



Public Information Document for Cobia

Presented to South Atlantic
State/Federal Fisheries Management
Board

October 25, 2016



Presentation Summary

- Review current issues.
- September 2016 SAFMC meeting.
- Review SAFMC Framework 4 to the CMP:FMP to implement accountability measures to slow harvest in 2017.
- Review PID and proposed management issues



Current Issues

- The NMFS announced a closure to the AMG cobia effective June 20, 2016 for exceeding the ACL in 2015.
- The ACL for AMG cobia in 2015 was 630,000 pounds while landings were 1,540,776 pounds.
- The closure impacted the fishery throughout the range of the AMG cobia but impacts were greatest for the outer banks of North Carolina and all states from Virginia to the northern extent of the range.
- Virginia and North Carolina reacted to the closures by implementing state specific regulations to lessen the impact of the closure.



Stock Status

2013 Cobia Benchmark

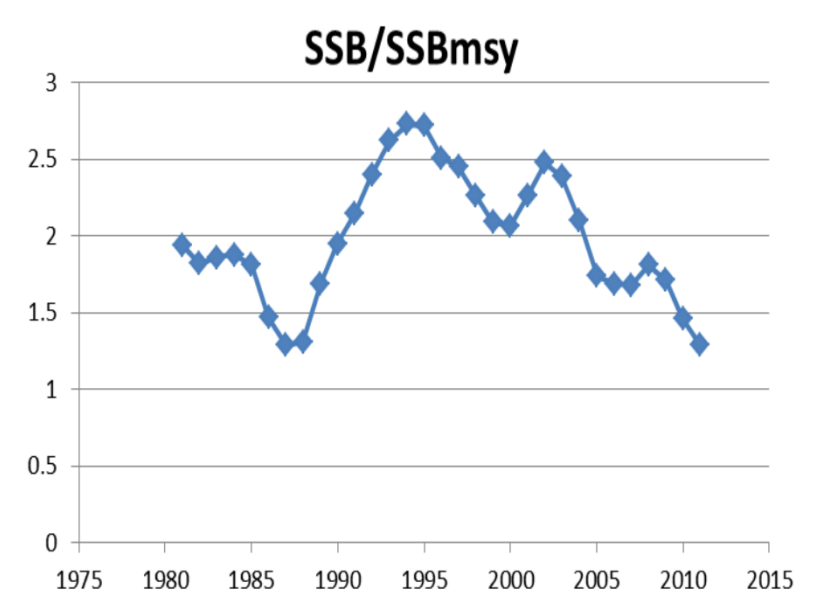
SEDAR Assessment

Data through 2011

Assessment indicates stock is not overfished and overfishing is not occurring but does indicate an overall decline in biomass

Research track stock assessment scheduled for 2019

Operational stock assessment scheduled for 2020





Stock Boundaries

- New cobia stock boundaries were established through SAFMC Amendment 20B (2014) beginning March 1, 2015: Atlantic Migratory Group cobia annual catch limits apply from Georgia through New York;
- Cobia caught off the east coast of Florida are counted against the Florida East Coast allocation of the Gulf of Mexico cobia annual catch limit.
- Cobia included in Stock ID workshop in 2017



Framework Action 4 proposed measures

- Reduce recreational bag limit from 2 fish to 1 fish
- Increase the minimum size limit from 33" to 36" FL.
- Limit commercial harvest to 2 fish per person or 6 per vessel, whichever is more restrictive



Timeline (short term)

- Oct 2016 – SA Board reviews PID for approval
- Nov 2016–Jan 2017 - staff conducts public meetings and accepts public comment
- Feb 2017- Board reviews public comments and directs FMP development



Management Issues for PID

- ASMFC staff and the Plan Development Team reviewed and discussed the following management issues and questions for Board consideration.



Management Issue 1

COMPLEMENTARY MANAGEMENT WITH THE COUNCIL

Complementary management of cobia is intended to increase flexibility and management reaction time, while providing states the ability to more actively and adequately manage the fishery in their respective states.

Management Questions:

- Should the Commission develop a complementary Cobia FMP to the SAFMC's CMP FMP?
- What federal management measures should be required in the Commission plan?
- What states should be included in the management unit?
- Given the upcoming genetic workshop in 2017, should the FMP provide the flexibility to make changes to management and stock units to reflect changes in the science?



Management Issue 2

MANAGEMENT OBJECTIVES AND GOALS

- Provide a management plan that achieves the long-term sustainability of the resource and strives, to the extent practicable, to implement and maintain consistent coast wide measures, while allowing the states the flexibility to implement alternative strategies to accomplish the objectives of the FMP
- Provide for sustainable recreational and commercial fisheries.
- Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
- Adopt a long-term management regime which minimizes or eliminates the need to make annual changes or modifications to management measures.

Management Question

- What should be the objectives in managing the Cobia fisheries through the Commission?



Management Issue 3

COASTWIDE, REGIONAL, OR STATE-BY-STATE MANAGEMENT:

States currently manage their cobia fisheries independently. The Commission is considering coordinating the management of cobia in order to avoid states being disadvantaged based on where they occur along the migratory route, while maintaining harvest at the Council's ACL level.

Management Questions:

- Are consistent, state-specific management measures, coordinated by the Commission, needed for cobia?
- Are there regional differences in the fishery and/or resource that need to be considered when implementing management measures?
- Should the FMP require a coast wide closure if the Council ACL is met?
- Should the FMP require a coast wide measures (e.g., size and bag limit)?
- Should the FMP require regional measures?
- Should the FMP develop a suite of options for the allocation of state-specific quotas and allow states to adopt unique size, bag, and season measures?



Management Issue 4

COMMERCIAL AND RECREATIONAL MANAGEMENT TOOLS

Potential management tools include: minimum size restrictions, maximum size restrictions, bag/trip/boat limits, seasons or gear restrictions. Currently, the commercial fishery is managed consistently throughout state and federal jurisdictions, while recreational management measures vary.

Management Questions:

- What are the appropriate commercial and recreational measures for cobia?
- Should the FMP consider gear restrictions, e.g. circle hooks for all live and dead bait fisheries for cobia or prohibition on gaffing cobia?
- Are there other management options that should be considered (e.g., slot limits, spawning season closures, etc.)?
- Should the FMP consider some level of *de Minimis* or threshold landings where cobia harvest is minimal or episodic



Management Issue 5

- The public will be asked to comment on any other issues for consideration in the development of the Commission's draft FMP for Cobia.



Issues raised by the PDT

- Delay in stock assessment
- Stock ID workshop timing

Questions





Red Drum Tasks

South Atlantic State/Federal Fisheries
Management Board

October 25, 2016



Tasks

- **Biological Reference Points**
- **F-Based Reference Point**
- **Validity of Age-Based Models**
- **Tag Return Rates**
- **Statistical Catch-at-Age Continuity Runs**



Meetings

- Conference call with Commissioners - May 26
- Conference call with TC and SAS - June 9
- Webinar with TC and SAS - June 28
- Webinar with TC and SAS - August 18
- In-person meeting with TC and SAS - September 13
- Webinar with TC and SAS – October 12



