management is a complex challenge. Managers must attempt to balance multiple objectives, under significant uncertainty, with limited resources. We recommend that safety professionals and fisheries managers take practical steps and acknowledge the relationships we have outlined and then take steps which may help to save lives and reduce injuries to fishermen.

Designing and Implementing Annual Catch Limits for North Pacific Groundfish and Crab Stocks

PATRICIA LIVINGSTON ET AL., NOAA ALASKA FISHERIES SCIENCE CENTER. PAT.LIVINGSTON@NOAA.GOV

The Alaska Fisheries Science Center provides the main stock assessment support to the North Pacific Fishery Management Council for Bering Sea/Aleutians and Gulf of Alaska groundfish and for some Bering Sea/Aleutian Islands crab stocks. Stock assessment scientists have been instrumental in the development of the groundfish and crab tier systems, which define harvest control rules that vary according to the type of information available. A number of changes have occurred in these tier systems in order to meet the annual catch limit requirements of the Magnuson-Stevens Act. In addition, vulnerability assessments have been used to guide the assignment of species/complexes to the ecosystem component management category. Different methods have been evolving for dealing with uncertainty and data poor complexes; some of these approaches will also be highlighted.

Private Bycatch Contracts Reduce Chinook Salmon Bycatch in the Pollock Fishery

STEPHANIE MADSEN AND ED RICHARDSON, AT-SEA PROCESSORS ASSOCIATION (SPONSOR), SMADSEN@ATSEA.ORG

Amendment 91 to the Bering Sea and Aleutian Islands Groundfish Fishery Management Plan limits Chinook salmon bycatch in the Bering Sea pollock fishery. The regulations implement an innovative approach to controlling Chinook bycatch in that a limit on the number of Chinook that may be caught incidentally each year is combined with an incentive agreement and performance-standard requirement designed to minimize Chinook bycatch to the extent practicable in all years.

Pollock Conservation Cooperative member companies operate vessels designed to catch and process Bering Sea pollock. The regulations motivated the Pollock Conservation Cooperative member companies to create Chinook bycatch quotas at the individual vessel level through private contracts. Primary incentive-agreement components include: (1) data gathering, monitoring, reporting, and information sharing; (2)

identification of bycatch avoidance areas; and (3) fishing-area prohibitions for vessels with poor Chinook bycatch performance. Additional components include: (1) an A-season closed area of approximately 755 square nautical miles on the northern flank of the Bering Canyon; and (2) a set of conditional, B-season closed areas of approximately 1,295 square miles along the outer Bering Sea shelf.

The year 2011 was the first for the program. An examination of trawl locations in space and time and the bycatch performance of the Pollock Conservation Cooperative vessels shows that the vessels changed their fishing locations to avoid Chinook bycatch. A salient feature of this change was for vessels to locate fishing away from the outer margins of the shelf initially. Depending on the locations of pollock schools, any movement of fishing to deeper water was accomplished via a deliberate, slow, and cautious progression; evidence of local Chinook concentrations in deep water generally caused vessels to move back to shallow grounds. In addition, very little fishing was located near the bycatch avoidance areas. An evaluation of vessel bycatch performance indicated a very uniform distribution of performance during the 2011 A-season. In contrast to prior years, there were no poor-performance outliers in the distribution (no right-hand tail), and the distribution coefficient of variation, which is a normalized measure of dispersion, was reduced by roughly half under the Amendment 91 program as compared to the 2008-2010 A-seasons.

Education Tax Credits: New Money for Marine Mammal Research in Alaska

STEPHANIE MADSEN AND ED RICHARDSON, AT-SEA PROCESSORS ASSOCIATION (SPONSOR). SMADSEN@ATSEA.ORG

The member companies of the Pollock Conservation Cooperative own and operate catcher-processor vessels that catch pollock in the Bering Sea off Alaska. The Pollock Conservation Cooperative member companies pay a Fishery Resource Landings Tax based on the value of the pollock catch. The Alaska Education Tax Credit Program provides a tax credit to businesses that make contributions to Alaska universities and accredited nonprofit colleges for research and educational purposes. Since 2000 Pollock Conservation Cooperative member company contributions of about \$2 million to the University of Alaska have supported more than 25 marine mammal research projects while contributions to Alaska Pacific University have funded the development of a Marine Biology Program with a focus on marine mammal research. Project cooperators include the Alaska SeaLife Center, the Aleut Community of St. Paul Island Tribal Government, the National Marine Mammal Laboratory, Oregon State University, the Prince William Sound Science Center, the University of British Columbia Marine Mammal Research Unit, and the University of Washington School of Fisheries and Aquatic Sciences.

Projects have investigated Steller sea lions, northern fur seals, harbor seals, and Biggs' killer whales over an area from California through the Pribilof, Aleutian, and Commander Islands. Research has focused on marine mammal predators, foraging ecology, prey diets and nutrition, the effects of persistent organic pollutants, and the potential for competition with groundfish fisheries for prey. An unexplained megafaunal collapse that began during the 1970s and extended throughout much of the northern North Pacific Ocean and southern Bering Sea motivated many of the projects. Important accomplishments include the development of an implantable life-history tag used to investigate marine mammal predation, and the deployment of data loggers on pollock fishing vessels to evaluate the potential for fishing-induced declines in pollock abundance. New projects for 2013 include the estimation of sea lion vital rates in the Commander Islands based on mark and re-sight data collected during 2000-2012, and satellite-tagging of killer whales in the western Aleutian Islands to determine foraging locations and diving behavior near sea lion rookeries.

Educating Teachers and Youth about Sustainable Seafood: A Place-Based Model for Understanding Connections Between Your Community and Ocean Resources

KIM MARSHALL AND MICHELLE WALSH, NOAA/GEORGE MASON UNIVERSITY. KIM.MARSHALL@NOAA.GOV

NOAA Fisheries will present a new model for educating the public about key concepts of ocean literacy by providing a professional development opportunity for K-5 teachers centered around the fundamental

concepts needed to understand the ecological, social, and economic elements involved in fisheries sustainability. NOAA Fisheries staff forged partnerships with educators from the Maryland State Department of Education, Montgomery County Public Schools, and a local conservation organization to align the Ocean Literacy Principles and Concepts with local curriculum and state environmental literacy standards, helping teachers and students make connections “from the schoolyard to the ocean” through place-based, hands-on lessons. Teachers are brought through the fundamentals of ocean science leading up to an understanding of ocean resource sustainability and how it is managed through NOAA Fisheries. Workshop facilitators use striped bass as a model to connect concepts and provide continuity among workshop modules from the physical and chemical properties of the ocean, adaptations for life in the ocean, ocean ecosystems, gathering and using data, human impacts and mitigations (such as for marine debris/derelict fishing gear), and ocean stewardship, including making seafood choices. Pre and post assessment data and positive partner feedback prove this new model to be a very effective way to promote ocean literacy and seafood sustainability through public schools.

Maine Coast Fishermen’s Association: Building a Fishery for our Future

BEN MARTENS, MAINE COAST FISHERMEN’S ASSOCIATION. BEN@MAINECOASTFISHERMEN.ORG

The Maine Coast Fishermen’s Association (MCFA) is a fishermen led non-profit organization that identifies and fosters ways to restore the fisheries of the Gulf of Maine and sustain Maine’s iconic fishing communities for future generations.

The fishermen who formed MCFA came together in response to years of mismanagement and the reduction of fish stocks within the Gulf of Maine. They saw their way of life at risk of disappearing forever. Together, MCFA provides a voice for fishermen fishing in the Gulf of Maine at the regulatory bodies that govern New England fisheries, and facilitates building strong fishing businesses in the face of changing regulations and a changing environment.

For more than 300 years Maine’s fishing industry and their communities have been the foundation of our cultural identity. Preserving our shared marine heritage requires vibrant communities with a foundation based on strong fishing businesses and healthy fish stocks. Our member fishermen are predominantly groundfish fishermen, but Maine’s small-boat fleet cannot rely on groundfish alone. Many fishermen also fish for shrimp, scallops, urchins, tuna, elvers, whiting and lobster and their individual business plans are as diverse as the harbors they come from.

Through the guidance from the fishermen, MCFA has developed and continues to support the Maine Coast Community Sector. It has also supported the development of Port Clyde Fresh Catch, an industry-led local processing facility and the first in the region community-supported-fishery that directly supports fishermen. Projects also include a National Fish and Wildlife funded risk pool, which is currently being developed in response to the massive allocation cuts in New England, and on-going business planning to ensure successful businesses in an ever changing economy.

As stewards of the marine ecosystem, MCFA fishermen promote and advocate for a healthy Gulf of Maine resource while balancing the needs of our fishing communities. MCFA works to achieve these goals through advocacy, education, outreach, and collaborative research projects.

Cooperative Marine Fisheries Statistics Program

ANN MCELHATTON, ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM. INFO@ACCSP.ORG

The Atlantic Coastal Cooperative Statistics Program doesn’t just store fishery-dependent data through the Data Warehouse, but is also a robust data collection program. In the past ten years, through the Standard Atlantic Fisheries Information System, almost 500,000 records have been collected from fishermen, harvesters, dealers, and anglers. These real-time records, not only provide the ability to monitor fisheries, but are also integrated into the Data Warehouse for more comprehensive stock assessments and, ultimately—

fishery management decisions.

Two Atlantic Coastal Cooperative Statistics Program program partners that have illustrated success using the Standard Atlantic Fisheries Information System have been the Maine Department of Marine Resource Management and the Massachusetts Division of Marine Fisheries.

Beginning in January 2008, the Maine Department of Marine Resource Management began collecting mandatory trip level dealer reporting. For the first time detailed data were collected on all of Maine's commercial fisheries. The objective of this project has been to continue with the implementation of the comprehensive dealer reporting regulation in Maine for all 680 dealers that buy directly from harvesters. In the past five years the project has shown to be vital for monitoring changes in fisheries, providing knowledge of fleet characteristics, and ensuring accurate communications to NOAA Fisheries and Atlantic States Marine Fisheries Commission about Maine landings. This data collection is one of the best ways to monitor the health of Maine's fisheries.

Beginning in 2010, the Massachusetts Division of Marine Fisheries embarked on a new project to achieve a goal common of all program partners—to collect comprehensive, standardized trip-level catch and effort data from all commercial permit holders. This project to collect standardized comprehensive fishery-dependent data from both dealers and harvesters creates improvements in data quality, quantity, and timeliness. Although this project only covers the activities of Massachusetts commercial harvesters, it does include the harvest of species which are managed regionally, such as lobster, striped bass, scup and sea bass. Thus regional management bodies such as the Atlantic States Marine Fisheries Commission benefit from having comprehensive fishery-dependent data from Massachusetts.

Fisheries Monitoring Roadmap

SARAH MCTEE ET AL., ENVIRONMENTAL DEFENSE FUND. SMCTEE@EDF.ORG

Fishery management goals that require accurate accounting of annual catch levels are increasing the need for robust fishery-dependent data. Limited financial resources to support fisheries monitoring underscore the importance of cost efficiency and transparency in the use of government funds and industry fees. Fisheries managers and industry stakeholders interested in optimizing the economics of their monitoring programs are encouraged to evaluate tools currently used to meet monitoring objectives, explore how those tools can be best utilized optimized, and determine the appropriateness of new or additional monitoring approaches, including electronic monitoring and electronic reporting tools.

