ASMFC Risk and Uncertainty Policy

Introduction

- Since spring 2016, the Workgroup has been developing a Commission Risk and Uncertainty Policy
- Annual Meeting 2016: Commissioners reviewed white paper with policy statement, goals, and potential decision tree questions
  - Reviewed bluefish example
- The Board asked the group to develop a more comprehensive example for striped bass complete with workshop
  - Rescheduled for February 2018

Risk Policy – Goals

- Adequately account for uncertainty at all levels of the Commission's management process to maximize informed decision-making
- Consistently manage Commission species
- Provide transparency in Commission's risk-management process
- Incorporate flexibility in the Commission's risk-management process

Risk Policy – Goals

- Comprehensive risk and uncertainty policy would provide guidance on a range of issues
  - Choosing biological reference points, setting quotas for data poor species etc.
    - These are long-term goals, would require significant time and resources
- WG recommends that policy development and deployment be implemented in phases
  - First policy will set acceptable risk levels when determining quotas for data-rich species

How to Meet Goals – Decision-Tree

- Goals of the Policy will be achieved through a structured decision making process
- Decision-tree will be incorporated into ToRs for benchmark/update stock assessments
- Projections for quota setting will be developed using the final results of the decision-tree

How to Meet Goals – Decision-Tree

- A matrix will be developed with stock specific information for decision-tree questions

FMP	Atlantic Striped Bass- Amendent 6 and A	*"Complete this table with information about current conditions for the stock/fishery based on the most recent assessment and round of fishery specifications. This is an inventory of current conditions - not a "wish list."*
STOCK(S)	Atlantic stock (Kennebec River?, Hudso	
Is the stock jointly ma	NO, moratorium on possession in federa	*Information provided in the cells should relate specifically to evaluating the risks to the resource*
LAST ASSESSMENT	57th SAW/SARC, 2013 Benchmark; 2016	

Assessment Model, Terminal Year	Description of Assessment	Overfishing? Overfished?	In Rebuilding Program?	FMP Defined Overfishing Target	FMP Defined Overfished	ACL	ACT
Age-structured forward projecting statistical catch-at-age model, 2015	Estimates numbers-at-age through time given model estiamtes of recruitment and age-specific total mortality. Generalized to allow specification of multiple fleets. Data from 1982-present	Overfishing not occuring (F_{2015}=0.16, $F_{threshold}$=0.22) Not overfished (SSB_{2015}=58,853MT, $SSB_{threshold}$=57,626MT)	NO	For the Atlantic stock, overfishing is occuring when the fishing (F) mortality threshold (0.22) is exceeded. F threshold is defined as the level of F that will achieve the spawning stock biomass	No set ABCs. The stock is considered overfished when the spawning stock biomass (SSB) falls below the threshold level. SSB threshold is currently 57,626MT, and is equivalent to		

	Discards			
Issue 1: SSB has steadily declined towards the threshold level since 2004. F reference points were updated in the 2013 benchmark, and F in 2014 was estiamted to be above the target thus triggering management action. Addendum IV, implemented in 2015, required a 25% reduction in harvest along the coast and 20.5% in the Chesapeake Bay in order to reduce F to a level at or below the new target by 2016. Addendum IV succeeded in reducing F below the target (0.16 in 2015), however, SSB continues to decline and was estimated just above the threshold in 2016. If SSB drops below the threshold, the Board will be required to adjust the program to rebuild SSB. Also, 2016 removals were estimated at 3.56 million fish, which is a 19% increase relative to 2015. Issue 2: Public comment received regarding concern over economic harships endured by Chesapeake Bay stakeholders in 2015 following implementation of Addedum IV regulations. Board initiated an addendum to consider relaxing Addendum IV regulations in the Bay and across coast, however the Board did not move forward with the addendum due to concerns that relaxing regulations would result in F being above the target and SSB to drop below the threshold. Accordingly, the Board postponed revisiting fishery regulations until after review of the 2018 benchmark assessment.	Discard estimates are based on the ratio of tags reported from discarded fish in the commercial fisheries to tags reported from discarded fish in the recreational fishery, scaled by total recreational discards. Total discards are allocated to fishing gears based on the relative number of tags recovered by each gear. Discards by fishing gear are multiplied by gear-specific release			