Biological Reference Points

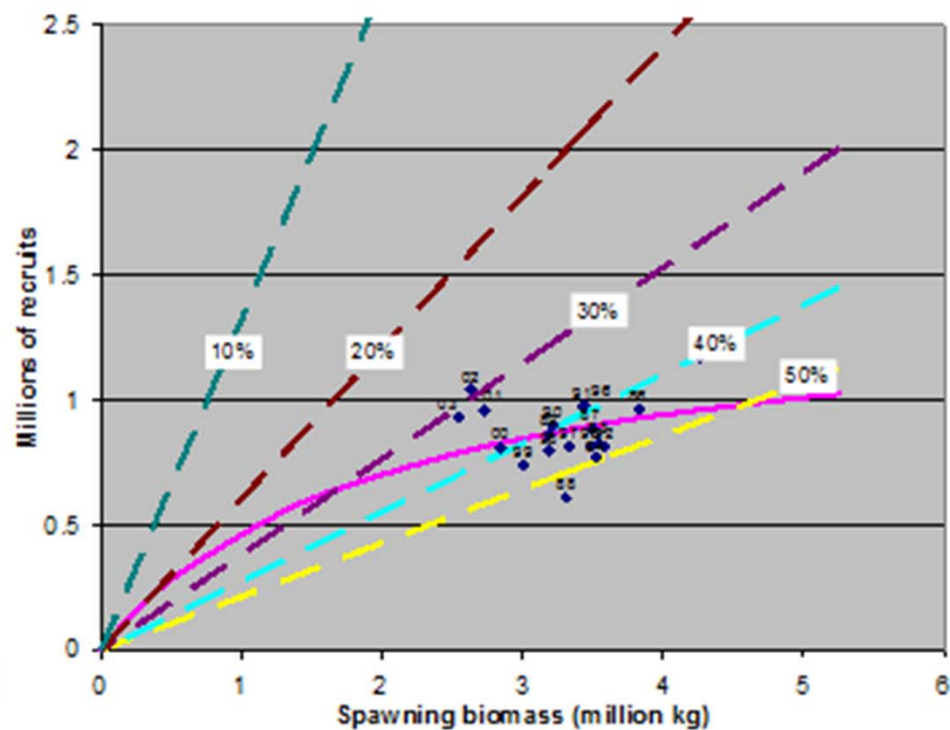
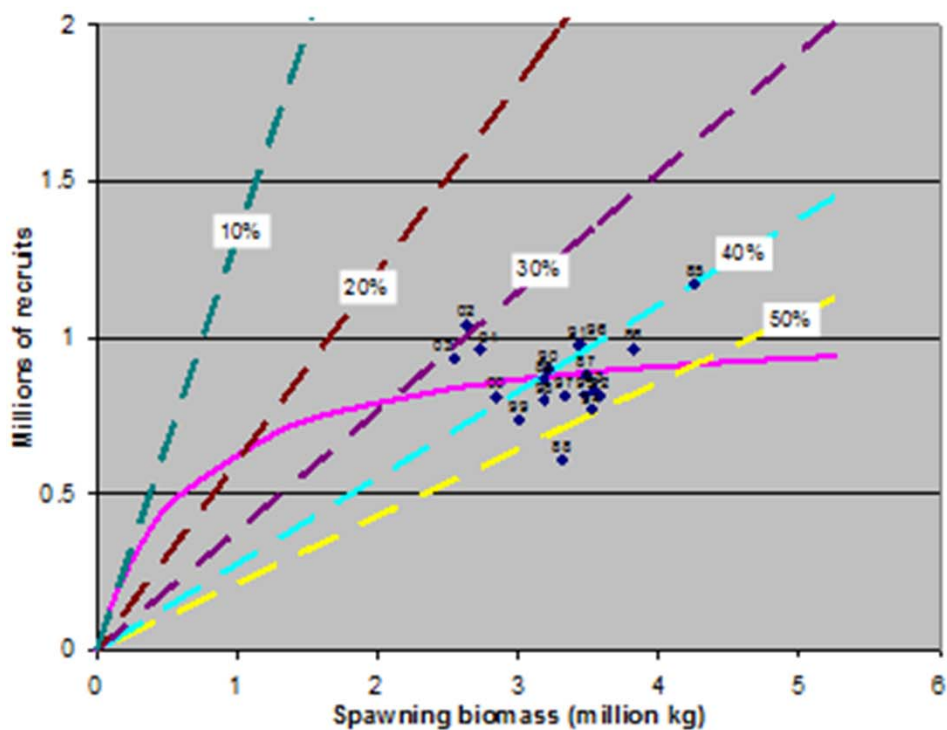
- Investigate whether the current biological reference point for overfishing (SPR40% target, SPR 30% threshold) is appropriate given the specie's long life history. This task is two-fold in that the Board is interested in whether spawning stock biomass is an appropriate metric and whether the 30% threshold and 40% target are suitable goals. The Board also requests the development for an overfished reference point recommendation.



Biological Reference Points

- Literature review and discussion of theory and use of %SPR reference points relative to red drum life history
- Projections under various stock-recruit relationships and %SPR or escapement

Biological Reference Points





Biological Reference Points – Recommendation

- Maintain 30% SPR threshold and 40% SPR target for both red drum stocks
- Improved information on the stock-recruit relationship necessary before alternative %SPR levels can be reliably evaluated for red drum
- Overfished reference point not recommended without reliable spawning stock biomass estimates
- Qualitatively consider recruitment trend with SPR estimates in the absence of biomass estimates and overfished status



F-Based Reference Point

- Given concerns regarding the appropriateness of the current reference point and the lack of data on adult red drum, the Board would like to see an investigation of the feasibility of an F-based reference point that looks strictly at the **harvest*** of juvenile red drum. The Board looks for guidance on whether this type of reference point would provide an appropriate level of information for management.



Juvenile F Reference Point

- Advantages
 - Strong relationship between juvenile fishing mortality and SPR
 - Potential for improved precision since most data is from juveniles
 - Potential for reliable estimates from several approaches which could be used to validate alternative approaches



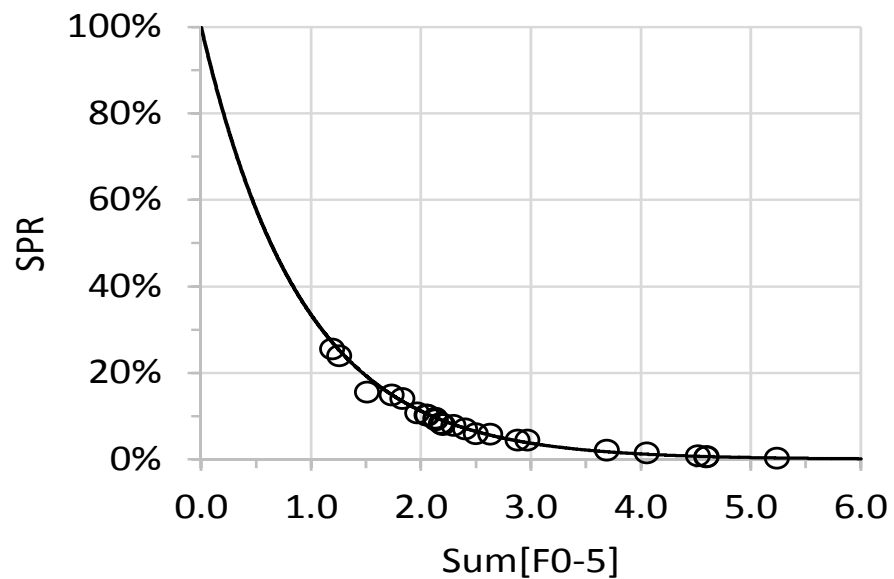
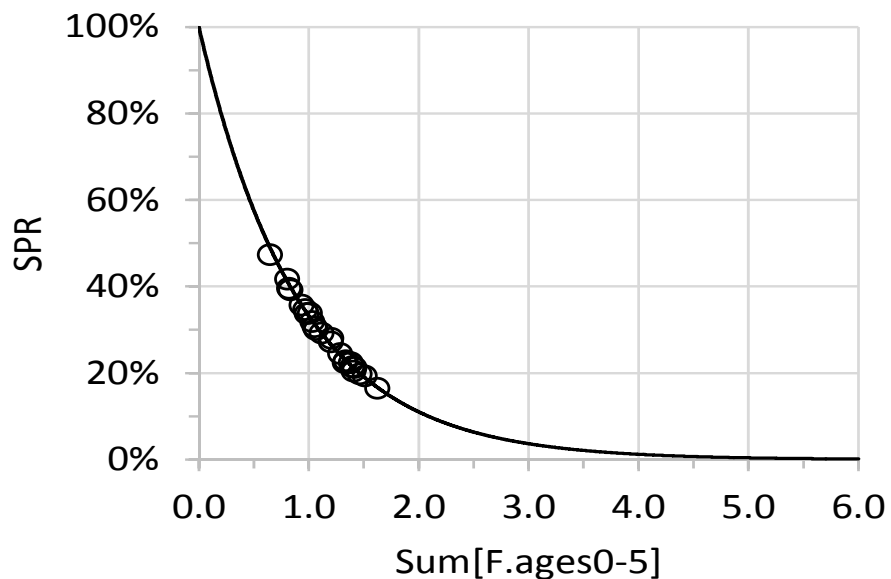
Juvenile F Reference Point

Southern Stock

Northern Stock

Sub-Adult Fishing Mortality

Sub-Adult Fishing Mortality





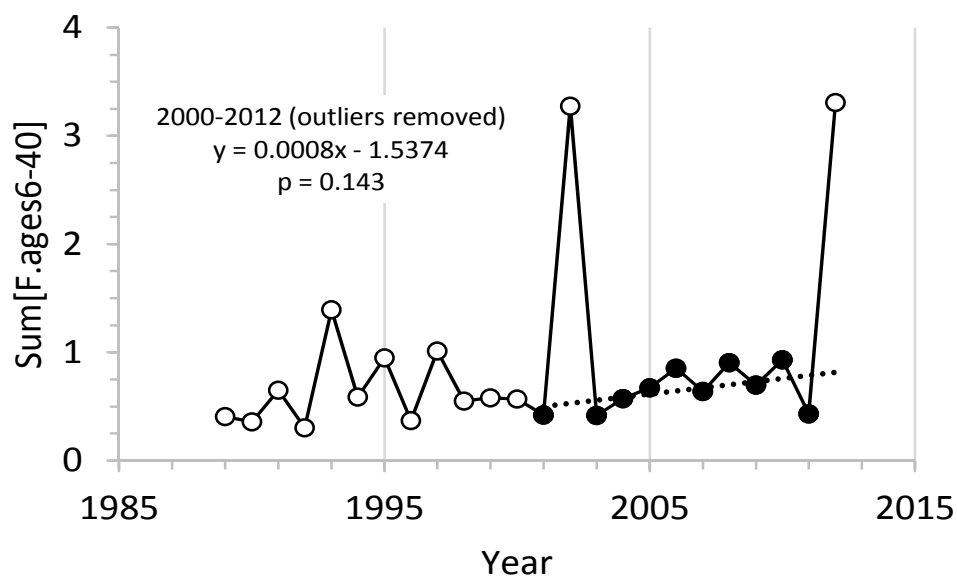
Juvenile F Reference Point

- Disadvantages
 - Difficulty identifying appropriate reference point, particularly without information on the stock-recruit relationship
 - Ignores fishing mortality of mature fish
 - Data supports increasing F through time
 - Independent of recruitment
 - Appropriate reference point further confounded by variability in recruitment