Modifying a fishery monitoring program to include new sources of data or data collection tools can require regulatory revisions, changes in personnel, and the development of new infrastructure. Understanding the scope of change required and communicating those needs to relevant stakeholders, is critical to planning and successfully implementing a monitoring program. The Fishery Monitoring Roadmap is an attempt to assist managers and stakeholders in these processes. Composed of five complementary sections, the "Roadmap" includes: (1) a step-by-step process for evaluating, designing and implementing a fishery monitoring program; (2) a matrix to help identify data needs and an assessment of the ability of monitoring tools to meet those needs; (3) an outline of practical considerations and trade-offs of various monitoring tools; (4) a list of relevant references and resources; and (5) case studies to demonstrate how similar fisheries are implementing different monitoring tools.

As fishery managers and stakeholders look to new and emerging technologies to meet fishery monitoring and data needs, it is important to recognize that incorporating electronic monitoring or electronic reporting into a fishery monitoring program is a multi-step process that must be tailored to the specific needs of the fishery, fleet and often vessel. The Fishery Monitoring Roadmap helps stakeholders understand differences between monitoring tools, and match tools with clearly identified management and monitoring goals, ultimately allowing for the optimization of fishery monitoring programs.

Rebuilding Pacific Coast Groundfish Stocks: Management Successes and Challenges

STACEY MILLER AND JIM HASTIE, NOAA NORTHWEST FISHERIES SCIENCE CENTER. STACEY.MILLER@NOAA.GOV

Community resilience is often characterized as a system's vulnerability to a specific environmental change, event or hazard, and its adaptive capacity to cope and/or adapt. Social vulnerability is comprised of the demographic and socioeconomic characteristics of populations that may affect responses to change, events, or hazards. In an effort to identify fishing communities that may be vulnerable to environmental or fishery regulation changes, NOAA Fisheries is developing social vulnerability indicators for coastal fishing communities in five regions within the U.S. including the northeast, southeast, Pacific coast, Alaska and Hawaii. Place-level data from the U.S. Decennial Census, American Community Survey, NOAA Fisheries and state fish and wildlife agencies, as well as a variety of additional sources, are included in a factor analysis to create indicators of social vulnerability, gentrification vulnerability, and fishing engagement and reliance. This poster will highlight the approach as applied to fishing communities located along the west coast of the U.S. including a description of regional-specific data, observed changes in socio-economic vulnerability in Pacific coast communities between 2000 and 2010, and future research and data needs. Results from the analysis are anticipated to be incorporated into the California Current Integrated Ecosystem Assessment as well as used to inform social impact assessments in fishery management.

Assessing the Impacts of Climate Change in a Coupled Socio-Ecological System: The Case of Atlantic Surfclams

DAPHNE MUNROE ET AL., RUTGERS UNIVERSITY SHELLFISH RESEARCH LAB. DMUNROE@HSRL.RUTGERS.EDU

The Atlantic surfclam (*Spisula solidissima*) fishery lands 22,000 metric tons annually, which in 2008 netted \$39 million, making it one of the most valuable single species commercial fisheries in the U.S. Since 1997, populations from southern inshore regions of the clam's range have experienced significant mortality events co-incident with warm bottom water temperatures (reaching 21-24°C in September). Resulting changes in population distribution have major implications for the clam fishery. The processes underlying and consequences of this shift are being investigated using a multi-disciplinary approach that integrates physical oceanography, biology, socio-economics and anthropology.

Larval connectivity among fished clam populations along the Mid-Atlantic Bight is being studied using a physical fluid dynamics model (Regional Ocean Modeling System, or ROMS) by oceanographers at Rutgers University. This larval connectivity is of integral importance to how these populations will respond over time to changing climate and future fishery pressures.

Biological impacts of changing bottom water temperature are being addressed through individual-based metapopulation models. This is a collaborative effort between scientists at Old Dominion University, the Haskin Shellfish Research Lab, the Gulf Coast Research Laboratory, and Virginia Institute of Marine Science. These models will provide insight into the mechanisms behind ongoing changes in clam distribution and allow for prediction of possible future changes in distribution and biological parameters for the fishery.

Economic experiments are being used to examine how changes in the distribution of the fished stock may alter decisions around where to fish. This component of the project is being run through University of Massachusetts Amherst and will identify ways the changing environmental conditions influence individual and collective behavior in the fishery.

The social and cognitive processes involved in making management decisions are being studied by anthropologists in the Department of Human Ecology at Rutgers University. This group is examining the nature of managerial responses to changes in the fishery, economics, surfclam biology and oceanography—a key coupling mechanism between natural and human elements of the system.

This diverse and comprehensive approach will ultimately provide guidance for a proactive approach to management for Atlantic surfclams in the face of climate-driven shifts in distribution.

Collecting Data for Social and Economic Indicators in the Northeast U.S. Fisheries and Fishing Communities: Methods and Approaches

LOU NADEAU ET AL., EASTERN RESEARCH GROUP. LOU.NADEAU@ERG.COM

National Marine Fisheries Service's (NMFS) Northeast Science Center's Social Science Branch in Woods Hole, Massachusetts is currently implementing a set of three surveys of fishing crew and owners in the Northeast Region (New England and Mid-Atlantic). These surveys provide for the ongoing collection of social and economic data related to fisheries and their communities (a separate poster provides details on the development and nature of those measures). The three surveys cover the collection of socioeconomic data from fishing crew, socioeconomic data from vessel owners, and annual fishing business and operational costs from vessel owners. Although data to support some performance indicators are already routinely collected by NMFS, these surveys fill in the gaps and allow the Social Science Branch to collect trend data needed for more thorough analysis of changes in the fisheries, including impacts from changes in management regimes. This poster will provide details on (1) how the Social Science Branch translated the performance indicators into data elements on a survey, (2) the methods and approach being used to collect data in the field, and (3) the current status of the data collection efforts.

Assessing the Vulnerability of Fish Stocks to Climate Change

MARK NELSON ET AL., NMFS HEADQUARTERS. MARK.NELSON@NOAA.GOV

Climate change is already impacting fishery resources and the communities that depend on them. Environmental changes have been implicated in shifting distributions and altered abundances of fish stocks in many marine ecosystems. These impacts are expected to intensify in the future, increasing the need to understand which fishery resources are the most vulnerable to environmental change. We have developed a tool for conducting a rapid vulnerability assessment for a large number of stocks to create an index of relative vulnerability. The index can help fishery managers identify high vulnerability stocks and more effectively target limited research and assessment resources on stocks of highest concern. The vulnerability assessment integrates climate forecasts, species distributions, and species life history characteristics to estimate relative vulnerability across stocks. The methodology was created for use on data rich and data poor stocks; integrating quantitative information when available, and extrapolations from related species combined with expert opinion when quantitative data is lacking. The methodology includes an index of data quality which provides a gap analysis of future research needs. Pilot tests have found the methodology to be robust across temperate and tropical ecosystems.

Marine Outreach and Education U.S. Virgin Islands Style (MOES-VI)

LIA ORTIZ, MRAG AMERICAS, INC. LIA.ORTIZ@NOAA.GOV

NOAA's Coral Reef Conservation Program (CRCP) identifies fishing impacts, land-based sources of pollution, and climate change as the top three stressors of coral reefs within the 7 states, territories, and commonwealths of the U.S., including U.S. Virgin Islands (USVI). Federal and local resource managers recognize the need for building community awareness and capacity to participate in natural resource management to mitigate these threats. To address these needs, a series of projects have been developed under the brand of Marine Outreach and Education USVI Style (MOES-VI). The MOES-VI initiative consists of several projects, including: (1) The Marine Environmental Community Awareness Project assessing local community awareness gaps of marine environment topics and management, led by the local fishing associations (2) The Commercial Fishers' Training Module and Fishing/Boating License Project aimed at building commercial fisher knowledge of fisheries management rules and regulations, a collaboration between CRCP and USVI Division of Fish and Wildlife and Division of Environmental Enforcement; and (3) The development of a USVI Communications, Outreach and Education Strategic Plan (2015-2020) which entails (A) engaging the fishing community through implementing focus group meetings and interviews to

determine the communication, outreach and education needs specific to coral reef and fisheries management and conservation; and (B) strategizing to the identified needs with aim to build upon and complement efforts in the other MOES-VI projects. Together, these MOES-VI projects will serve as a foundation for building community ownership of sustainable fisheries management and conservation, while strengthening community relationships. These projects are in different states of implementation and collaborators include the NOAA-CRCP, NMFS-Southeast Regional Office, Caribbean Fishery Management Council, USVI Department of Planning and Natural Resources, University of the Virgin Islands Center for Marine and Environmental Sciences, Puerto Rico Sea Grant, The Nature Conservancy, St. Croix Commercial Fishermen's Association, St. Thomas Fishermen's Association and VI Network of Environmental Educators.

Factors Affecting Management Uncertainty in U.S. Fisheries

WESLEY PATRICK, NOAA. WESLEY.PATRICK@NOAA.GOV

Marine fisheries management is often based on a system of target and limit reference points, which contain significant amounts of scientific and management uncertainty that fishery managers must address. In the United States, these target and limit reference points are based on the annual catch limit (ACL) framework (i.e., overfishing level \geq acceptable biological catch (ABC) \geq ACL \geq annual catch target (ACT)). Within this framework, scientific uncertainty is accounted for in the setting of the ABC, while management uncertainty is accounted for in the setting of the ACT. Scientific uncertainty has been widely addressed since 2009, when the ACL framework was described in the National Standard 1 Guidelines. However, few researchers have examined management uncertainty, except in a theoretical context. Our research goes beyond the theoretical by taking a closer look at 17 U.S. fisheries, describing variations in management uncertainty among management regimes, and identifying potential factors that account for these differences. We found that a manager's ability to keep a fishery at or under the ACL can vary substantially among fisheries depending on the fishery sector (i.e., commercial, recreational, etc.), the management regime, the frequency of landing reports, and the degree to which target change from year to year. Lastly, our research shows that unless management uncertainty is accounted for, overages of the ACL can commonly occur and even result in overfishing.

Innovations for Community-Based Fisheries in Kodiak, Alaska

THERESA PETERSON AND KELLY HARRELL, ALASKA MARINE CONSERVATION COUNCIL. THERESA@AKMARINE.ORG

Commercial fisheries are an essential economic, social and cultural component of Alaska's coastal communities. However, fresh approaches are needed to ensure viable opportunities for local fishermen given the complex challenges that fishing communities face. We highlight two innovative, triple-bottom line initiatives that foster small-scale fisheries, community sustainability and long-term conservation in Alaska.

The first project is in partnership with the Alaska Jig Association and the Community Fisheries Network and aims to capitalize on a new entry-level opportunity for Kodiak's low-impact jig fleet. In recent years, fishery managers created a set aside that allows the fleet to stair-step up to 6 percent of the total allowable catch for Pacific cod in the Gulf of Alaska. Jigging has low capital requirements and offers the opportunity to diversify fishermen's portfolios and generate income to facilitate entry into other fisheries. However, with cod prices extremely low, this forward-thinking regulatory measure needs to be solidified with market-side improvements to generate greater economic and social benefits. Our project leverages the fishery's assets including its local fleet of owner-operators, low ecosystem impact, and potential to produce high quality seafood products. We report on our approach to transform the jig fishery into a higher-value enterprise by working with the fleet to create a community fishing organization, develop best handling practices, and generate appreciation in the market for the strong conservation performance and social benefits of the fishery.

The second project is Alaska Marine Conservation Council's Catch of the Season, an annual Community Supported Fishery program that features Kodiak Tanner crab. This social enterprise delivered over 10,000 lbs. of crab within Alaska in 2013 to about 250 households, seven restaurants, and Princess Tour's lodges.