Availability of Biological and Assessment Data	*Fisheries-Dependent:* Commercial landings compiled annually via state biologists through strict state and federal quota monitoring systems (i.e., harvester and dealer reports). Reliable commercial discard data is limited to a few states. Recreational information compiled annual via state biologists through NOAA Fisheries MRFSS/MRIP. Catch-at-age data from commercial and recreational catches is also used in assessment. *Fisheries-Independent:* ME, NY, NJ, MD, VA, and NC are required to conduct juvenile abundance index surveys on an annual basis. NY, PA, DE, MD, VA, and NC, are required to conuct SSB surveys on an annual basis. The results of these surveys are reported annually, and are utilized within stock assessments. *Other Biological Data that may be available but not currently used in assessment:* Telemetry data has become increasingly available in recent years , ID other biological data that may be available but not used in assessment
Recent Management Performance	Although the commercial quotas were reduced in 2015 through management action, commercial harvest has been stable from 2014-2016 (by weight and by numbers). Estimates of commercial dead discards were extremely high in 2014 (almost double the 10-year average) and were estimated below average in 2015 and 2016. Recreational measures have resulted in a variable removals from 2014-2016 (by weight and by number) with a 22% increase in removals by numbers in 2016 compared 2015; 2014 levels were similiar to 2016. The overall trend in recreational catch is similar to that of SSB; steady decline since mid-2000s (although a slightly increasing trend in catch since 2012, while harvest trends are relatively constant during that time).
Current Management Program	Coastal commercial fisheries managed through hard state-by-state quota allocation (established in Amendment 6 and Addendum IV), and seasons. Chesapeake Bay commercial fisheries managed through seasons, and hard quota allocation via forward projecting model based on recruitment in the Bay. Recreational fisheries managed through seasons, bag limits and minimum size restrictions. Possession of striped bass in the EEZ has been prohibited since 1990. Management triggers: (1) if the overfishing occurs, the Board must take action to reduce F to a level at or below the target within one year, (2) if overfished, the Board must take action to rebuild the SSB to the target level within a specfiic rebuilding schedule (not to exceed 10 years), (3 and 4) If F target is exceed in two consecutive years and SSB falls below the target in either of those years, or visa versa, then the Board must take action to reduce F to a level at or below the target within one year, or rebuild SSB to a level at or above
Catch, Revenues, and Variability	3 yr avg (2014-2016) catch is as follows: Commercial- [illegible] million pounds ([illegible] fish), Recreational- [illegible] million pounds ([illegible] million fish), Com dead discards- 545,257, Rec dead discards- 815,506 fish. 10 yr avg (2005-2014) catch is as follows: Commercial- 6.3 million pounds (864,962 fish), Recreational- 30.2 million pounds (2.8 million fish), Com dead discards- 535,377 fish, Rec dead discards- 807,280 fish. Average commercial value is $21.9 million (SAFIS, 2012-2014). No reliable economic estimates for recreational sector
Data - Vessels, Permits, Dealers, Processors, Employment	*For the most recent three years - number of vessels by permit and/or gear (and % of active/inactive), and percentage of catch taken by each category;* *Briefly summarize shoreside components- number of active dealers, processors/plants; ID and summarize any available employment information;* *Characterize trends and variability over 10 to 15 years, depending on data availability, using avg., min. and max values*
% Commercial, % Recreational	Recreational harvest is the largest source of removals; 80% of total landings by weight and 70% by numbers from 2014-2016 (not including dead discards). Although variable, recreational dead discards are generally the same magnitute as commercial harvest by numbers (higher some years, and lower in other). Commercial dead discards are the largest source of uncertainty in removals estiatmes and are extremely variable from year to year (average is 0.5 mllion fish from 2014-2016). Majority of landings come from MA, NY, NJ (recreational only) and the Chesapeake Bay fisheries.