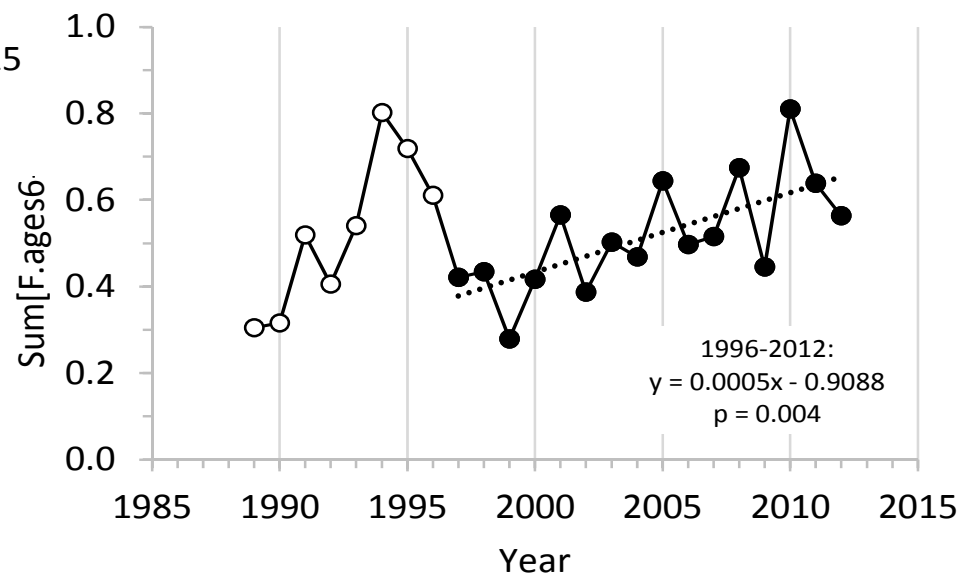


Juvenile F Reference Point

Red Drum, Northern Stock



Red Drum, Southern Stock





Juvenile F Reference Point – Recommendation

- The Technical Committee concluded that management with a juvenile F-based reference point could lead to stock depletion
- The Technical Committee recommends against using juvenile F-based reference points



Validity of Age-Based Models

- The Board is concerned that the lack of information on adult red drum, especially in the northern stock, may impact the ability of the stock synthesis models to accurately measure stock abundance. As a result, the Board asks for an evaluation of how red drum life history and current regulations (namely the moratorium on fishing in federal waters) may limit the validity of an age-based model such as SS3.



Validity of Age-Based Models

- Lack of contrast in data to inform potential stock productivity
 - Model time series short relative to red drum longevity and history of fisheries
 - Longline indices show little contrast
- All fishery selectivities are domed shaped which can be confounded by decreased availability and mortality – model results are sensitive to descending selectivity



Validity of Age-Based Models

- Estimated harvest of adult fish from MRFSS is very low when harvest was legal, tag-recapture data conflicts with these estimates
- Volunteer tag-recapture length data are used as a proxy for size structure of dead recreational discards and recreational CPUE



Validity of Age-Based Models – Recommendation

- Continue use of age-structured models
- Red drum age-specific life history characteristics and vulnerability to fisheries best modelled with age-structured models that track cohorts through time
- Address effects of data limitations through assumptions and reduced model complexity



Tag Return Rates

- Given the sensitivity of the SS3 models to the tag return reporting rate, the Board asks for an evaluation of potential tag return rates for each region and determine if the tag return data should be incorporated into new model runs. The Board is specifically interested in a run which uses an 18% tag return rate, per the suggestion of the desk review report.

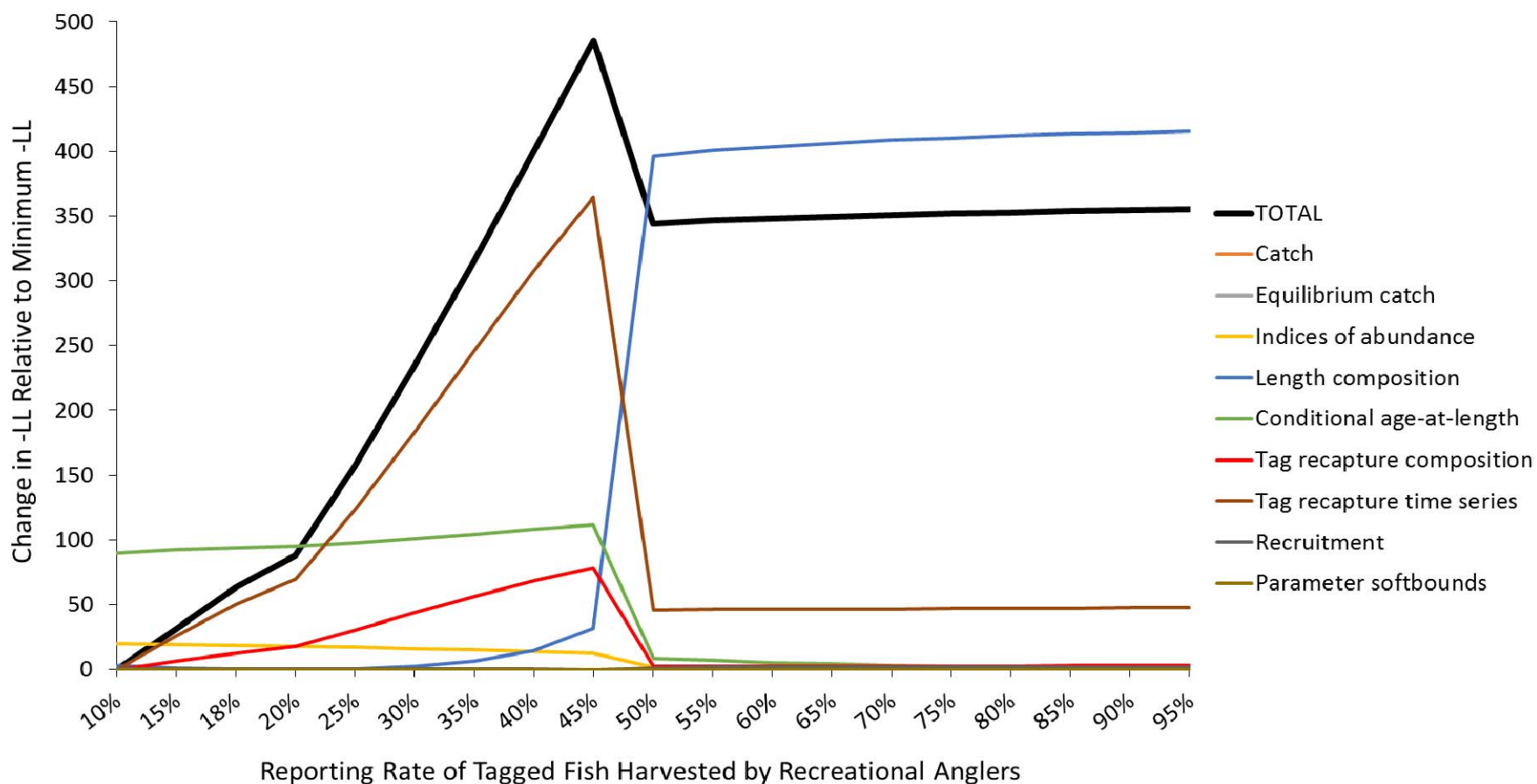


Tag Return Rates

- Northern Stock SS3 Model
 - Likelihood profile
 - Data weighting sensitivity runs
 - Comparison of external tag-recovery model estimates
 - Model runs with simulated recapture data
- Southern Stock SS3 Model
 - Sensitivity runs with fixed reporting rates