Local, conservation-minded fishermen catch the crab for the program and get a price bonus for participating, and proceeds benefit Alaska Marine Conservation Council's work to sustain healthy working waterfronts. The program is building valuable connections between our fishing communities and consumers, restaurants chefs, and businesses. Through a product they can connect to, awareness is being generated about the benefits of local seafood and the important role of community-based fishermen in sustaining our coastal economies and providing stewardship of our marine ecosystems.

Measuring Success of Regional Fisheries Management Goals and Objectives: A Retrospective Analysis of Stated Goals and Objectives

PATRICIA PINTO DA SILVA, NMFS; ARIEL BAKER (PRESENTER), RUTGERS; AND GEORGE LAPOINTE, GEORGE LAPOINTE CONSULTING. PATRICIA.PINTO.DA.SILVA@NOAA.GOV

Most Regional Fishery Management Councils have not yet crafted a clear vision—or a set of objectives—for measuring management success in their regions. To inform these processes as they emerge and to illustrate what have been the main stated goals of each Council, we conducted a retrospective analysis of the principal regulatory documents of each Council since 1977 when the Magnuson-Stevens Act was implemented. For each of the eight management councils, we identified all of their fishery management plans [FMPs] (and associated amendments), and coded and analyzed selected FMPs stated goals and objectives, with a particular focus on the social and economic goals. Key fisheries in each region were selected based on the number of participants and ex-vessel revenue. This list was then modified through a series of informal interviews with Council staffs, NOAA science and policy personnel, and others having specific knowledge about the FMPs in each region. Using Atlas Ti qualitative data analysis software, we created hierarchical trees of each fishery to enable analysis and comparison. Our initial results indicate that a similar core set of goals exist throughout the U.S. However, in many cases, fisheries goals and objectives conflict both within, and among, fisheries in the region. Our conceptual maps offer a springboard for ongoing discussions about regional visioning efforts.

Help Spread the Word: U.S. Seafood is Sustainable

REBECCA REUTER ET AL., NOAA/NATIONAL MARINE FISHERIES SERVICE. REBECCA.REUTER@NOAA.GOV

In today's dynamic and at times complicated seafood culture, U.S. fishers are challenged with being competitive in the marketplace and U.S. seafood consumers are confused about how to buy seafood. Once on land, fishers, who have responsibly harvested U.S. seafood, are challenged with marketing their seafood products to help consumers understand that their product meets their demands for healthy, safe and sustainable seafood. Developing innovative marketing strategies that educate the consumer is imperative to the economic success of U.S. fishers and the communities that support them. NOAA Fisheries is finding ways to help fishers and their communities figure out ways to connect their products with consumer demands and help demystify seafood choices. Staff at NOAA Fisheries are developing outreach and educational materials that help spread the word that U.S. seafood is safe, sustainable and healthy. Materials, written in plain language, promote the relevance and importance of the work that NOAA Fisheries conducts to help communities throughout the Nation spread consistent messages such as U.S. Seafood is Sustainable. Activities through Fishwatch.gov, seafood festivals, educational curricula, professional development and getting involved with locavore or foodie movements are a few ways that NOAA Fisheries is providing tools to encourage economic stability in our communities while preserving an important part of our cultural heritage.

The Alaska Deep-Sea Coral and Sponge Initiative: A Research Program to Support Management of Coral and Sponge Habitats

CHRIS ROOPER ET AL., NOAA ALASKA FISHERIES SCIENCE CENTER. CHRIS.ROOPER@NOAA.GOV

Deep-sea coral and sponge habitats are widespread throughout most of Alaska's marine waters. In some places, such as the western Aleutian Islands, these may be the most diverse and abundant deep-sea coral and

sponge communities in the world. In 2012 the Alaska Fisheries Science Center initiated a three-year field research program in the Alaska region funded by the Deep Sea Coral Research and Technology Program to better understand the location, distribution, ecosystem role, and status of deep-sea coral and sponge habitats. A series of projects were designed to fill information gaps relevant to ongoing management needs in Alaska. Two projects to be highlighted in the poster presentation include an effort to model coral and sponge distribution in the Aleutian Islands and corresponding fieldwork to groundtruth the model, as well as a study that examines the relative benefits in terms of fish growth, recruitment and density of coral and sponge habitats relative to other habitats in the Gulf of Alaska. To date, the modeling study has resulted in maps for the Aleutian Islands predicting the probability of coral and sponge occurrence, the relative density of coral and sponge and a prediction of coral diversity. Preliminary results of the second study have indicated differences in density in commercially important rockfish in different habitats. The results of both these studies will provide data to support management decisions regarding coral and sponge habitat in all Alaskan regions.

Managing “Data-Limited” Stocks Under Catch Limits in the Western Pacific Region: Approach and Challenges

MARLOWE SABATER, WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL. MARLOWE.SABATER@NOAA.GOV

The Reauthorization of the Magnuson-Stevens Act in 2006 had significantly changed the way Regional Fishery Management Councils deal with managing the U.S. fisheries through implementation of annual catch limits (ACLs). Stock and output control-based approaches like ACLs pose problems for fisheries that are multi-gear, multi-species and spatially diverse by nature. The National Standard 1 Guidelines of the National Marine Fisheries Service is reliant on the existence of maximum sustainable yield for stock managed under ACLs. This provides very little guidance for reef fishes that has very few stock assessments in which the overfishing limit, a critical component of the ACL process, is based upon. Biological reference points that determine stock status are lacking for most of the species. Managing stocks that are data deficient proved to be a big challenge. This presentation outlines the approach that the Western Pacific Regional Fishery Management Council took in specifying ACLs for reef fishes in the U.S. Pacific island state and territories. Gaps and challenges were identified and recommendations are provided to enhance management of reef fish stocks under a catch limit system.

The Introduction of the Integrated Ecosystem Assessment Approach to Gulf of Mexico Management

MICHAEL SCHIRRIPA, NOAA SOUTHEAST FISHERIES SCIENCE CENTER; CLAUDIA FRIESS, OCEAN CONSERVANCY; AND REBECCA ALLEE, NOAA. MICHAEL.SCHIRRIPA@NOAA.GOV

Integrated ecosystem assessments (IEAs) are an emerging management tool designed to provide decision support needed for moving toward an ecosystem approach to management. The Regional Fishery Management Councils are ideal clients for the introduction of IEA products, especially management strategy evaluations, given their statutory responsibility to make trade-off decisions regarding the Nation's fishery resources that take into account the protection of marine ecosystems. Current fisheries management is set up to process information derived from single species stock assessments that often do not take into account species interactions or environmental factors. Such an approach makes the IEA process particularly useful to improve management. IEAs are intended to be complimentary to traditional single species approaches. One way to introduce managers and stakeholders to IEAs is to present IEA products to the Councils and their Scientific and Statistical Committees alongside traditional stock assessment results. With this in mind, the Gulf of Mexico IEA Program is joining the thirty-third Southeast Data Assessment and Review (SEDAR 33) process in the assessment of Gulf of Mexico gag grouper by introducing several ecosystem models, including Ecopath with Ecosim and OSMOSE, that will be run in parallel with models employing single species approaches. Our broad objectives are to (1) introduce the Gulf of Mexico IEA Program to the Scientific and Statistical Committees (Standing and Ecosystem) of the Gulf of Mexico Fishery Management Council; (2) provide support to the single species assessment of gag via the SEDAR process; and (3) provide ecosystem considerations to the specified management options that the single species assessment is

not capable of producing and to establish the Gulf of Mexico IEA as a regular part of the SEDAR process. Results from both the IEA and SEDAR will be presented to the Scientific and Statistical Committees for generating scientific fishery advice to the Gulf Council. The gag IEA will serve as a pilot or proof of concept study to demonstrate the capabilities of the IEA to the Gulf Council and stakeholders in the Gulf of Mexico region and to get them to think about management strategy evaluations they would like to see to help them evaluate trade-offs between alternative management strategies and to inform adaptive management.

Bringing the Fish Back: An Evaluation of U.S. Fisheries Rebuilding Under the Magnuson-Stevens Act

BRAD SEWELL ET AL., NATURAL RESOURCES DEFENSE COUNCIL. BSEWELL@NRDC.ORG

Congress amended the Magnuson-Stevens Fishery Conservation and Management Act in 1996 to require that overfished ocean fish stocks be rebuilt in as short a time period as possible, not to exceed 10 years, with limited exceptions. As part of evaluating the success of these requirements, Natural Resources Defense Council examined population trends of all U.S. ocean fish stocks that were subject to the requirements and for which sufficient information was available to assess rebuilding progress. Out of these 44 fish stocks, almost 65 percent can currently be considered rebuilding successes: 21 have been designated rebuilt (and have not been determined to again be approaching an overfished condition) or have exceeded their rebuilding targets, and 7 have made significant rebuilding progress, defined as achieving at least 50 percent of the rebuilding target and at least a 25 percent increase in abundance since implementation of the rebuilding plan. This success rate demonstrates that the Federal law has been generally successful in rebuilding fish stocks. Our analysis also showed areas of concern, including (a) gaps in the application of the rebuilding requirements, such as with respect to stocks that are not federally managed, of “unknown” population status, or internationally managed; (b) certain regions, such as New England, the South Atlantic, and the Gulf of Mexico, with significant proportions of stocks showing a lack of rebuilding progress; and (c) continued overfishing during rebuilding plans. We also found that rebuilding fish stocks confers substantial benefits. For example, estimated average annual 2008–2010 dockside revenues from commercial landings of the 28 U.S. fish stocks that have been rebuilt or are demonstrating significant rebuilding progress totaled almost \$585 million, which is 92 percent higher (54 percent when adjusted for inflation) than dockside revenues for these stocks at the start of rebuilding. Many of the rebuilt and rebuilding stocks also have significant economic benefits associated with recreational catch.

NOAA Fisheries' Marine Recreational Improvement Program

LEAH SHARPE ET AL., NOAA FISHERIES. LEAH.SHARPE@NOAA.GOV

The Marine Recreational Information Program, or MRIP, is the new way that NOAA Fisheries is collecting and reporting recreational fishing catch and effort data. Working with scientists, managers, fishermen and others, MRIP is making significant improvements to virtually everything we've done in the past. MRIP plays a critical role in sustainably managing our ocean resources by providing estimates of fishing activity that are both accurate and trusted. In this poster we will go over how recreational catch estimates fit in the overall stock assessment and fisheries management process, the types of surveys used in estimating our nation's recreational catch, the various changes being implemented in the new MRIP program, and our plans for future improvements. NOAA Fisheries is working to ensure the long term sustainability of our nation's fisheries and MRIP is a key element in meeting that goal.

Best Practices for Forage Fish Management

GEOFF SHESTER ET AL., OCEANA. GSHESTER@OCEANA.ORG

The current management regime for commercial forage fish fisheries generally fails to balance harvests against the beneficial ecological role of forage species. Forage fish (e.g., herring, anchovies, squid, sardines, etc.) are clear examples of species valuable both as direct landings and as prey for larger fish species and marine wildlife. Fishing pressure on forage fish can have a disproportionate ecological effect relative to fishing

other species. These interactions are further complicated by natural fluctuations in forage fish abundance, caused by complex and often unpredictable relationships with oceanic conditions.

Optimum yield, as defined in the Magnuson-Stevens Act (MSA), requires fishery managers take into account the protection of marine ecosystems, and is based on maximum sustainable yield as reduced by relevant economic, social, or ecological factors. Here we discuss these factors in the context of forage species, and propose both short and long-term strategies for integrating ecological considerations and socioeconomic trade-offs into harvest control rules, focusing on Pacific sardine as a case study. We highlight the practical limitations of the current management context, and propose ideas for advancing an Ecologically Sustainable Yield approach that accounts for predator requirements and food web dynamics.