How to Meet Goals – Decision-Tree

- Tree will be broken into segments
- Using matrix, TC will work through quantitative decisions
  - Ex. Is stock status known? Is overfishing occurring?
- Board will work through qualitative decisions
  - Ex. Are there socioeconomic considerations? Is management uncertainty accounted for?
  - Will be provided with matrix information to help inform those decisions as well
  - TC will work through the qualitative decisions as well to make recommendations but the Board will ultimately decide that portion of the tree

Board Workshop

- The Board workshop will be set up to work through an actual example (like a role playing game)
- “TC” will work through the quantitative portion of the example tree
- Commissioners will deliberate on the qualitative portion and then compare to what the “TC” arrived at

Board Workshop

Board Workshop

- Does the Board have any input on the Workshop structure?
- Are there any visual representations that would be useful?
- Other questions?

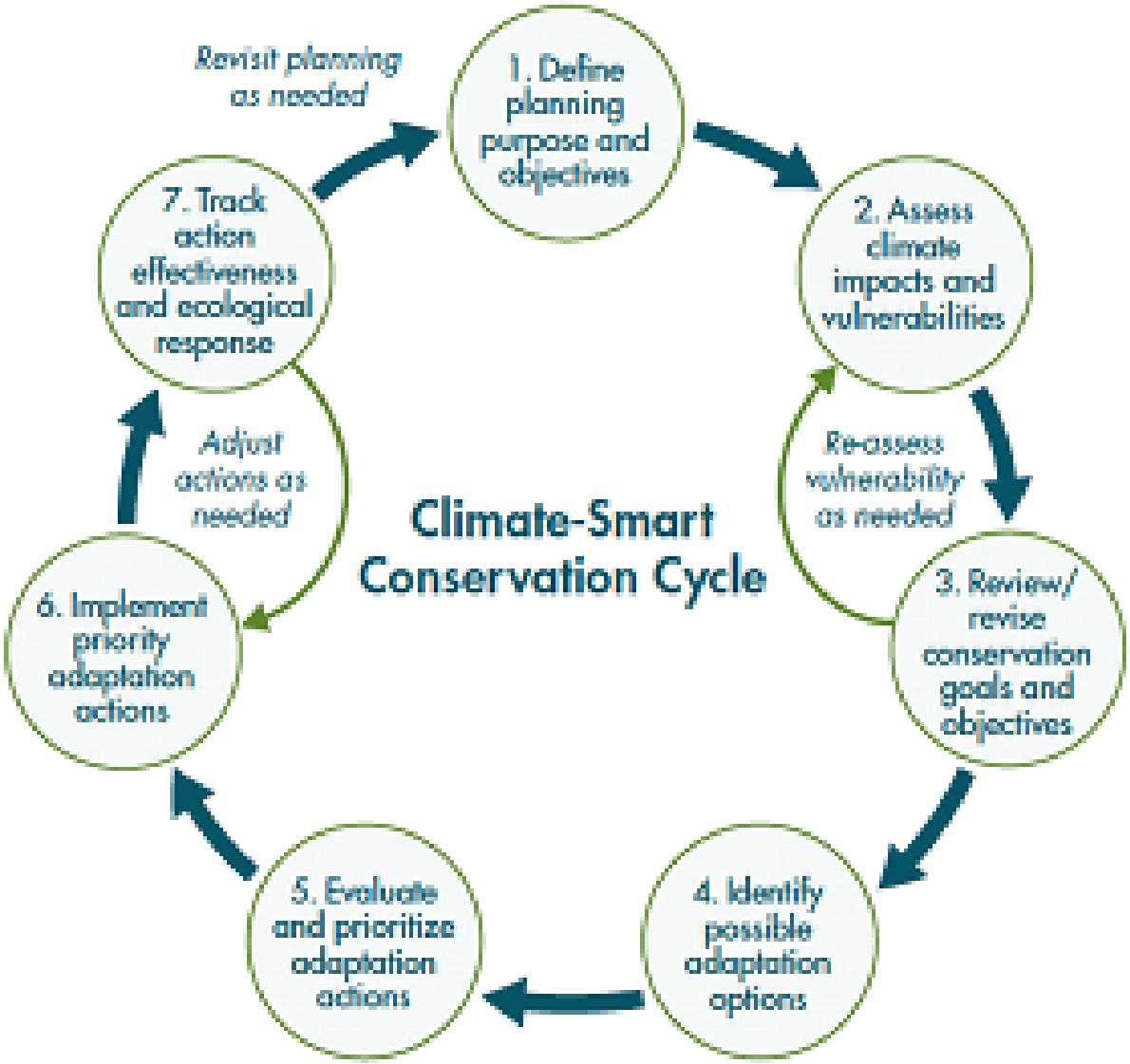
Draft Climate Working Group White Paper

October 2017

Task

- Develop science, policy and management strategies to assist with adapting management to changes in species abundance and distribution resulting from climate change impacts.
- White paper provides guidelines to assist Boards and Sections in the management of species impacted by climate change, with a focus on stocks with low biomass and allocation.

Stepwise Approach



Stocks at Persistent Low Biomass

Two questions to Ask:

1. What is the appropriate harvest level, if any

2. How many resources should be committed to continue monitoring and managing the species

Stocks at Persistent Low Biomass

1. Status Quo-how to address monitoring and management.
2. Evidence of a Change in Productivity- adjust ref points to reflect change
3. Evidence the stock has a low to no Productivity; recovery to sustainable levels is highly unlikely
4. Management and monitoring cease and harvest does not continue because it becomes economically unfeasible.

Science Requirements

- What is the mechanism of decline/loss of productivity?
- What evidence is there that the stock will likely not come back to its former productivity?
- How is sustainable yield determined and at what level of biomass will a harvest be permitted?
- Are there ecological/genetic considerations to be considered before taking any of these approaches to manage a stock or population?