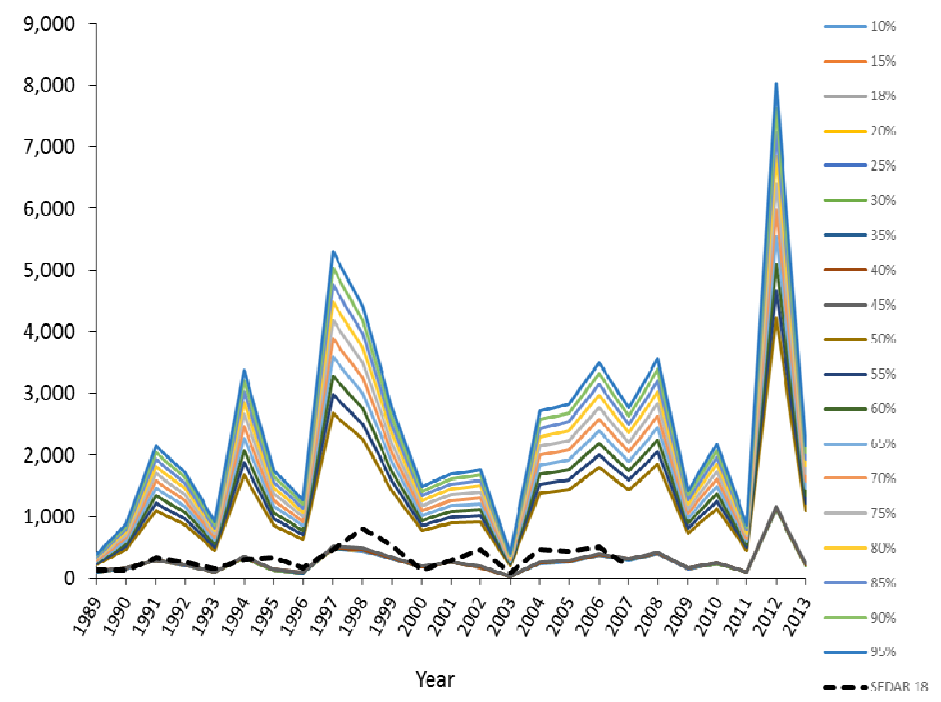
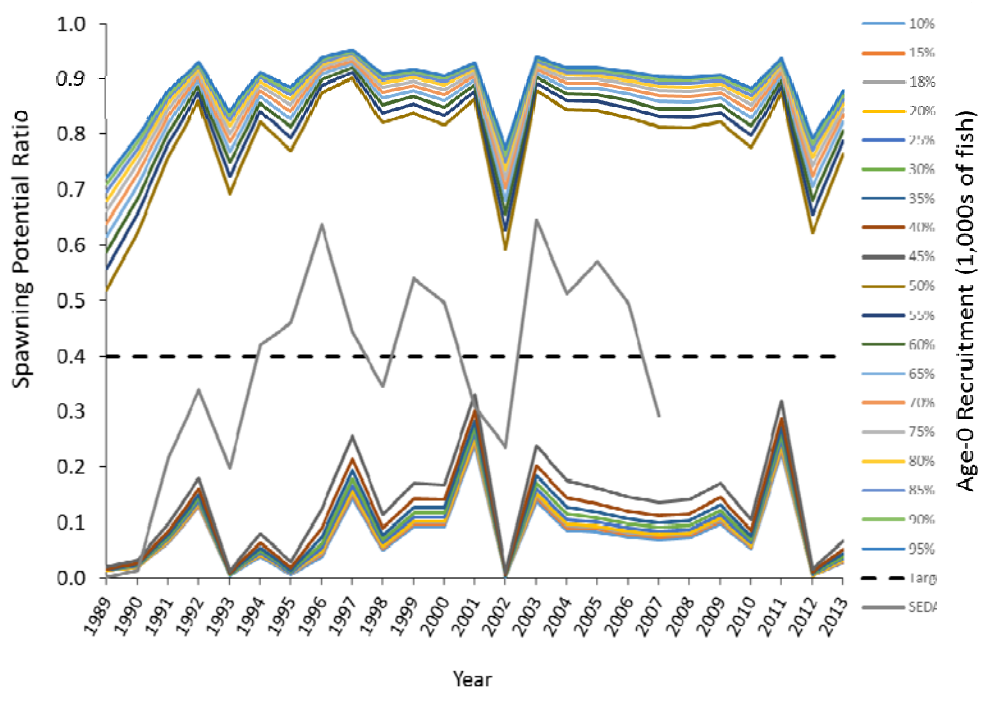


Northern Stock – Likelihood Profile

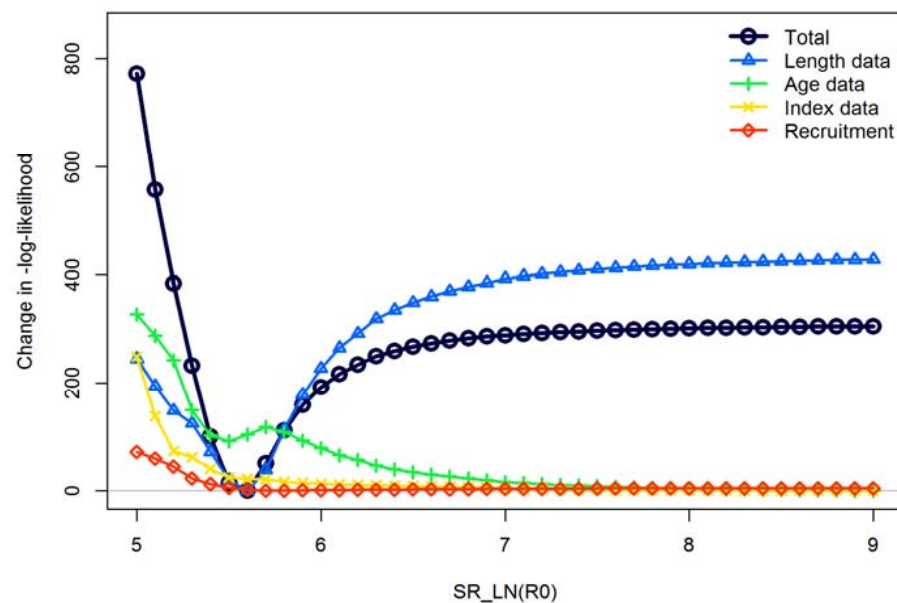
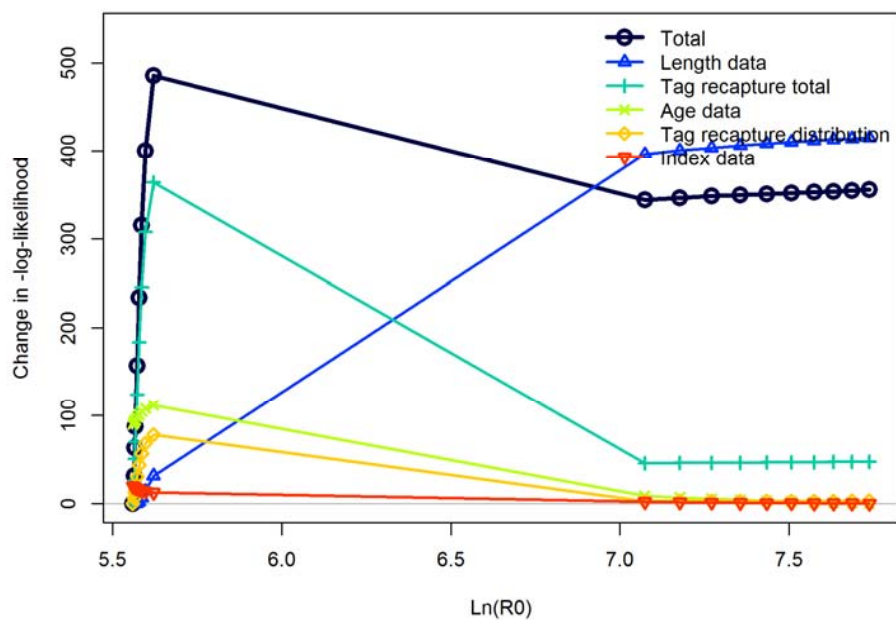




Northern Stock – Likelihood Profile



Northern Stock – Likelihood Profile





Northern Stock – Data Weighting

- Model generally insensitive to alternative data weighting
- Tendency to estimate a more depleted stock as the weighting of the length composition data is decreased and/or the weighting of the conditional age-at-length data is increased



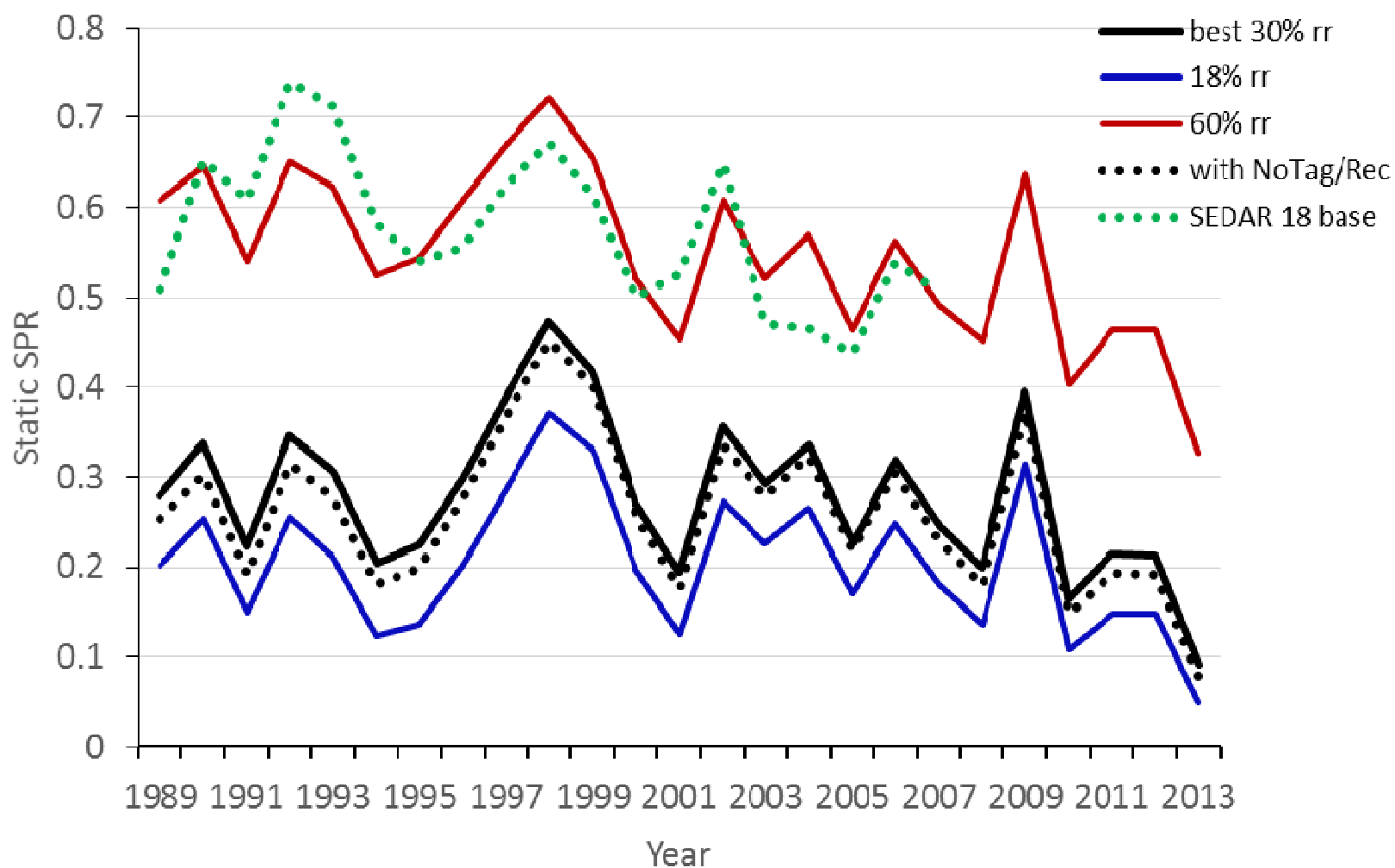
Northern Stock – External Tag-Recapture Model