In addition to an Ecologically Sustainable Yield approach for the management of existing forage fish fisheries, best practices include protecting forage species before new fisheries develop. While there are many forage species not currently subject to commercial exploitation, the increasing global prices of fish meal and fish oil are likely to make new fisheries profitable in the future. Given the ecological importance of forage species, a precautionary approach can prevent unintended consequences to other fisheries, communities and ecosystems. We provide an overview of available pathways to proactively prevent new fisheries from developing on currently unmanaged forage species under current statute and guidelines, with examples from the Pacific and North Pacific regions. Yet changes to the MSA could facilitate comprehensive solutions that prevent new fisheries from developing on forage species unless and until scientific criteria are met.

The International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean

SARAH SHOFFLER AND GERARD DINARDO, NOAA SOUTHWEST FISHERIES SCIENCE CENTER. SARAH.SHOFFLER@NOAA.GOV

The goal of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC) is to advance fishery science of North Pacific tuna and tuna-like fishes through cooperation and collaboration among interested parties. It is an inter-governmental organization with members from coastal states and fishing entities of the region and coastal states and fishing entities with vessels fishing for highly migratory species in the region. Unlike regional fisheries management organizations, ISC is supported completely by in kind contributions from participants' organizations, not through specific government funding. Most ISC work has focused on stock assessments of North Pacific stocks, including Pacific bluefin tuna, swordfish, striped marlin, albacore tuna, and recently some sharks. Stock assessments are collaborative and depend on member commitments to provide not only the required data but also qualified scientists to conduct the assessments. Present challenges the ISC faces in providing the best available science information to fishery managers include the identification and adoption of biological reference points by the Western and Central Pacific Fisheries Commission.

First Stewards: Coastal Peoples Address Climate Change

SYLVIA SPALDING AND MICAH MCCARTY, WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL. SYLVIA@LAVA.NET

Climate change is occurring rapidly, creating an urgent need for the world to make use of indigenous ways of adapting and maintaining the resiliency that has served ancient coastal cultures for thousands of years. That was the message delivered by the indigenous coastal people of the United States and the U.S. Pacific Islands when they gathered July 17-20, 2012, in Washington, D.C., where their unified voices called for action on climate change.

The First Stewards Symposium: Coastal Peoples Address Climate Change was convened to create a mechanism for the indigenous people to engage with governments, non-governmental agencies and others to help mitigate and adapt to climate change. The very fabric of indigenous societies is threatened by overdevelopment of coastlines; alteration of freshwater streams and lakes; destruction of life-giving watersheds and reefs; and the decline of marine and terrestrial species. These have been exacerbated by climate change,

creating astonishing changes in coastal natural systems that indigenous cultures are witnessing.

A resolution drafted by the newly incorporated First Stewards and sent to President Obama requests formal recognition of the coastal indigenous people and their expertise in understanding and adapting to changes in their natural systems. The resolution asks for the Federal government to “consult with our tribal governments and indigenous communities for guidance in all policies that affect our way of life and to support our management efforts, which will strengthen America’s resiliency and ability to adapt to climate change.”

Because native communities continue to subsist off of the lands and live by the natural seasonality of fish, sea mammals, birds, animals, and plants, they depend upon the integrity and continued existence of healthy ecosystems and are vulnerable to climate change. Relying upon their traditional ecological knowledge and ancestral wisdom of adaptability and resilience are keys to their survival and identity. These methodologies include returning to and promoting traditional practices to ensure food stocks and natural resources continue to be available. Non- indigenous communities and climate change initiatives can benefit from the knowledge and methodologies of indigenous communities, which can serve as a tool to help the nation adapt to climate change.

How Leading by Example Can Exacerbate International Conservation Problems: A Bio-Economic Analysis

STEPHEN STOHS AND SARAH SHOFFLER, NOAA SOUTHWEST FISHERIES SCIENCE CENTER. STEPHEN.STOHS@NOAA.GOV

Unilateral domestic regulations to protect endangered species from commercial fisheries impacts may exacerbate the conservation problems they were intended to mitigate. The transfer effect describes how a domestic regulation to conserve transboundary target or protected populations can lead to a transfer of effort from U.S. harvesters to foreign harvesters. Because of the transfer effect, also described as a “trade leakage” or “spillover effect,” we cannot predict a priori whether unilateral domestic regulations will increase or decrease the global level of overfishing or protected species interactions on a transboundary stock. Regulation of U.S. Pacific swordfish fisheries (*Xiphias gladius*) intended to limit interactions with endangered leatherback turtles (*Dermochelys coriacea*) provides an example.

Endangered leatherback sea turtles are sometimes caught as bycatch in commercial Pacific swordfish fisheries, including rare event bycatch in the Hawaii and California swordfish fisheries. The population ranges of leatherback sea turtles and swordfish extend outside the 200 mile Exclusive Economic Zone limits of the U.S. and other Pacific Rim nations across the Pacific basin, with a high degree of overlap creating opportunity for leatherback-swordfish fishery interactions. The U.S. has regulated the swordfish fisheries in Hawaii and California to address Endangered Species Act requirements to protect the endangered leatherback turtles; however, commensurate regulations have not been imposed on non-U.S. commercial Pacific swordfish fisheries. The Theory of the Second Best suggests that it is impossible to predict a priori whether the effect of unilateral domestic regulation will be to increase or to decrease the global level of protected species interactions.

A two-sector bioeconomic model of swordfish catch and endangered sea turtle interactions in the U.S. domestic and foreign Pacific swordfish fisheries describes effects of unilateral domestic regulation to reduce endangered sea turtle interactions as potential implications of the Theory of the Second Best. The model assumes sea turtle interactions are an intrinsic production externality in both U.S. domestic and foreign sector fisheries. The analysis demonstrates that unilateral domestic regulation of the swordfish fishery intended to reduce interactions with endangered sea turtles may reduce U.S. swordfish fisheries’ competitive advantage in production while increasing the global level of sea turtle interactions in Pacific swordfish fisheries.

Has the New England Commercial Fishing Industry Gone to the Dogs?

JAMES SULIKOWSKI, UNIVERSITY OF NEW ENGLAND. JSULIKOWSKI@UNE.EDU

Commercial fishing directly or indirectly supports over 200,000 jobs in New England, generating over \$10 billion in revenue. Despite this importance, the industry is in perilous times. A disaster was declared for the 2013 fishing year as many important groundfish populations have failed to respond to restrictive management measures over the last five years. Concern over the poor condition of these stocks and that the biomass declines could worsen, additional reductions in fishing pressure have been implemented. Atlantic cod quotas (*Gadus morhua*), historically one of the most commercially important fish in New England, have been hit especially hard by these new reductions, with some regions experiencing additional cuts of over 70 percent when compared to the quotas of the 2012 fishing season. In contrast, spiny dogfish, *Squalus acanthias*, populations have exhibited fourfold increases in biomass over this same time frame. This small coastal shark is thought to be benthic in nature, make coordinated long distant, coast wide, seasonal migrations in large packs, and have a diet consisting of a mix of vertebrate and invertebrate prey items. However, we present data from several integrated studies to support hypotheses that are divergent to many of these common paradigms. We suggest that: 1) this shark has a more active vertical movement pattern that prevents representative sampling during trawl surveys used for stock assessment purposes; 2) this shark's horizontal movement patterns are more regional; 3) stomach content and stable isotope data suggests dogfish are more piscivorous than once thought; and 4) cod and dogfish sit at the same trophic level and thus are in direct competition for resources within this ecosystem. These collective results indicate that a larger dogfish population (currently estimated at 1,000,000 metric tons) has the potential to negatively impact this ecosystem, and in part, may help explain why cod (and possibly other groundfish) stocks have failed to rebound despite drastic reductions in fishing pressure.

Using Indicators to Discover the Effects of Catch Shares on Fishing Communities

JILL SWASEY AND SUZANNE IUDICELLO, MRAG AMERICAS. JILL.SWASEY@MRAGAMERICAS.COM

The Measuring the Effects of Catch Shares (<http://catchshareindicators.org/>) project posted its first round of results for catch share programs in the U.S. Northeast and on the West Coast in Spring 2013. The methodology arose from workshops where fishermen and fishing community stakeholders posed numerous questions about these programs. Analysis of information from the private sector, university scientists, government agencies and multiple jurisdictions is organized to answer key questions about effects of these two catch share programs on fishermen, fish stocks, fishing businesses, and fishing communities. The issues addressed through these key questions, though focused on the NE and WC programs, have broad applicability to measure changes in other catch share fisheries. The project does not advocate for or against catch shares, but provides objective, neutral data. The five-year project uses a collaborative approach to gather and rigorously analyze the best available data on economic, social, ecological, and administrative conditions and trends, comparing years before and during the catch share programs. Indicators for these key questions directly relate to the conference theme of fishing community sustainability. Select examples include:

- have fleetwide catches stayed within quotas?
- have discarding practices changed?
- has quality of fishery data changed with changes in observer coverage?
- have economic and social effects on local communities changed?
- are fishing vessels participating in a different mix of fisheries?
- has the efficiency of fishery management changed?

Poster viewers will be able to query the project web site to see the first of numerous periodic reports on the indicators.

Assessing the Impacts of Community Protection Measures in Catch Share Programs

MARYSIA SZYMKOWIAK, UNIVERSITY OF DELAWARE. MARYSIA@UDEL.EDU

The efficiency gains realized under rights-based management programs in fisheries may have negative socioeconomic impacts on some communities. Less efficient operators will likely sell or lease their shares (legally-revocable privileges) to more efficient operators, increasing efficiency across the fishery. However, the exodus of these operators could mean a loss of associated employment for crews, dockside workers, processors, etc., with a potential multiplier effect across the community. According to economic theory, there is an opportunity cost associated with having less efficient operators remain in the fishery when their labor could be reallocated to other sectors of the economy. However, in isolated coastal communities with few alternative employment opportunities the benefits of this reallocation would likely not be realized.

Regulators often seek to balance efficiency gains and the potentially negative impacts on communities of rights-based management by modifying or restricting the ways in which fishermen can utilize their allocations. For example, quota shares may be allocated based on vessel class or geographic location, with limited transferability between the categories. There are, however, tradeoffs associated with these modifications, in terms of the losses in potential economic efficiency gains expected from fuller rights. Therefore, the two sides of these modifications have to be evaluated: the costs (as decreases in potential efficiency gains) and the benefits (for the relevant operators and associated communities).

Evaluating the effects of these modifications necessitates first describing the counterfactuals, which may be: 1) the status quo without the program, 2) a rights-based program with full property rights characteristics, or 3) a “standard” rights-based program (one which only includes the limits on rights designated under national legislation). For example, it may be that the rights-based program would not have been implemented without the modification.

This study delineates several common modifications to rights-based management programs. It provides the theoretical background on how they can affect the rights of the quota holders and the capacity of the market to achieve economic efficiency. A framework for evaluating the potential costs and benefits of these modifications for participants and communities is presented. Finally, some preliminary results of an application of this methodology are presented.

Catalyzing Industry to Drive Fishery Improvements

BRANDON TIDWELL, DARDEN RESTAURANTS; MEGHAN JEANS, NEW ENGLAND AQUARIUM. BTIDWELL@DARDEN.COM

In 2011, Darden Restaurants made a commitment, through the Clinton Global Initiative, to rebuild troubled fisheries by supporting three fishery improvement projects (FIPs) in three years and catalyzing industry support of improvement efforts. This ambitious commitment is supported by a cooperative alliance of seafood buyers, producers, suppliers, fishery managers, scientists, community members, and conservation NGOs working together to improve fisheries. An evolving tool for sustainability, improvement projects rely on multi-stakeholder support and utilize the market power of the private sector to incentivize positive change in wild fisheries and aquaculture operations. But what is the value of supply chain engagement and what role can industry play in these multi-stakeholder efforts? Moreover, what impact is being made and how can companies be assured that their FIP commitment is making a difference? Darden will share its approach to FIPs and aquaculture improvement projects focusing on its collaborative relationship with the New England Aquarium and other NGOs; the criteria developed to inform FIP engagement opportunities; the challenges and successes experienced in their first FIP commitment in the Gulf of Mexico snapper/grouper fishery; and the business case for industry support of fishery and aquaculture improvement projects.