- What are the economic and ecological tradeoffs of continuing to harvest at lower levels vs. a moratorium?

Management for Stock with Changing Distributions

- State-by-State
  - Quota sharing
  - Minimum allocations
  - Episodic
- Maintain State-by-State with revisit based on trigger
  - After x years
  - Alter who makes allocation decision: external or internal
  - Adjust allocations: distribution data, combine historical and current harvest, MSE

Management for Stock with Changing Distributions

- Change management away from state-by-state
  - Area focused
  - Allocation by timeframe

- List of resources to assess how species and environment is impacted by climate

Data Availability and Gap Analysis

- Recommends a TOR be considered and included if the TC/SAS thinks there may be climate impacts on the stock, if no impacts than do not include a TOR
- Recommend a coastwide database summarize the types of climate related data
  - Would not store the data

- Review to ensure all known programs that collect environmental data are included
  - Verify that all appropriate information is included
    - The review should be conducted by each state and federal agency to assure completeness coordinated by the ASC and reviewed by the MSC.
- Review types of environmental data collected
  - Determine temporal and/or spatial gaps in data necessary to investigate the effects of climate change on species
    - Task species TC and SASC for review
  - Determine importance of filling individual data gaps
  - Prioritize data gap filling and identify strategies to address the important gaps

Habitat Committee Report

Presentation to ASMFC Policy Board

October 19th, 2017

Fall In-Person Meeting

- Habitat Committee met Oct. 18th
- Discussion led by Michelle Bachman on NEFMC Habitat Impacts modelling work
- ACFHP update from Lisa Havel
- Reviewed 2017 Action Plan progress
- Finalized Goal 4 in 2018 Action Plan
- New ideas for term ‘HAPC’
- Tina Berger held discussion on outreach

More details in following slides

Habitat Areas of Particular Concern

1. Fish Habitat of Concern

2. Habitat of Concern

2017 Action Plan: Goal 4

Climate Change Document

- Habitat Committee is working on a document based on state and federal actions regarding climate change
- Identifying gaps in regulatory planning and making recommendations
- Timeline: winter 2018