<u>Year Tagged</u>	<u>Year Recaptured</u>											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1991	1.20	0.95	1.07	1.16	1.16							
1992		1.50	1.06	0.97	0.97	0.97						
1993			1.51	1.22		2.32						
1994				1.17	0.90	0.72	0.00					
1995					1.19	0.95	0.95					
1996												
1997							1.10	1.23	1.20	1.00		
1998								1.05	1.01	0.99		0.99
1999									1.55	1.19	1.11	1.11
2000										1.25	1.10	1.07

<u>Year Tagged</u>	<u>Year Recaptured</u>				
	1998	1999	2000	2001	2002
1998	1.06	1.41	0.99		
1999		1.22	1.00		1.00
2000			1.72	1.55	1.62
2001				1.15	0.90



Southern Stock – Sensitivity Runs





Tag Return Rates – Conclusions

- Tag-recapture data currently have little influence in the SS3 models unless reporting rate parameters are fixed
- Fixed reporting rate parameters indicate model instability
- Some conflicts in other data components contributing to model instability



Tag Return Rates – Recommendation

- Do not include tag-recapture data in current SS3 model with fixed reporting rates
- Address data conflicts before including tag-recapture data with fixed reporting rates



Statistical Catch-at-Age Continuity Runs

- The Board asks for an investigation of whether the previous statistical-catch-at-age model would be useful for management and, if so, to conduct a continuity run for both regions. The Board does not specify if the continuity run should only contain data sources used in SEDAR 18 and leaves it to the discretion of the investigators to incorporate new data sources as they see fit; if it is believed additional data sources will significantly improve the performance of the statistical-catch-at-age model, the Board encourages these additions.



Statistical Catch-at-Age Continuity Runs

- Technical Committee reviewed SCAA model runs with data through 2013
- Data changes include the addition of longline surveys and some changes to juvenile index choices in the southern stock



Statistical Catch-at-Age Continuity Runs – Recommendation

- Use updated SCAA model, not as a continuity analysis, but, rather, a preferred model for management advice
 - Data conflicts and uncertainty around appropriate treatment of data components and model configuration with SS3
 - Departure of SS3 model estimates from literature, SEDAR 18, and updated SCAA model estimates
- Review SCAA model estimates and use for management advice
- Results of SCAA models and review provided at 2017 ASMFC Winter Meeting



Recommendation Summary

- Maintain %SPR reference points
- Do not manage red drum stocks solely using juvenile F-based reference points
- Continue use of age-structured models
- Review updated SCAA model results for management advice
- Do not use SS3 model estimates until data conflicts and parameter discrepancies are resolved



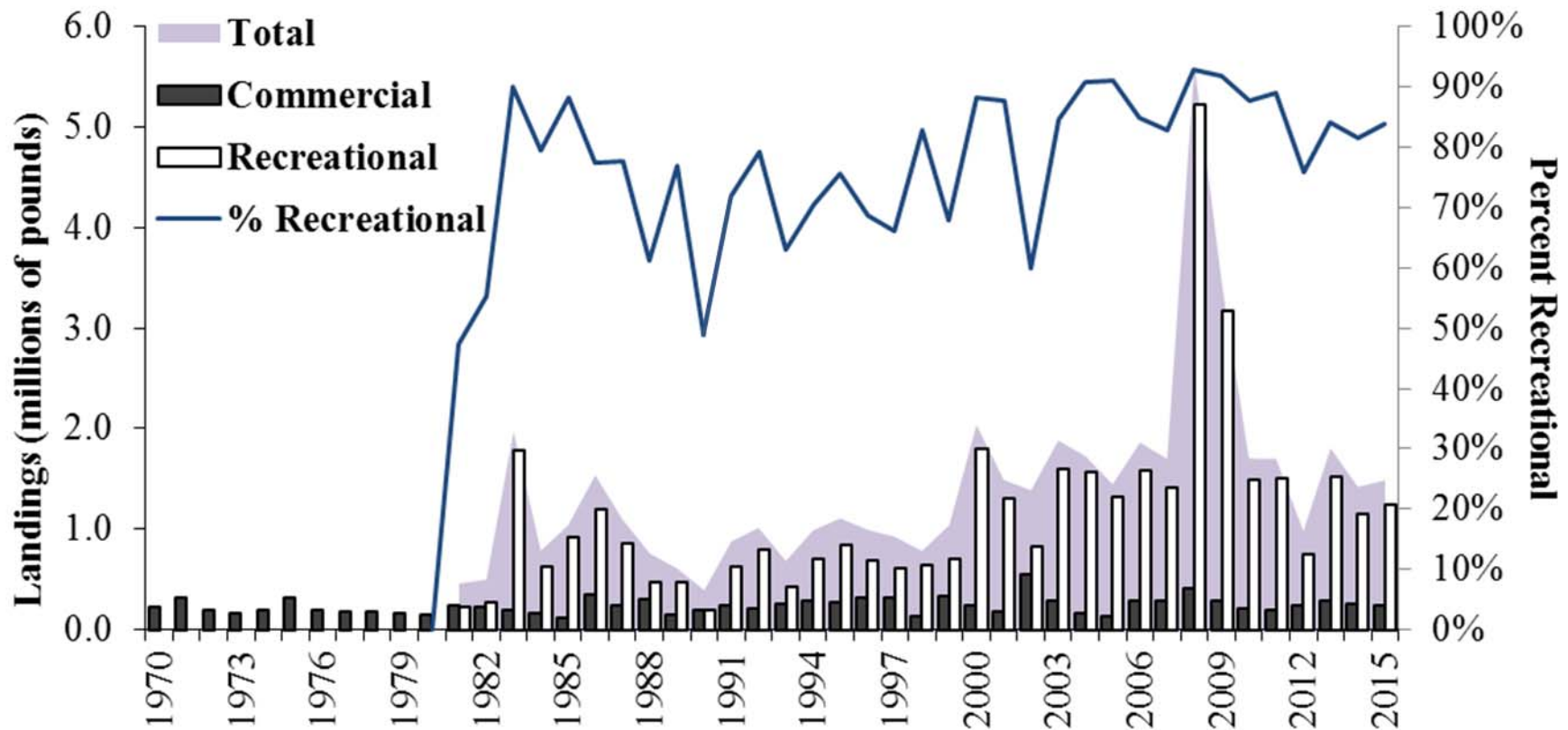
Questions?