Managing the Threat of Invasive Catfish on Ecologically and Commercially Important Species in the Chesapeake Bay

BRUCE VOGT ET AL., NOAA CHESAPEAKE BAY OFFICE. BRUCE.VOGT@NOAA.GOV

Both blue and flathead catfish are invasive and potentially causing an unbalanced ecosystem in the Chesapeake Bay. Their increasing populations, rapid range expansion, and capacity to consume significant amounts of ecologically and economically native fish species such as menhaden, blue crab and shad raise significant concerns and ecosystem management challenges for fishery managers. These invasive catfish were introduced by humans and they are thriving in a system with high nutrient loading and available prey sources. The NOAA Chesapeake Bay Office funds research on invasive catfish to help further understand their basic biology and potential negative effects on native species and human health. Research findings will help inform management and mitigation strategies. Current research focuses on several topics:

- Estimating the abundance of blue catfish in the James River using a tagging study and mark-recapture analysis. This abundance estimate can verify other estimates, and can be used in ecological models to describe the role and ecological effects of blue catfish in the James River.
- Determining the rate of movement of adult blue catfish between freshwater and estuaries
- Conducting various studies to determine which fish species comprise blue catfish diets, and how diet varies according to certain parameters including specific tributary, season, and size. These results can provide a better understanding of the role of blue catfish in the food web depending on specific location and habitat conditions.
- Estimating predation mortality by blue catfish on anadromous fish species such as American shad and blueback herring. These results can explain the effects of blue catfish on economically important resources in the Bay.
- Evaluating the contaminant levels in blue catfish to determine if encouraging human consumption of blue catfish is a safe management option. This will help determine if promoting human consumption and expanding commercial markets for blue catfish are possible management strategies.
- Developing and analyzing blue catfish growth data to describe their growth patterns. This will allow analysis of blue catfish growth specifically in Bay tributaries, and how patterns may differ among tributaries.

Exploring the Social Side of Fishery Management: Increasing Stakeholder Engagement Through the Use of Social Media Tools and Mobile Technology

AMBER VON HARTEN, SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL. AMBER.VONHARTEN@SAFMC.NET

With the reauthorization of the Magnuson-Stevens Act and the requirements for implementing annual catch limits and other National Standards, fisheries management in the South Atlantic region has developed into a complex set of issues. The fishing stakeholders involved include commercial, for-hire and recreational fishermen, environmental NGOs, and fishery managers and scientists. With such a diverse group of fishing stakeholders, the strategies used for outreach need to be designed to meet the varied needs of those stakeholders.

Traditionally, outreach strategies have focused on printed publications (regulations brochures, pamphlets, and fact sheets), website postings, and formal public hearings throughout the region. However, with the advent of social media and new mobile technology there are new opportunities to expand outreach strategies in more non-traditional platforms.

The South Atlantic Fishery Management Council has initiated a social media outreach strategy using Facebook, focusing on informing and engaging fishing stakeholders in dialogue about fishery management is-

sues, fishery management plan and amendment development, and opportunities for public input. In addition, the Council, in cooperation with NOAA Fisheries, has developed a mobile application (SA Fish Regs) designed to provide easily accessible and up-to-date fishing regulations and other information to both commercial and recreational fishermen. The paper will highlight success stories of engaging a broad range of fishing stakeholders in the Federal management process through the use of social media and increasing understanding of Federal fishing regulations in the region through the use of the SA Fish Regs mobile app.

A Review of Essential Fish Habitat for Pacific Coast Groundfish

WALDO WAKEFIELD, NOAA NORTHWEST FISHERIES SCIENCE CENTER; MARY M. YOKLAVICH, NOAA FISHERIES; CHRISTOPHER G. ROMSOS, OREGON STATE UNIVERSITY; JOSEPH J. BIZZARRO, UNIVERSITY OF WASHINGTON; CURT E. WHITMIRE, NOAA FISHERIES AND MARLENE BELLMAN, NOAA FISHERIES. WALDO.WAKEFIELD@NOAA.GOV

In this poster, we provide an overview of the current review of essential fish habitat (EFH) for 91 species of Pacific coast groundfish. We highlight some of the key products developed for this review and are now available to the public. Initial EFH designations were based on best available data developed from 2002 to 2005; NOAA's National Marine Fisheries Service (NMFS) implemented these designations in May 2006. Beginning in 2010, the Pacific Fisheries Management Council (PFMC), Northwest and Southwest Fisheries Science Centers, and the NMFS Regions initiated the next five-year review for EFH provisions of the groundfish fishery management plan. In Phase I of this process, we compiled and summarized new and relevant information available for the review. Sources of information included published scientific literature and unpublished scientific reports, solicitation of data from interested parties, and the review of previously unavailable or inaccessible data sets. Coast-wide maps were updated for (1) bathymetry and interpreted groundfish habitat types, (2) the distribution and extent of commercial fishing effort (as potential impact to EFH), (3) the distribution and relative abundance of biogenic habitat (i.e., sponges and corals), and (4) spatial management boundaries (as potential mitigation of impacts). This complete body of information, in the form of a written report and supporting Internet data catalog, was presented to the PFMC, its advisory bodies and the public at the Council's September 2012 meeting (Phase I Report: <http://tinyurl.com/ltqq6ma>; online data catalog: <http://tinyurl.com/kwe452v>). NMFS is currently conducting an analysis of the information in the Phase I Report, and will deliver a synthesis to the Council in April 2013. During Phase II, the Council will solicit proposals to modify EFH and Habitat Areas of Particular Concern. If the Council decides to amend EFH, Phase III of the process will begin and may require an amendment to the groundfish fisheries management plan. This five-year review represents a major update of the groundfish habitat assessment for the California Current and will have research and management applications well beyond satisfying the regulatory guidelines associated with EFH.

Marine Protected Areas: Improving Tools to Sustain Marine Ecosystems

LAUREN WENZEL & ROBERT BROCK, NOAA MARINE PROTECTED AREA CENTER. LAUREN.WENZEL@NOAA.GOV

Connecting and strengthening the nation's marine protected area programs can improve their ability to deliver ecological services in light of changing climate and increasing ocean uses. The U.S. has over 1,700 marine protected areas (MPAs), established for diverse purposes ranging from the protection of biological diversity to the protection of commercially and recreationally valuable fish stocks, to the conservation of historic treasures. Approximately 24 percent of U.S. MPAs have sustainable production as their primary purpose, encompassing over 50 percent of MPA area in the U.S. Exclusive Economic Zone. These fishery MPAs span a wide range of levels of protection, from gear restrictions to reduce bycatch to no take areas to protect sensitive habitats or spawning areas. This poster will summarize the current status of U.S. MPAs, sustainable production MPAs, and highlight recent work to enhance MPA effectiveness by managing MPAs within systems and networks, and within the broader context of ocean uses.

Overfishing, pollution, and coastal development have all placed significant stress on the nation's natural and cultural marine resources. Climate change impacts in the ocean are expected to add to these stressors,

affecting the ecological services such as food production, recreation and tourism that humans depend on. Recent collaborative work with Canada and Mexico has focused on developing scientific guidelines for designing MPA networks in light of expected climate change impacts. These guidelines include: 1) protecting species and habitats with crucial ecosystem roles; 2) protecting potential carbon sinks; 3) protecting ecological linkages and connectivity pathways for a wide range of species; and 4) protecting the full range of biodiversity present in the target biogeographic area. Application of these guidelines can help MPA and marine resource managers more effectively use place-based management to address future climate impacts.

Responding to climate change is just one example of how operating as a network can enhance MPA effectiveness. The National Marine Protected Areas Center has established a national system of MPAs to link and strengthen the nation's MPA programs, including Fishery Management Councils. Current focal areas include MPA capacity building, strengthening international linkages, and developing information and tools to manage MPAs within the context of diverse, often competing, ocean uses.

The Marine Resource Education Program: Northeast Fishermen Training as Effective Contributors to Management

JOHN WILLIAMSON, SEAKEEPER CONSULTING AND CHARTER, MAINE. JOHN@SEAKEEPER.ORG

The Marine Resource Education Program (MREP) arose from ongoing conversations among fishermen active in the New England management process. Initiated in 2001 as a pilot based at the University of New Hampshire, an impressive mix of partners from commercial and recreational fisheries, management, science and education came together to craft a curriculum and means of delivery. In 2005 the program was moved to a more permanent administrative base at the Gulf of Maine Research Institute.

By fishermen for fishermen, with over 450 graduates to date, MREP is receiving growing recognition for raising the knowledge-base within the regional community and is serving as a template for similar efforts outside New England. 2012 has seen the successful launch of a Mid-Atlantic MREP as a sister program to New England covering the entire Northeast region; and development of capacity for a Southeast Fisheries MREP under local leadership.

The curriculum has been well tested and continues to evolve to serve the needs of fishermen and relevant stakeholder groups. The core program covers two topic areas: a three-day Fishery Science 100, followed by a three-day Fishery Management 100.

Fishery Science 100 is designed to provide participants with grounding in the science fundamental to management. Participants are provided with basic working knowledge of population biology and the assessment process, including survey sampling techniques, statistical tools, models and their uses. Information presented demonstrates how fishing effort relates to stock assessments and how fishermen's knowledge can be incorporated.

Fishery Management 100 provides an overview of entities which manage commercial fisheries with an emphasis placed on the structure of the Fishery Management Councils and the requirements under the Magnuson-Stevens Act and National Standards. The curriculum covers the components of a management plan, describing the progression of plan development and identifying critical opportunities for participation and input. A role-play exercise simulates a specification-setting negotiation.=

An advanced MREP 200: Introduction to Stock Assessments, is a two-day exploration of the data-labs at the Northeast Fishery Science Center, Woods Hole, featuring hands-on presentations in facilities by key NMFS scientists. The workshop culminates in review of stock assessment models, relating the component parts.

Integrating a Recreational Fishery into a Catch Share Program: An Alaska Case Study

RICHARD YAMADA, CATCH (CATCH ACCOUNTABILITY THROUGH COMPENSATED HALIBUT) PROJECT. RICHARD@CATCHALASKA.ORG

Alaska's commercial halibut fishery has been managed under a catch share program since 1995, known as the Individual Fishing Quota Program. This program permitted and divided the total allowable catch of halibut among commercial fishermen. Prior to allocating commercial catch limits each year, removals of sport harvest, subsistence, bycatch, and wastage are deducted. As sport catch grew in the late 1990s, fisheries managers felt that if sport catch was not controlled, this would bring uncompensated reductions in commercial harvest and jeopardize the economic viability of the commercial halibut fleet.

As the charter fleet was misinterpreted as a quasi-commercial fishing enterprise, guided angler harvest was separated out from the sport harvest and regulated separately. In 2003, in an effort to manage this user group of guided recreational anglers, a guideline harvest level program was implemented. If guided angler harvest did not fall within these recommended levels, more restrictive harvest measures would be recommended for the following year.

In Area 2C (Southeast Alaska) guided harvests exceeded the guideline harvest level from the first year of implementation. This was due in part to an insufficient initial allocation and the lack of understanding regarding the dynamics that determine recreational angler harvest. Without this understanding it was difficult to impossible to set regulations to achieve results with any accuracy.