2017 Action Plan: Goal 4

2017 is 20th anniversary of Habitat Committee's Submerged Aquatic Vegetation Policy

- 2017 Habitat Hotline theme will be Submerged Aquatic Vegetation
- Review and update 1997 SAV Policy document

2017 Action Plan: Goal 4

SAV Policy Document Update

- Emerging issues and SAV status
- Information on state initiatives since 1997
- Similar goals
- Updated recommendations and literature
- Timeline: winter 2018

2017 Action Plan: Goal 4

Aquaculture Document

- Effects of aquaculture on fish habitat along the Atlantic coast
- Sorted by methods, species, state
- Timeline: winter 2018

2018 Action Plan: Goal 4

- Habitat Management Series: Acoustics
- Habitat Hotline: Environmental Monitoring
- Fish Habitats of Concern Document
- Summary of Habitat Recommendations from FMPs, Habitat Management Series, other outreach

Questions?

Report to the Atlantic States Marine Fisheries Commission

ISFMP Policy Board

October 19th, 2017

Science and Data Committee

- Working on project to map conservation fish habitat areas in the southeastern US
- NOAA-funded pilot project
- Science and Data Committee Webinar June 12th
- Science and Data Committee met September 27-28 in Arlington, VA
- Finalized variables and scoring criteria for diadromous, estuarine, and coastal habitats
- Timeframe: spring 2018

Steering Committee Meeting

- Steering Committee met October 16 – 17th
- Presentation from Jeff Beal, FL FWC
- ACFHP website update
- SE Mapping Project Update
- Finalized FY2018 NFHAP project rankings
- Black Sea Bass Project Update

Black Sea Bass Habitat Progress

- Grant from MAFMC to support habitat research in Mid-Atlantic
- UMD Eastern Shore, Dr. Bradley Stevens
- 2nd field season and have begun analyzing 2016 data
- BSB abundance on different habitats, stable isotopes, epifaunal composition in different habitats, set up experimental reef corridor, stomach analyses

FY2018 NFHP-USFWS Funding

- ACFHP Operations
- Columbia Dam Removal, Knowlton Township, NJ
- Oyster Reef Restoration, Back Sound, NC
- Conservation Moorings, Coecles Harbor, NY
- SAV Restoration, Chesapeake Bay

Columbia Dam Removal, Knowlton Township

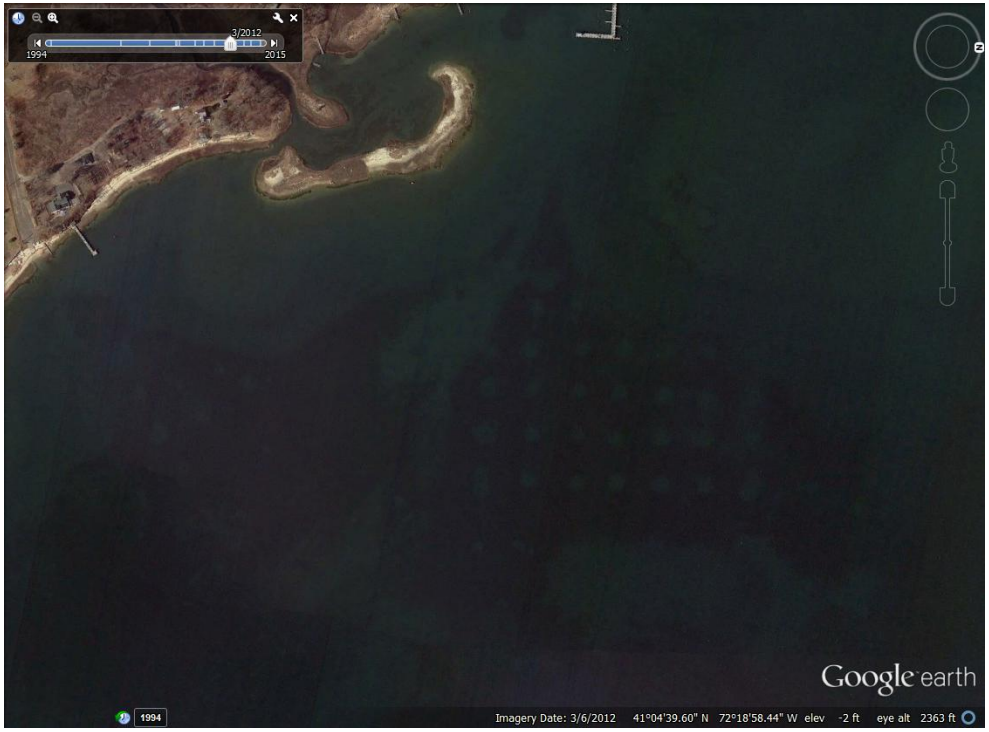
- Remove dam to open 20 river miles + restore native vegetation
- First obstruction to passage off the Delaware River
- Benefit American shad, river herring, American eel, and native sea lamprey
- Led by TNC