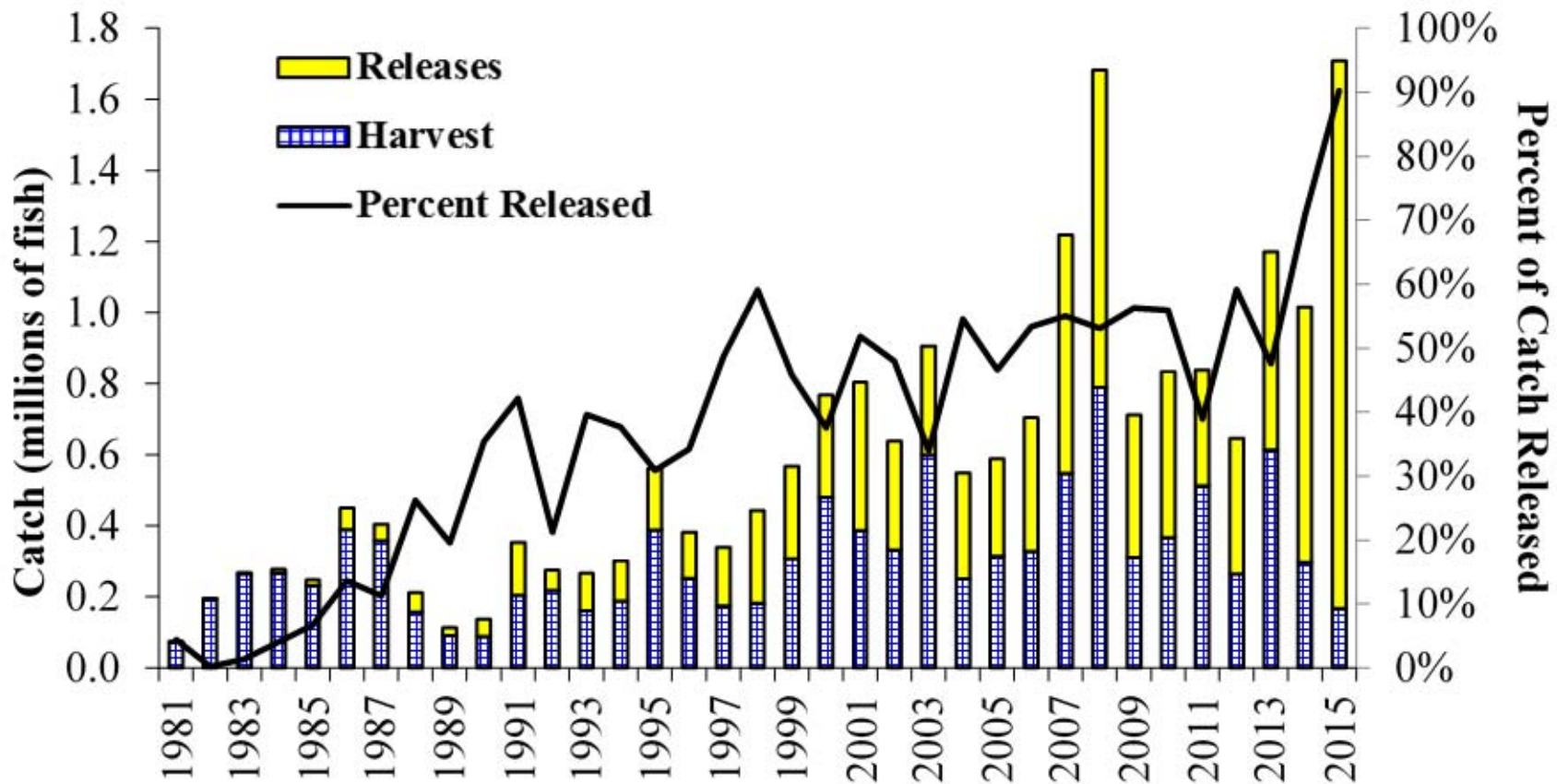
Black Drum 2016 FMP Review

South Atlantic State/Federal Fisheries
Management Board
October 25, 2016

Status of the Fishery - Total Landings



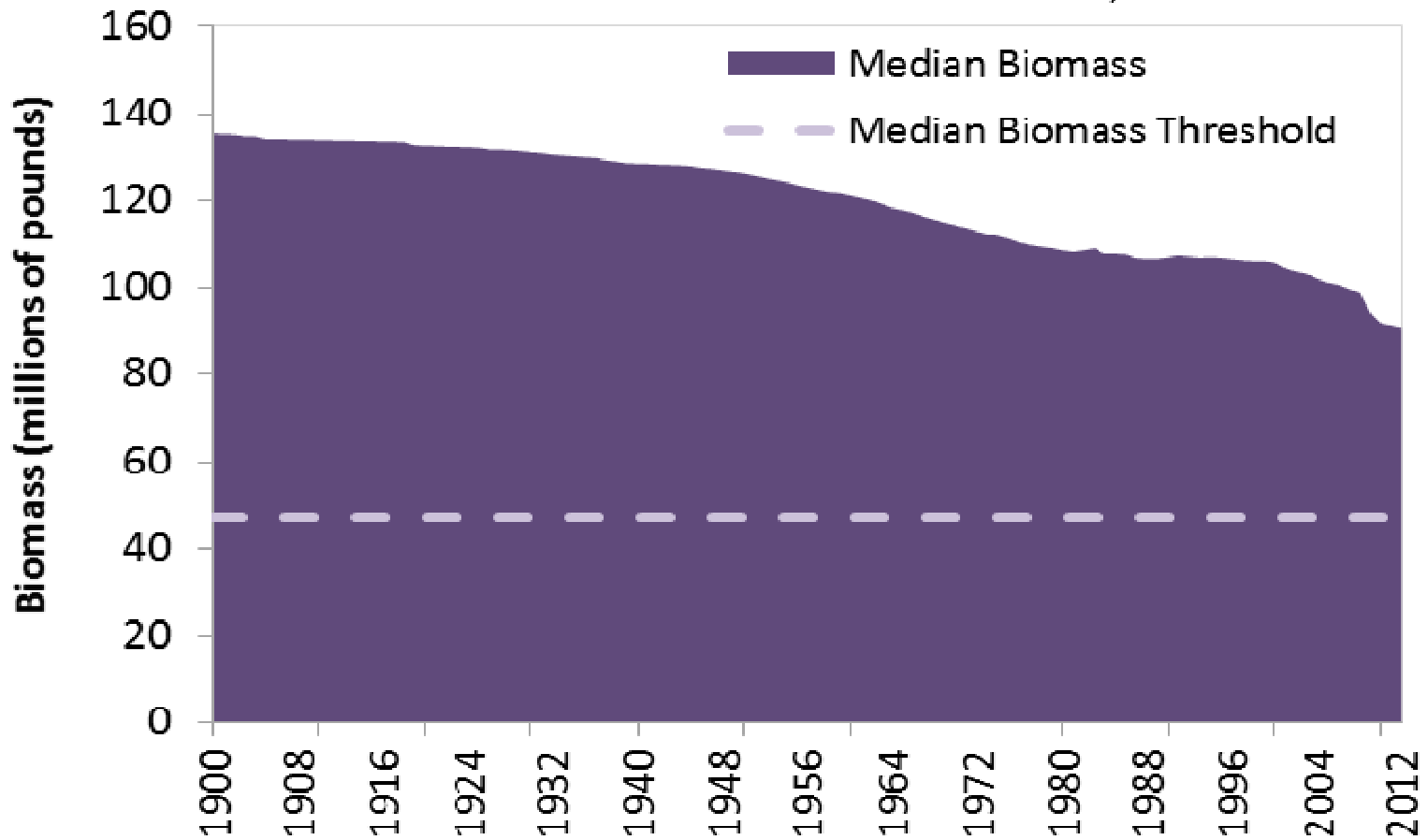
Status of the Fishery - Recreational



Status of the Stock



Black Drum Biomass
ASMFC Black Drum Benchmark Assessment, 2015



Status of Management



Black Drum FMP

- January 1, 2014 - all states must implement a maximum possession limit and a minimum size of at least 12"
- January 1, 2016 - all states must increase the minimum size limit to at least 14"

Status of Management



State	Recreational	Commercial	
	Size (TL) and Bag limit	Size limit (TL)	Trip Limit and Quota
ME-NY	-	-	-
NJ	16" min; 3 fish	16" min	10,000 lbs; 65,000 lb quota
DE	16" min; 3 fish	16" min	10,000 lbs; 65,000 lb quota
MD	16" min; 1 fish, 6 per vessel (Bay)	16" min	1,500 lb quota Atlantic Coast, Ches Bay closed
VA	16" min; 1 fish	16" min	1/person/day without permit; 120,000 lb quota
NC	14" min - 25" max; 1 fish > 25"; 10 fish	14" min - 25" max	500 lbs
SC	14" min - 27" max; 5 fish	14" min - 27" max	5/person/day
GA	14" min; 15 fish	14" min	15/person/day
FL	14" min - 24" max; 1 fish > 24"; 5 fish	14" min - 24" max	500 lbs/day

Compliance and *De minimis*



- All states are in compliance with the FMP
 - maximum possession limit and the 14” min TL

- No state requested *de minimis* status through the annual reporting process.