With the recent decline in halibut stocks and changes in management policies, guided recreational fishing opportunities have declined in Area 2C and are threatened in Area 3A (Southcentral Alaska). A means to transfer allocation between the commercial longline and charter recreational sectors would provide increased fishing opportunities for guided anglers and stability in their regulations.

The results of the CATCH project findings will be the subject of the poster display.



Acronyms and Photo Credits

Acronyms

ABC	acceptable biological catch
ACE	annual catch entitlement
ACT	annual catch target
ACL	annual catch limit
AIS	automatic identification system
AM	accountability measure(s)
ANPR	advance notice of proposed rulemaking
AP	advisory panel
APA	Administrative Procedures Act
ARPA	automatic radar plotting aid
ASMFC	Atlantic States Marine Fisheries Commission
B	biomass
B_{OY}	biomass at optimum yield level
B_{MSY}	biomass at maximum sustainable yield
C	level of catch
CDFW	California Department of Fish and Wildlife
CFA	community fishing association
CFF	California Fisheries Fund
CMSP	coastal and marine spatial planning
CSF	community supported fishery
DAS	days at sea
DMR	(Maine) Department of Marine Resources
EBFM	ecosystem-based fisheries management
EBM	ecosystem-based management
EC	ecosystem component
ECS	ecosystem component species
EEZ	exclusive economic zone
EFH	essential fish habitat
EIS	environmental impact statement
EMS	electronic monitoring systems
EPO	eastern Pacific Ocean
ESA	Endangered Species Act
F	rate of fishing
FACA	Federal Advisory Committee Act
FAO	United Nations Food and Agriculture Organization

FFP	(NOAA's) Fisheries Finance Program
FIP	fishery improvement project
FMC	fishery management council
FMP	fishery management plan
FR	Federal Register
GARM	Groundfish Assessment Review Meeting
GDP	gross domestic product
GIS	geographic information systems
GMFMC	Gulf of Mexico Fishery Management Council
GPS	global positioning system
HAIP	(NOAA) Habitat Assessment Improvement Plan
HAPC	habitat area of particular concern
HLA	Hawaii Longline Association
HMS	highly migratory species
IATTC	Inter-American Tropical Tuna Commission
IEA	Integrated Ecosystem Assessment
IFQ	individual fishing quota
IMO	International Maritime Organization
IOOS	Integrated Ocean Observing System
ITQ	individual transferable quota
IUU	illegal, unreported and unregulated (fisheries)
IFFTF	Lenfest Forage Fish Task Force
LISA	Local Indicators of Spatial Association analysis
MAFAC	Marine Fisheries Advisory Committee
MAFMC	Mid-Atlantic Fishery Management Council
MCA	Marine Conservation Alliance
MFC	Marine Fisheries Commission
MFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
MP	management procedure
MPA	marine protected area
MRIP	Marine Recreational Information Program
MSA	Magnuson-Stevens Act (see MFCMA)
MSB	mackerel, squid, and butterfish
MSC	Marine Stewardship Council
MSE	management strategy evaluation
MSMC	Multispecies Monitoring Committee (New England Fishery Management Council)
MSRA	Magnuson-Stevens Reauthorization Act (see MFCMA)
MSST	minimum stock size threshold
MSVPA-X	Multispecies Virtual Population Analysis
MSY	maximum sustainable yield
NBSRA	Northern Bering Sea Research Area
NEFMC	New England Fishery Management Council

NEPA	National Environmental Policy Act
NGO	nongovernmental organization
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NRDC	Natural Resources Defense Council
NS	National Standard
NSC	Northeast Seafood Coalition
NSG	National Standard Guideline
OFL	overfishing limit
OY	optimum yield
PDT	plan development team
PFMC	Pacific Fishery Management Council
POP	Pacific ocean perch
RFMC	Regional Fishery Management Council
RFMO	regional fisheries management organization
ROV	remotely operated vehicle
SAFMC	South Atlantic Fishery Management Council
SASI	Swept Area Seabed Impact model
SAW/SARC	Northeast Regional Stock Assessment Review Workshop
SFA	Sustainable Fisheries Act (see MFCMA)
SSB	Social Sciences Branch (of the NMFS Northeast Fisheries Science Center)
SSB	spawning stock biomass
SSC	Scientific and Statistical Committee
T_{TAC}	target total allowable catch
TAC	total allowable catch
TCRP	Theodore Roosevelt Conservation Partnership
T_{MIN}	The rebuilding timeframe in the absence of all fishing
T_{MAX}	The maximum amount of time allowable for rebuilding under the protocol set forth in the National Standard Guidelines
T_{TARGET}	The target date chosen for rebuilding
TMGC	Transboundary Management Guidance Committee
TRAC	Transboundary Resource Assessment Committee
UVI	unique vessel identifier
VPA	virtual population analysis
VMS	vessel monitoring system
WCPFC	Western and Central Pacific Fisheries Commission
WPFMC	Western Pacific Fishery Management Council
WWF	World Wildlife Fund

Photo Credits

Front section

- Page 8 Donald McIsaac. Photo: Ed Ebisui.
- Page 10 Mike Burner. Photo: Jennifer Gilden.
- Page 11 The plenary session. Photo: Kimberly Ambert.
- Page 13 Chairman Doc Hastings. Official portrait.
- Page 14 Chairman Doc Hastings addresses the conference. Photo: Kimberly Ambert.
- Page 15 Chairman Doc Hastings addresses the conference. Photo: Kimberly Ambert.
- Page 16 Chairman Doc Hastings, Pacific Fishery Management Council Executive Director Don McIsaac, and NOAA Assistant Administrator Eric Schwaab.
- Page 17 Senator Mark Begich. Official portrait.
- Page 18 Diners at the conference's Wednesday night banquet: Dan Wolford, Phil Anderson, Bill Hogarth, Don Hansen.
- Page 19-20 Senator Mark Begich addresses the conference. Photo: Kimberly Ambert.
- Page 21 NOAA Assistant Administrator Eric Schwaab. Photo: Kimberly Ambert.
- Page 22 Larry Simms (top).
- Page 22 Larry Simpson (bottom).
- Page 23 Eric Schwaab. Photo: Ed Ebisui.
- Page 24 Doc Hastings and Eric Schwaab. Photo: Ed Ebisui.
- Page 25 Eric Schwaab and Don McIsaac. Photo: Ed Ebisui.
- Page 26 Barton Seaver. Photo: Kimberly Ambert.
- Page 27 Chesapeake Bay crab, posed for an April 19, 2012 press conference announcing that the number of blue crabs in Chesapeake Bay had tripled over the last five years to the highest total in nearly two decades. The rebound was caused by restrictions on catching female crabs imposed by Virginia and Maryland in 2008, according to Maryland fisheries scientists. Photo: Jay Baker at Annapolis, Maryland. "MarylandGovPics" on Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/kykz5hr>
- Page 28 Barton Seaver, Don McIsaac and Keith Colburn. Photo: Ed Ebisui.
- Page 29 Barton Seaver's book *For Cod and Country*.
- Page 31 Keith Colburn. Photo: Kimberly Ambert.
- Page 32 A dangerous coating of ice on the NOAA Ship *Miller Freeman*. Such icing can affect a ship's stability and cause capsizing. Alaska, Bering Sea. Photo: NOAA NMAO Pacific Marine Center.
- Page 33 *F/V Wizard*. Source: Capt. Keith Colburn (Facebook page).
- Page 34 David Cupka. Photo: Kimberly Ambert.
- Page 35 Rip Cunningham. Photo: Kimberly Ambert.

Page 36 Dorothy Lowman. Photo: Kimberly Ambert.

Session 1

Section title background photo: Rockfish recruits on the top of Cordell Bank National Marine Sanctuary, taken on the first visit ever by NOAA divers (2010). Photo: Greg McFall, NOAA (<http://tinyurl.com/mlxs2p>)

- Page 40 Fishermen with red snapper. Photo: M. Brown.
- Page 41 Black and yellow rockfish (*Sebastes chrysomelas*). California, Channel Islands National Marine Sanctuary. Photo: Claire Fackler, CINMS, NOAA.
- Page 42 Black sea bass. Photo: Ed Killer.
- Page 43 Cabezon motionless on rock. Photo: Lt. John Crofts, NOAA Corps, Point Lobos State Reserve, California.
- Page 44 Guam longline transshipment. Source: Western Pacific Fishery Management Council.
- Page 46 Key Colony sport boats. Photo: Kim Iverson.
- Page 49 North Pacific Fishery Management Council staff Gail Bendixen with halibut. Photo: Chris Oliver.
- Page 51 Tortugas Ecological Reserve, Key West. Photo: National Ocean Service. (<http://tinyurl.com/p3ztsb2>)
- Page 52 Shrimpers. Photo: Kim Iverson.
- Page 54 F/V *Josie*. Photo: Jennifer Gilden.
- Page 55 F/V *Unimak*. Photo: Alaska Fisheries Science Center.
- Page 56 Scamp, *Myxeroperca phenax*. Atlantic Ocean, Southeast U.S. shelf/slope area. 2004. Photo: Andrew David, NOAA/NMFS/SEFSC Panama City; Lance Horn, UNCW/NURC—Phantom II ROV operator (Southeast).
- Page 59 Trawler. Photo: Karla Bush.
- Page 62 Plymouth Harbor, Massachusetts, south shore. New England Region. Source: New England Fishery Management Council.
- Page 64 Trawling operations on the NOAA Ship Delaware II. Atlantic Ocean, Gulf of Maine shelf/slope area, New England region. Photo: Personnel of NOAA Ship Delaware II.
- Page 65 New England Fishery Management Council constituent meeting.
- Page 66 Weathervane scallops. Source: Alaska Scallop Association.
- Page 68 Pike Place Fish Market, Seattle. Photo: “Slideless in Seattle,” Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/k8psbow>.
- Page 69 Lingcod on NOAA trawl survey. Photo: Jennifer Gilden.
- Page 70 Cowcod, 2011 Southern California Hook & Line Survey (NOAA/PSMFC), Channel Islands, California, September 2011. Bo Whiteside, Pacific States Marine Fisheries Commission (on the right holding fish). Photo: NOAA West Coast Region.
- Page 74 Fishing in Hawaii. Photo: Roy Morioka.
- Page 75 Winter flounder. Photo: NOAA.
- Page 76 Speakers Gway Kirchner (Oregon Department of Fish and Wildlife) and Ed Richardson (At-Sea Processors Association). Photo: Kimberly Ambert.
- Page 77 *Voyager* charter boat. Photo: Andy Meizero.
- Page 78 Scallops. Photo: A. Applegate.
- Page 80 Newport, Oregon bayfront. Photo: Jennifer Gilden.