Oyster Reef Restoration in Back Sound, Rachel Carson Reserve

- Restore 0.11 acres of oyster reefs and protects an additional 3+ acres of saltmarsh
- Led by East Carolina University
- Benefits red drum, flounder, bonnethead sharks

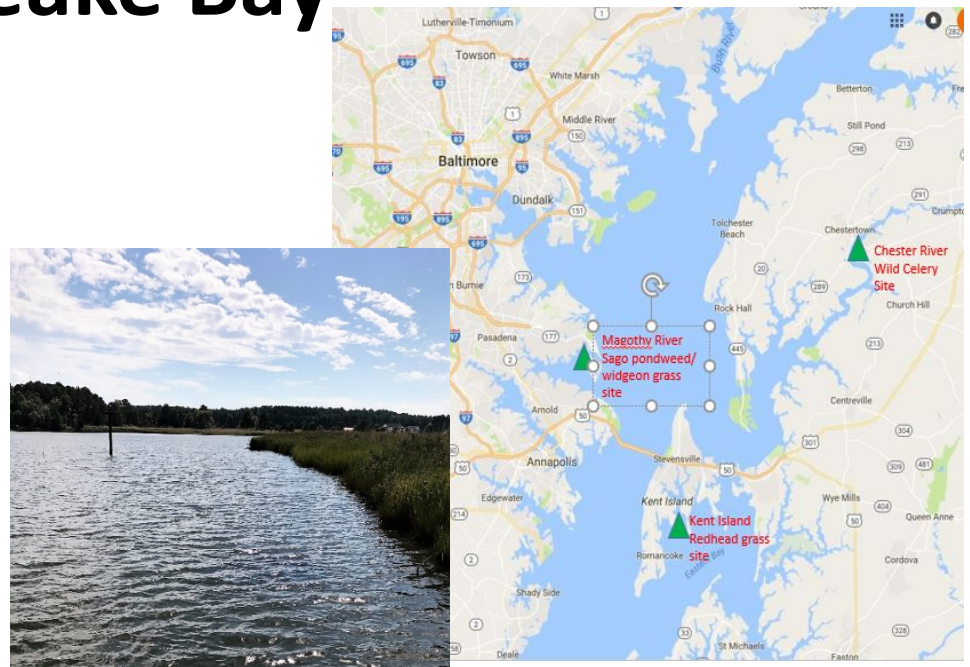
Seagrass Conservation Moorings, Coecles Harbor

- Replace 6 traditional moorings with conservation moorings to protect seagrass in harbor
- Led by NY DEC
- Good visibility to inspire others to use conservation moorings
- Benefit bay scallop, fluke, puffers, sea horses, river herring American eel, and striped bass



Restoration of SAV in the Freshwater and Mesohaline Region of the Chesapeake Bay

- 10-20 acres of SAV restoration through seed harvest and dispersal
- Part of Chesapeake Bay Program's goal of 185,000 acres of restoration
- Led by MD DNR
- Benefit blue crab, striped bass, etc.



ACFHP would like to thank ASMFC for your continued operational support

Questions?