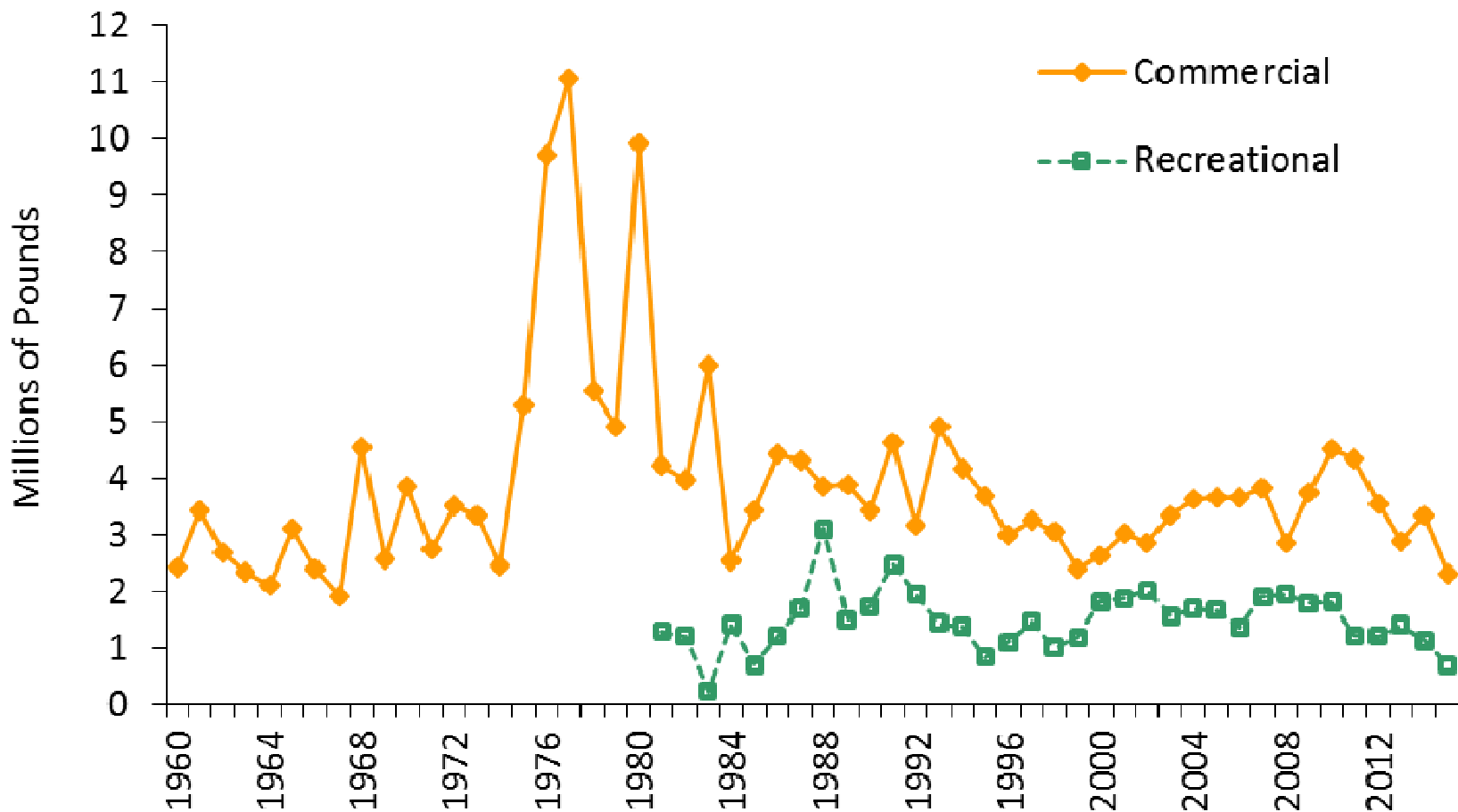
Comments or Questions?



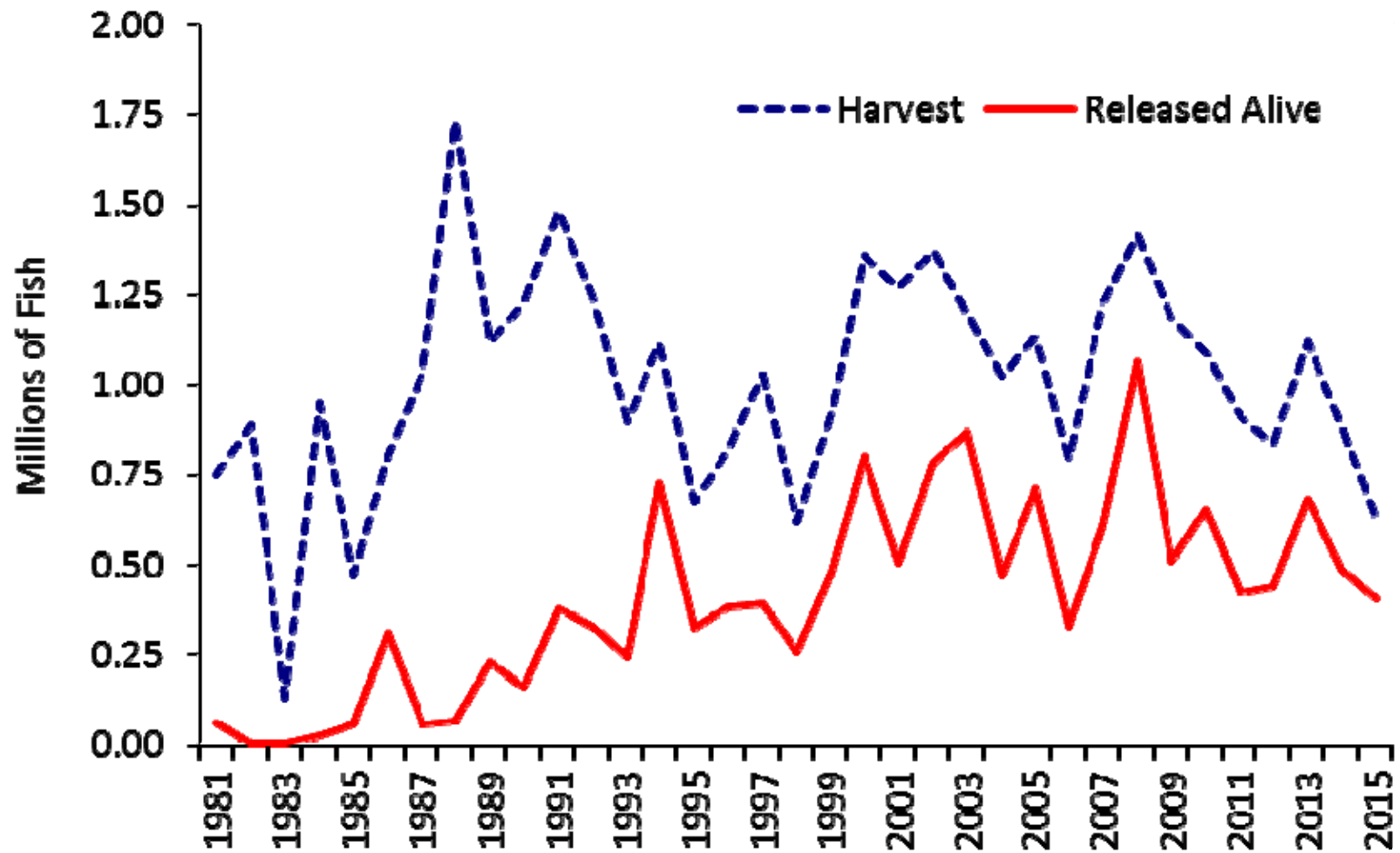
Spanish Mackerel 2016 FMP Review

South Atlantic State/Federal Fisheries
Management Board
October 25, 2016

Status of the Fishery



Status of the Fishery- Recreational



Status of the Stock



- 2012 Stock Assessment
 - SEDAR Review
 - Stock is not overfished
 - Stock not experiencing overfishing

Status of Management



- Omnibus Amendment (2011)
 - Minimum size: 12” FL or 14” TL
 - 15 fish bag limit
 - 3500 lb trip limit (FL adjusts limits periodically)
- Addendum I (2013)
 - Pilot program for 2015 and 2016 comm seasons.
 - Reduce min size in pound net fishery to 11.5” July-Sept. to reduce discards of slightly undersized fish.

Status of Management



State	Recreational	Commercial
NY	14" TL, 15 fish	14" TL. 3,500 lb trip limit.
NJ	14" TL, 10 fish	14" TL. 3,500 lb trip limit.
DE	14" TL, 15 fish	14" TL. 3,500 lb trip limit.
MD	14" TL, 15 fish	14" TL. 3,500 lb trip limit, March-Feb.
PRFC	14" TL, 15 fish	14" TL. Closure if/when MD and VA fisheries close.
VA	14" TL, 15 fish	14" TL. 3,500 lb trip limit. Closure if/when federal waters close.
NC	12" FL, 15 fish	12" FL; 11.5" FL in pound net fishery July 4th – Sept 30th, 2016. 3,500 lb trip limit for combined Spanish and king mackerel landings.
SC	12" FL, 15 fish	12" FL. 3,500 lb trip limit. March-Feb. Closure if/when federal waters close.
GA	12" FL, 15 fish	12" FL. 3,500 lb trip limit.
FL	12" FL or 14" TL, 15 fish.	12" FL or 14" TL. 3,500 lb trip limit; trip limits are adjusted as quota is caught.