- Page 82 Glassy smooth days make launch work look easy. Photo: Personnel of NOAA Ship *Thomas Jefferson*.
- Page 87 Lifting a boat at the unique port of Port Orford, Oregon. Photo: Ray Gilden.
- Page 88 Dogfish at the dock. Photo: New England Fishery Management Council.
- Page 89 Stonington, Maine, Lobster Coop. Photo: Chris Ford, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/kegfyqo>
- Page 92 “They that go down to the sea in ships 1623 -1923.” The Fishermen’s Memorial at Gloucester commemorating the thousands of fishermen who have lost their lives from this port. Gloucester, Massachusetts. Photo: Nance S. Trueworthy (NOAA).
- Page 93 Atlantic cod. Photo: NOAA.
- Page 94 Atlantic cod. Photo: NOAA (fishwatch.gov).
- Page 95 New England groundfish gear. Photo: New England Fishery Management Council.
- Page 96 Purse seining. Photo: A. Lovewell, New England Fishery Management Council.
- Page 97 Fish in baskets. Photo: L. Steele, New England Fishery Management Council.
- Page 98 Atlantic cod. Photo: NOAA.
- Page 99 Small Northeast groundfish trawler. Photo: NOAA.
- Page 100 Yellowtail flounder. Photo: NOAA.
- Page 101 Lord’s Lobster Fish Market, New Brunswick, Canada. Photo: Ian Muttoo, Flickr Creative Commons. License: CC BY-NC-SA 2.0. <http://tinyurl.com/kffzjch>
- Page 102 F/V *Tina Marie* in Portland (ME) Harbor. Photo: Corey Templeton, Flickr Creative Commons. License: CC BY-NC-ND 2.0. <http://tinyurl.com/pkfkz5z>
- Page 104 NOAA Fisheries Research vessel in Morro Bay, California. Photo: Jennifer Gilden.
- Page 105 Midshipman (*Porichthys notatus*) caught on West Coast trawl survey. Photo: Jennifer Gilden.
- Page 108 Sorting crabs. Photo: Mark Fina.
- Page 116 NOAA Northwest Fisheries Science Center survey staff. Photo: NOAA.
- Page 117 Halibut research. Photo: NOAA Northwest Fisheries Science Center (<http://tinyurl.com/l3eoeua>)
- Page 122 Windowpane flounder. Photo: NOAA.
- Page 123 Anglers with wahoo. Photo: Christopher Page.
- Page 124 Between sessions at the Managing Our Nation’s Fisheries conference. Photo: Kim Ambert.
- Page 125 Crescent City, California fishing boat in dry dock. Photo: Ray Gilden.
- Page 129 San Diego fishing vessels. Photo: Jennifer Gilden.
- Page 130 Observer measuring bigeye tuna. Photo: NOAA.
- Page 131 Bluefin tuna. Photo: NOAA.
- Page 132 The Hanalei Dolphin Fish Market, Kaua’i. Photo: Wally Gobetz, Flickr Creative Commons. License: CC BY-NC-ND 2.0. <http://tinyurl.com/m3zbfey>
- Page 133 A green sea turtle in Humpback Whale National Marine Sanctuary, Maui, Hawaii. Photo: Claire Fackler, CINMS, NOS, NOAA.
- Page 134 Bluefin tuna fishing vessel. Photo: NOAA.
- Page 135 Illegally fishing vessel off the coast of Gabon. Photo: NOAA.
- Page 137 The IUU fishing vessel *Taruman* held 143 tons of illegally harvested Patagonian toothfish (Chilean sea bass). Photo: Australian Customs Service.

- Page 138 The shark fishery in Taiwan, Province of China is not limited to longlining fleets fishing in international waters; local boats are also landing sharks in Taiwan. Pictured here is a fisher's catch of sharks along with mahi mahi. Photo Credit: Shawn Heinrichs for the Pew Environment Group.
- Page 139 Mountains surrounding Pago Pago Harbor. Tuna boats in port. American Samoa. 2009 February. Photo: Dr. Matt Kendall, NOAA/NOS/NCCOS/CCMA/BGB.
- Page 140 Western and Central Pacific Fisheries Commission meeting. Photo: WCPFC.
- Page 141 The crew of the Coast Guard Cutter *Rush* escorts the suspected high seas drift net fishing vessel *Da Cheng* in the North Pacific Ocean on August 14, 2012. Photo: U.S. Coast Guard.
- Page 142 Regional fisheries management organization regions. Source: Ecowatch.com.
- Page 143 Capt. Diane Durham, commanding officer of Coast Guard Cutter *Rush*, shakes hands with a China Fishery Law Enforcement Command officer after providing documentation and information in the transfer of custody of the suspected high seas drift net fishing vessel *Da Cheng* to Chinese jurisdiction in the North Pacific Ocean Aug. 14, 2012. Photo: U.S. Coast Guard.
- Page 146 Purse seiner. Photo: Western Pacific Fishery Management Council.
- Page 147 IUU fishing vessel. Photo: NOAA.
- Page 148 Fish auction. Photo: NOAA.
- Page 149 United Fishing Agency dock. Photo: Western Pacific Fishery Management Council.

Session 2

Section title background photo: Channels through eelgrass beds in Izembek Lagoon, Izembek National Wildlife Refuge. Photo: Kristine Sowl, U.S. Fish and Wildlife Service.

- Page 152 NOAA Ship *John N. Cobb* in Tracy Arm Fjord during a harbor seal pupping survey, southeast Alaska. Photo: Aleria Jensen, NMFS Alaska Region.
- Page 153 Data loggers are one way to collect information on changes in water level, salinity, temperature, etc. in different water bodies. These data loggers are being installed in the coastal zone to document tidal, seasonal, and yearly changes in hydrology on Kigigak Island. Photo: Melissa Gabrielson, U.S. Fish and Wildlife Service, Yukon Delta National Wildlife Refuge.
- Page 154 Rapporteurs Whitney Tome, Kim Gordon, and Amy Kenney (Fisheries Leadership & Sustainability Forum). Photo: Kimberly Ambert.
- Page 155 Northern fulmars vying to be first in line at the discharge chute, commercial cod longline vessel. Photo: Yolanda Malavear, NMFS Certified Observer.
- Page 156 MONF Session 2. Photo: Kimberly Ambert.
- Page 160 The Sawyer Glacier in Alaska's Tracy Arm Fjord in Tongass National Forest, June 2011. Photo: Peter E. Lee, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/lr182zj>
- Page 161 Smokehouse alderwood and Nass River oolichan (eulachon). Photo: Sam Beebe, Ecotrust. Flickr Creative Commons License CC BY 2.0. <http://tinyurl.com/lx4nanr>
- Page 162 Fishing for King Salmon, Naknek, Bristol Bay, Alaska. Photo: Chris Ford, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/m7fmwc6>
- Page 163 Alaska king crab. Photo: Steve ("aktraildog"), Flickr Creative Commons. License: CC BY-SA 2.0. <http://tinyurl.com/lmwuzg>
- Page 164 1929 fishing boat headed up the Inside Passage, Alaska. Photo: Jenny Pansing, Flickr Creative Commons. License: CC BY-NC-SA 2.0. <http://tinyurl.com/kmp5k6z>
- Page 165 Lingcod hiding motionless on a reef. California, Point Lobos State Reserve. Photo: Lt. John Crofts, NOAA Corps.

- Page 166 Sea otter. Photograph courtesy of the U.S. Fish and Wildlife Service, Alaska Image Library
- Page 167 Alaska Brown Bear (*Ursus arctos*), Alaska Peninsula, Katmai area. Photo: Mandy Lindeberg, NOAA/NMFS/AKFSC
- Page 168 Trawl catch of pollock caught during an acoustic trawl survey. Alaska, Stephens Passage. 2004. Photo: David Csepp, NOAA/NMFS/AKFSC/Auke Bay Lab.
- Page 170 Ring of Fire 2002 Expedition. The animals at the top of the chimney are deep-sea octocorals or soft corals (*Octocorallia: Alcyonacea*), and sometimes go by the common name “mushroom coral.” As with other cnidarians, the mushroom coral has stinging cells or nematocysts within its flashy tentacles that are used to capture minute prey. Photo: NOAA.
- Page 172 Bearded seal. Photo: “Smudge 9000,” Flickr Creative Commons. License: CC BY-SA 2.0. <http://tinyurl.com/jwynss9>
- Page 175 Zooplankton: octopus larva. Photo: Matt Wilson/Jay Clark, NOAA NMFS AFSC.
- Page 177 Gulf of Alaska 2004 Expedition. Deep-sea spider crabs, like this one, have long, spider-like legs and are a brilliant red. Photo: Gulf of Alaska 2004. NOAA Office of Ocean Exploration.
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- Page 206 F/V *Valiant* in Astoria, Oregon. Photo: Jennifer Gilden.
- Page 208 Stream survey: netting in Young’s Creek at Rooster Rock State Park on the Columbia River, Oregon, 2009. Pictured: Paul Olson, Sean Sol, Dan Lomax. Photo: NOAA Fisheries West Coast.
- Page 209 Humpback whales in North Pass between Lincoln Island and Shelter Island in the Lynn Canal north of Juneau, Alaska. This is a group of 15 whales that were bubble net fishing on 18 August 2007. Photo: Evadb (Wikimedia Commons, Public Domain (<http://tinyurl.com/k4s3x3q>)).

- Page 210 Pacific sardines. Photo: NOAA.
- Page 212 AFSC scientists sort small pelagic fishes from a surface trawl in the Chukchi Sea during Leg 1 of the cruise. Photo: Alex Andrews.
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- Page 218 Menhaden mothership *Carters Creek*. Photo: “Mainsul,” Flickr Creative Commons. License: CC BY-NC-SA 2.0. <http://tinyurl.com/mdacjp7>
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- Page 221 Anhinga dining on unidentified fish, Florida. Photo: Jennifer Gilden.
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- Page 226 Audience during session 2. Photo: Kimberly Ambert.
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- Page 230 Anchovies trying to escape lunging humpback whale, Port San Luis, California. Photo: Howard Ignatius, Flickr Creative Commons. License: CC BY-NC-ND 2.0. <http://tinyurl.com/mldjwub>
- Page 231 Anchovy swarm in the overhead tank at the Aquarium of the Bay, San Francisco. Photo: Kenny Louie, Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/krd8637>
- Page 234 Redfish Lake, Idaho, source of an imperiled run of sockeye salmon. Photo: Jennifer Gilden.
- Page 235 Wetlands, St. Charles Parish, Louisiana. Photo: Ken Lund, Flickr Creative Commons. License: CC BY-NC-SA 2.0. <http://tinyurl.com/m42zdaf>
- Page 236 The Life on the Edge 2004 mission has collected a diverse array of invertebrate life around deep-sea corals. Squat lobsters are just one of the many types of organisms that use deep-sea corals for shelter. North Carolina Continental Slope. Photo: NOAA Photo Library (<http://tinyurl.com/mdl3cxd>).
- Page 237 A white-tip shark (*Triaenodon obesus*). Hawaiian name is *mano lalakea*. Northwest Hawaiian Islands. July, 2004. Photo: Dr. Dwayne Meadows, NOAA. (<http://tinyurl.com/mv28p8k>)
- Page 238 Spruce Creek, Kittery Point, Maine. Photo: “InAweofGod’sCreation.” Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/lyrq9am>
- Page 239 Kelp-covered granite at low tide at Edgar M. Tennis Preserve, Deer Isle, Maine. Photo: Captain Albert E. Theberge, NOAA Corps (Ret).
- Page 242 Zigzag coral (*Madrepora oculata*). Gulf of Mexico, Bright Bank. Photo: NURC/UNCW and NOAA/FGBNMS. (<http://tinyurl.com/l24yofh>)
- Page 244 The lobster’s large claw can crush crabs, clams and fingers. *Homarus americanus*. Atlantic Ocean, offshore Maine. Photo: OAR/National Undersea Research Program. (<http://tinyurl.com/lbgx-mom>)
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- Page 250 Black sea bass (*Centropristis striata*) hovering over the reef. Georgia, Gray's Reef National Marine Sanctuary. Photo: Greg McFall, Gray's Reef NMS, NOS, NOAA. (<http://tinyurl.com/kvoqp5h>)
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- Page 261 Rock hind in a sponge in about 20 feet of water. Photo: Chris Coccaro; Bonaire 2008: Exploring Coral Reef Sustainability with New Technologies; NOAA/OAR/OER
- Page 262 George Geiger (former Chair, Mid-Atlantic Fishery Management Council) asks a question in Session 2, Topic 3. Photo: Kimberly Ambert.
- Page 263 Session 2 Topic 3 panelists Buck Sutter (NOAA Fisheries) and Rip Cunningham (Chair, New England Fishery Management Council). Photo: Kimberly Ambert.