Law Enforcement Committee of the Atlantic States Marine Fisheries Commission

Meeting in Norfolk, Virginia

October 17-18, 2017

SPECIES ISSUES REVIEWED

- Lobster Tracking Technologies
- Menhaden Draft Amdmt 3
- Cobia FMP

OTHER ISSUES

- Charging For-Hire Operators (BSB)
- Enforcing Regs in the EEZ (tautog)

LEC ADMINISTRATION

- New Chair and Vice Chair
- 2018 Action Plan
- Orientation Process for new members
- National Leadership Training

Species Task Lists

Annual Meeting 2017

					2017					2018						
		Total SASC	Workload Score	Scientist	Croaker	Spot	Menhaden (ERPs)	Sturgeon	Updates	Northern shrimp	Striped bass	Spiny dogfish*	Menhaden (ERPs)	Atlantic herring	Horseshoe Crab	Updates
1	=active member of SASC	8	14	Kristen Anstead	2	2	1	3	2				1		2	
2	=co-lead for assessment	7	13	Jason McNamee			3		1				3			
3	=lead for stock or stock unit/DPS	7	10	Katie Drew			1	3		1	1		1			
	=combined score for multiple updates	5	9	Laura Lee	3	1		3	1							1
		5	9	Jeff Kipp	1	3			1							1
		3	9	Jim Uphoff			3						3			
	2017	5	8	Amy Schueller			1		2				1			
	Benchmarks	4	8	Mark Terceiro					2							2
	Sturgeon	7	7	Alexei Sharov			1				1	1	1			
	Spot	6	7	Matt Cieri			1		1				1	2		
	Croaker	6	6	Jeff Brust			1		1				1			
	Updates	5	5	Chris McDonough	1	1										1
	American eel	5	5	Michael Celestino			1	1			1		1			
	River herring	5	5	Micah Dean			1						1	1		
	Atlantic menhaden	3	5	Gary Nelson					1		3					1
		3	5	John Sweka					1						3	1
	2018	4	4	Gary Shepherd					1		1					1
	Benchmarks	3	4	Maggie Hunter						2						1
	Atlantic striped bass (SARC-F)	3	3	Burton Shank					1							1
	Horseshoe crab	3	3	Kim McKown					1							1
	Spiny dogfish (SARC-S)	3	3	Tracy Pugh					1							1
	Atlantic herring	3	3	Kierstin Curti				1	1							1
	Northern shrimp	3	3	Kathleen Reardon					1							1
	Black sea bass (SARC-F)?	3	3	David Chagaris			1						1			
	Bluefish (SARC-F)?	3	3	Howard Townsend			1						1			
	Scup (SARC-S)?	2	3	Kelly Whitmore						2						
	Updates	1	3	Jared Flowers				3								
	American shad	1	3	Katherine Sosebee								3				
	Weakfish	2	2	Mike Bednarski				1								
		2	2	Dawn Franco	1	1										
	2019	2	2	Harry Rickabaugh	1	1										
	Benchmarks	2	2	Joseph Munyandorero	1	1										
	Atlantic menhaden (ERPs)	2	2	Mary Fabrizio	1	1										
	Atlantic menhaden (Single-species)	2	2	Michael Bailey					1							1
	Black drum	2	2	Scott Newlin												
	Summer flounder (SARC)	2	2	Edward Hale				1			1					
	Cobia	2	2	Ed Hale							1				1	
	Tautog	2	2	Rob Latour					1							
		2	2	Kurt Gottschall							1			1		
	Yearly updates	1	2	Anne Richards						2						
	Bluefish	1	2	Josh Newhard										2		
	Northern shrimp	1	1	Greg Wojick												
	Scup	1	1	Chris Legault												
	Spiny dogfish	1	1	Steve Doctor												
	Spot (TLA)	1	1	John Maniscalco												
	Croaker (TLA)	1	1	Joe Cimino												
	American lobster (Stock Indicators)	1	1	Yan Jiao												1
	Summer flounder	1	1	Chris Bonzek												

Task List Goals

- **Provide the basis for a clear and constructive conversation surrounding tasking at the Board level**
- Account for tasks and provide an estimated timeline for completion
- Prioritize current and future TC/SAS tasks
- Illustrate committee membership overlap

Atlantic Striped Bass

Activity level: High

Committee Overlap Score: Medium (TC/SAS/TSC overlaps with BERP, Atlantic menhaden, American eel, horseshoe crab, shad/river herring)

Committee Task List

- TC – June 15th: Annual compliance reports due
- TC/SASC/TSC – All Year: benchmark stock assessment
  - Jan/Feb 2018: Modeling Workshop I
  - May 2018: Updated data submission for Assessment through 2017
  - July 2018: Modeling Workshop II
  - Sep 2018: Final SASC call/webinar to approve stock status determination
  - 1st week of Oct 2018: All Draft Report components due to staff
  - 2nd week of Nov 2018: Assessment Report due to external peer-review panel
  - 1st week of Dec 2018: Peer review

TC Members: Nicole Lengyel (RI, TC Chair), Kevin Sullivan (NH, Vice Chair), Alex Aspinwall (VA), Alexei Sharov (MD), Carol Hoffman (NY), Charlton Godwin (NC), Edward Hale (DE), Ellen Cosby (PRFC), Gail Wippelhauser (ME), Gary Nelson (MA), Heather Corbett (NJ), Jeremy McCargo (NC), Kurt Gottschall (CT), Luke Lyon (DC), Michael Kaufmann (PA), Peter Schuhmann (UNCW), Winnie Ryan, Gary Shepherd (NMFS), Steve Minkkinen (USFWS), Wilson Laney (USFWS), Katie Drew (ASMFC), Max Appelman (ASMFC)

SAS Members: Edward Hale (DE, Chair), Gary Nelson (MA, Vice Chair), Alexei Sharov (MD), Hank Liao (ODU), Justin Davis (CT), Michael Celestino (NJ), John Sweka (USFWS), Gary Shepherd (NMFS), Katie Drew (ASMFC), Max Appelman (ASMFC)

Tagging Subcommittee Members: Stuart Welsh (WVU, Chair), Heather Corbett (NJ, Vice Chair), Angela Giuliano (MD), Beth Versak (MD), Chris Bonzak (VIMS), Edward Hale (DE), Gary Nelson (MA), Ian Park (DE), Jessica Best (NY), Carol Hoffman (NY), Gary Shepherd (NMFS), Josh Newhard (USFWS), Wilson Laney (USFWS), Katie Drew (ASMFC), Max Appelman (ASMFC)

CESS Membership Requirements Request

Annual Meeting 2017

Current Requirements

- CESS members appointed at discretion of Commission Chair
- 1 representative for each state
- 2 representatives from NMFS HQ
- 1 representative each from GARFO and SERO
- 1 representative from each regional Council
- 1 representative from USFWS

New role = new membership

- CESS would like to relax requirements
- New role with species assignments
  - PDTs to work on management change documents
- Gaps in species coverage
- Appointing members to meet requirements does not encourage active participation
- Still recognize needing a balance of social scientists/economists as well as geographically

New Language

(n) **Committee on Economics and Social Sciences**. The Committee on Economics and Social Sciences (CESS) is a standing Commission committee. Committee membership is voluntary and preferably consists of a balance of economists and other social scientists knowledgeable about fisheries issues in their regions. An active base of members willing to help the CESS achieve their primary activities is a top priority, while ideally membership should be balanced geographically to provide coastwide representation. Up to twenty individuals should be maintained on the CESS. CESS members of the Committee shall be appointed at the discretion of the Chair of the Commission. The membership should consist of one representative from each member state, two representatives from NOAA Fisheries headquarters (one economist and one social scientist), one representative each from NOAA Fisheries Greater Atlantic and Southeast Regional Offices, one representative each from the Atlantic Coast Regional Fishery Management Councils, and one representative from the U.S. Fish and Wildlife Service.