Session 3

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- Page 277 Recreational anglers. Photo provided by Ken Franke.
- Page 278 *American Angler*, Point Loma, California. Photo: Flickr user **Mary**. License: CC BY-NC-SA 2.0. <http://tinyurl.com/m5g8pxw>
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- Page 303 Smith’s Pacific Shrimp, Garibaldi, Oregon. Photo: Jennifer Gilden.
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- Page 306 Hauling in squid in Morro Bay, California. Photo: Linda Tanner, Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/ldzod7c>
- Page 307 F/V *San Giovanni*, Monterey Harbor, California. Photo: Jay Galvin, Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/k8eccse>
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- Page 309 Fisherman cutting his catch in port at Charlotte Amilie on St. Thomas. Photo: Chuck Kramer, Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/lquz8cp>
- Page 310 University of Florida seminar, sponsored by Darden Restaurants, on Advancing Ethical Practices in Seafood Sourcing, January 2014. Photo: Darden Restaurants.
- Page 312 Frozen shrimp. Photo: Gulf Seafood Institute.
- Page 313 Market-size U.S. Department of Agriculture 103 catfish are ready for harvest on May 1, 2012. This new variety grows faster than other tested catfish. USDA photo by Peggy Greb.
- Page 316 Speaker Larry Band (California Fisheries Fund), Session 3 Topic 2. Photo: Kimberly Ambert.
- Page 317 Biloxi, Mississippi shrimp boats. Photo: Roger Smith, Flickr Creative Commons. License: CC BY-NC-ND 2.0. <http://tinyurl.com/lqzrml5>
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- Page 320 Fisherman with dolphin fish. Taken circa 1967 in or near Wanchese, North Carolina. Photo:

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- Page 321 Fishing poles lined up along the gunwale of a sport fishing party boat in Carolina Beach, NC. Photo: “Mr. T in DC,” Flickr Creative Commons. License: License: CC BY-ND 2.0. <http://tinyurl.com/l9q3s7e>
- Page 324 Boats at dock. Photo: Jennifer Gilden
- Page 325 Commercial fishing vessel *Fiesta* moored in the foggy bay in the channel of Morro Bay, California. Photo: Mike Baird, Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/l9qrztl>
- Page 326 Fresh bait. Tokeland, Washington. Photo: Jennifer Gilden.
- Page 327 Dogfish in sorting basket. Photo: NOAA Fisheries; Courtesy of Officers and Crew of NOAA Ship PISCES; Collection of Commander Jeremy Adams, NOAA Corps.
- Page 328 Coastal restaurant. Photo: Jennifer Gilden.
- Page 329 Fish and chips. Photo: David Ascher, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/n5snsan>
- Page 330 Family Coastal Restaurant, Sumatra, Florida. Photo: Eleanord43, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/n5hsp37>.
- Page 331 A white-tip shark (*Triagenodon obesus*). Hawaiian name is mano lalakea. Northwest Hawaiian Islands. Photo: Dr. Dwayne Meadows, NOAA/NMFS/OPR.
- Page 333 New Jersey fishing pier. Photo: Dennis Sitarevich, Flickr Creative Commons. License: CC BY-ND 2.0. <http://tinyurl.com/kvtaqpv>
- Page 334 Diawa reel (South Atlantic). Photo: Kim Iverson.
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- Page 336 Montauk Harbor. Photo: Lian Chang (“diametrik”), Flickr Creative Commons. License: CC BY 2.0. <http://tinyurl.com/m874v3y>
- Page 337 Men fishing on the Chesapeake Bay at sunset. Photo: Chesapeake Bay Program, Flickr Creative Commons. License: CC BY-NC 2.0. <http://tinyurl.com/o8cp2t8>
- Page 338 A student looks up information about the different types of game fish caught along Virginia’s coast. Photo: Janet Krenn, Virginia Sea Grant. Flickr Creative Commons. License: CC BY-ND 2.0. <http://tinyurl.com/mmhczw>
- Page 340 Speaker Rick Robins (Mid-Atlantic Fishery Management Council) during Session 3 Topic 3. Photo: Kimberly Ambert.
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- Page 344 Speakers Shirley Marquardt (Mayor, Unalaska, AK) and Jim Martin (Berkley Conservation Institute). Photo: Kimberly Ambert.

Findings and Reactions Panel, Acronyms and Photo Credits

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National Research Council Report: Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States

Sept. 5, 2013

Many, But Not All, Depleted Fish Populations Show Signs of Recovery Under Rebuilding Plans That Reduce Fish Harvest

WASHINGTON -- Federal efforts to rebuild depleted fish populations have been successful at reducing fishing pressure on many overfished stocks, and fish stocks have generally increased under reduced harvesting, says a new congressionally requested [report](#) from the National Research Council. However, outcomes have been mixed across fisheries; fishing pressure is still too high for some fish stocks, and others have not rebounded as quickly as plans projected.

Much of the variation in performance reflects a mismatch between the current prescriptions for rebuilding within a limited time frame and the uncertainties inherent in assessing and managing fisheries given data limitations and complex ecosystem dynamics where fishing is only one of many influences on fish populations, the report says. Because climate change and other ecological factors can also drive changes in fish stocks, rebuilding fish populations within a certain timeframe cannot be assured.

The report identifies the following strategies for accommodating these uncertainties that, while still promoting rebuilding, could lessen its short-term economic and social impacts for the fishing industry and communities:

- Basing rebuilding plans on monitoring and controlling fishing levels, rather than on requiring that fish populations recover to a pre-specified target size within a certain timeframe. This strategy would be less disruptive to the fisheries and less subject to uncertainty.
- Taking earlier action to avoid overfishing -- imposing gradual limits on fishing when fish populations start to drop rather than waiting until they are overfished. This strategy could help fisheries avoid the stricter limits that come with rebuilding plans.
- Modifying the “mixed-stock exception” to expand the range of situations to which it could be applied. This strategy could also lessen economic impacts relative to current rebuilding plans, which often limit fishing for other healthy species in the same fishery.

About 20 percent of the U.S. fisheries that have been assessed are overfished, according to a 2012 report by the National Oceanic and Atmospheric Administration (NOAA). In most cases, a fish stock is considered overfished when it has been depleted to half the size associated with producing “maximum sustainable yield” – in other words, the maximum, sustainable average amount of fish that can be harvested from a fishery in a year.

When fish stocks drop to an overfished level, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) – the law that regulates U.S. fisheries – requires that fishery managers implement plans that will rebuild the fish stocks, in most cases within 10 years. These rebuilding plans usually require significant restrictions on fishing for the depleted species, limits that may also affect fishing for other species in the same complex. Concerned about the economic and social impacts of these restrictions, members of Congress requested that NOAA fund a National Research Council assessment of the rebuilding plans and their associated ecological and economic effects.

The committee that wrote the report reviewed the current set of federally implemented rebuilding plans and their outcomes. In general, restrictions on fishing included in rebuilding plans have led to growth in fish population size, the report says. Of the subset of 55 fisheries assessed by the committee, 10 are rebuilt and 5 show good progress toward rebuilding. Eleven have not shown strong progress in rebuilding but are expected to rebuild if fishing levels remain reduced, and nine continue to experience overfishing. Recent analyses reveal that 20 of the 55 stocks were not actually overfished despite being classified as such – a finding that reveals the level of uncertainty in assessments of fish stocks and how their perceived status can change as more data become available and assessment methods change over

time, the report notes. This uncertainty cuts both ways; though the number cannot be quantified, there is a high probability that some fish stocks that were classified as healthy may actually be overfished.

Much of the variation in performance of rebuilding plans reflects intrinsic limitations in the ability to estimate the size of fish stocks and to set rebuilding targets in the context of complex ecosystems where many factors that affect fish stocks are not predictable or controllable, the report says. This, in part, explains why not all fish stocks rebuild according to the pre-set timeline generally required in rebuilding plans. For example, current plans depend on predicting how much and how fast fish populations will increase if fishing pressure is reduced to various levels. However, there is much uncertainty about how fast fish populations will grow, given the many environmental factors that can affect population size in addition to fishing.

Fishery managers could use additional management strategies to reduce and accommodate environmental variability and uncertainties of rebuilding. Currently, when rebuilding is going slower than expected, fishery managers may impose ever-stricter fishing limits in an effort to meet that deadline. If these managers could instead keep fishing at a reduced but constant level for a longer period of time, they could rebuild fish stocks while allowing higher harvest levels, alleviating some of the socio-economic impacts on the fishing industry and coastal communities.

The requirement to end overfishing for all stocks in mixed-stock fisheries has protected depleted species but has reduced fishing for healthy fish stocks in the same fishery, the report notes. The MSFCMA has a "mixed-stock exception" that offers a way to maintain fishing for healthy stocks, but it has not been invoked, in part due to the narrow range of situations under which it can be applied and also because of the complexity of the issue it is meant to address. The mixed-stock exception could be modified to expand the range of situations to which it could be applied, subject to assurances that the less productive species are not driven to unacceptably low levels, the report says.

Fishery managers can also work to avoid overfishing and rebuilding plans altogether by taking action earlier, the report says. Applying prompt but gradual controls on fish harvesting as the estimated size of fish stocks falls below the Maximum Sustainable Yield level could lower the likelihood that the fish stock will become overfished, and stricter limits may not be needed.

The study was sponsored by the National Oceanic and Atmospheric Administration. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are private, nonprofit institutions that provide science, technology, and health policy advice under a congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. A committee roster follows.

Sara Frueh, Media Relations Officer
Lauren Rugani, Media Relations Officer
Office of News and Public Information
202-334-2138; e-mail news@nas.edu
<http://national-academies.com/newsroom>
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Pre-publication copies of **Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States** are available from the National Academies Press on the Internet at <http://www.nap.edu> or by calling 202-334-3313 or 1-800-624-6242. Reporters may obtain a copy from the Office of News and Public Information (contacts listed above).

###

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**Committee on Evaluating the Effectiveness of Stock Rebuilding Plans of the
2006 Fishery Conservation and Management Reauthorization Act**

Ana M. Parma (*co-chair*)

Research Scientist
Centro Nacional Patagonico
Chubut, Argentina

Patrick J. Sullivan (*co-chair*)

Associate Professor of Quantitative Population and Community Dynamics
Department of Natural Resources
Cornell University
Ithaca, N.Y.

Jeremy Collie

Associate Professor of Oceanography
Graduate School of Oceanography
University of Rhode Island
Narragansett

Troy W. Hartley

Research Associate Professor
Director, Virginia Sea Grant Program
Virginia Institute of Marine Science
College of William and Mary
Gloucester Point, Va.

William Heyman

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Texas A&M University
College Station

Robert Johnston

Director and Professor
The George Perkins Marsh Institute
Clark University
Worcester, Mass.

André E. Punt

Professor and Associate Director
School of Aquatic and Fishery Sciences
University of Washington
Seattle

Kenneth A. Rose

E.L. Abraham Distinguished Professor
Department of Oceanography and Coastal Sciences
Louisiana State University

Baton Rouge

James Sanchirico

Professor
Department of Environmental Science and Policy
University of California
Davis

Michael P. Sissenwine

Visiting Scholar
Woods Hole Oceanographic Institution
Woods Hole, Mass.

George Sugihara

Professor and Department Chair
Scripps Institution of Oceanography
University of California
San Diego

STAFF

Kim Waddell

Study Director