Compliance and *De minimis*



- All states found in compliance
- De Minimis
 - 3 year average, combined comm and rec, 1%
 - Requests from NJ, DE, GA
 - All states meet requirements



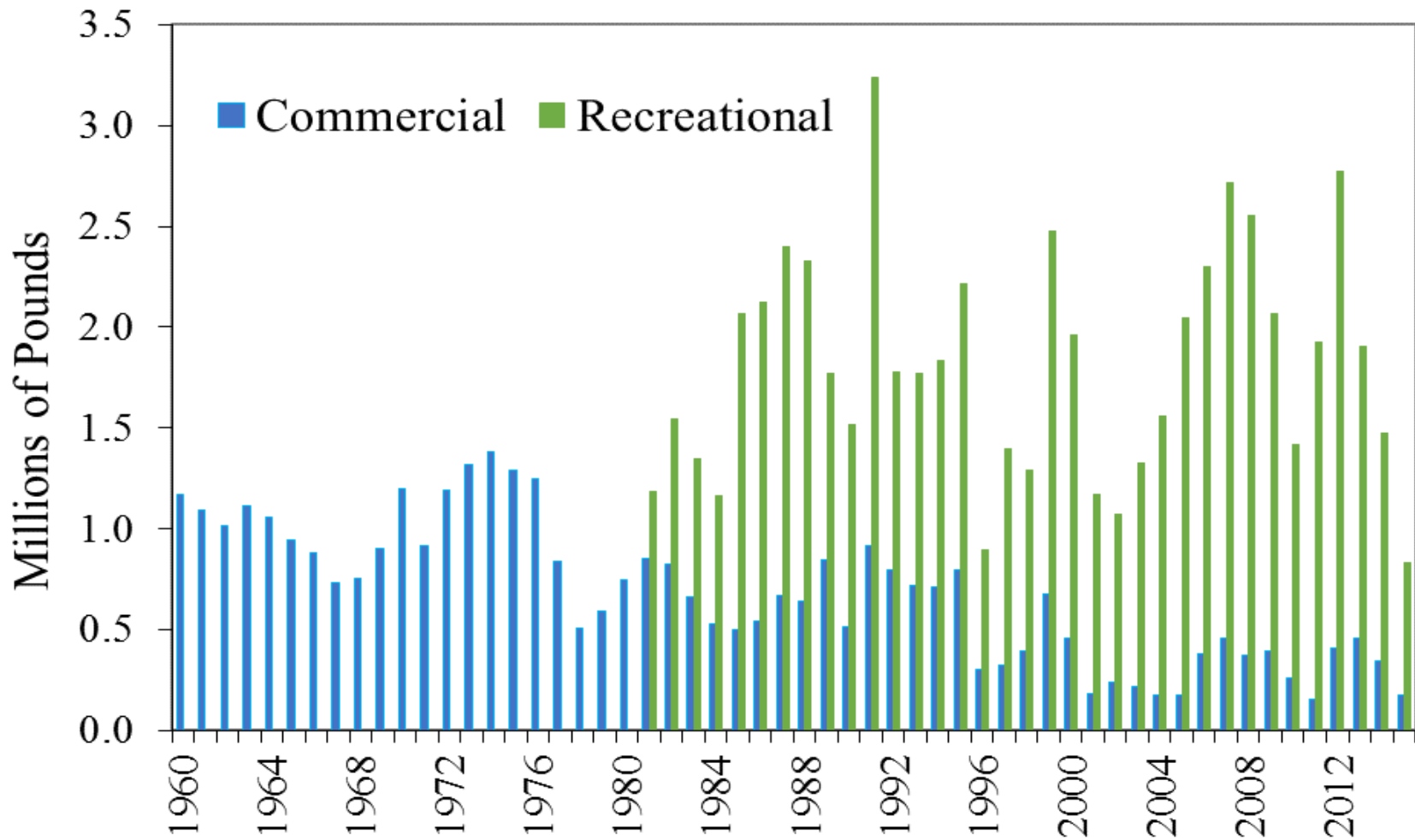
Comments or Questions?



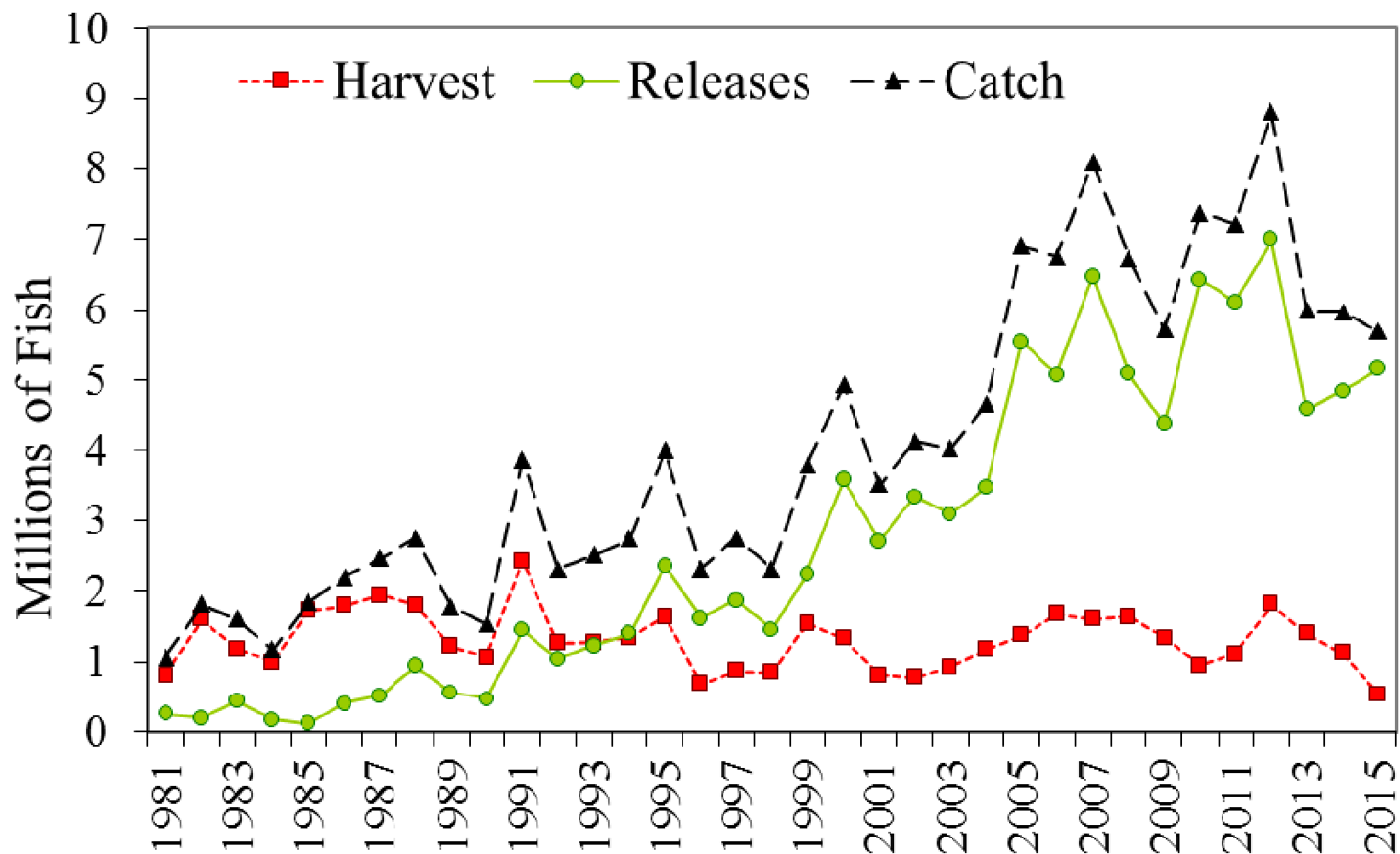
Spotted Seatrout 2016 FMP Review

South Atlantic State/Federal Fisheries
Management Board
October 25, 2016

Status of the Fishery - Total landings



Status of the Fishery - Recreational



Status of the Stock



- No coastwide stock assessment
 - Life history/migration
 - Data availability
- 2014 VA/NC Stock Assessment
 - Age structure expanded in last decade
 - Decline in SSB after 2007
 - Decline in recruitment after 2010
- New stock assessment underway in Florida

Status of Management



State	Recreational	Commercial
New Jersey	13" TL; 1 fish	Gill net, trawl, and pound net: 13"; 100 lb/vessel/day possession and bycatch limit; seasonal closures; monthly reporting. Trawl and gill net mesh size restrictions. Hook & line fishermen must follow rec limits.
Delaware	12" TL	12" TL
Maryland	14" TL; 4 fish	14" TL. 150 lb limit per day or trip (whichever is longer). Trawl and gill net mesh size restrictions.
PRFC	14" TL; 10 fish	14" TL
Virginia	14-24" TL; 1 fish >24" allowed; 5 fish; closed season March-July.	14" TL; pound nets/seines allowed 5% by weight less than 14". Hook & line fishermen must follow rec limits. Quota: 51,104 lbs (Sept-Aug). After 80% reached, 100 lb/vessel/day possession and bycatch limit.
North Carolina	14" TL; 4 fish	14" TL; 75 fish limit. Unlawful to possess or sell from Friday 12:00am-Sunday 12:00am
South Carolina	14" TL; 10 fish. Gig March-Nov.	Gamefish status since 1987; native caught fish may not be sold.
Georgia	13" TL; 15 fish	13" TL; 15 fish. BRD requirement for trawl; gear mesh regulations.
Florida	15-20" TL slot; 1 fish >20" allowed; limit varies by region; hook & line/cast net only.	15-24" TL; Season varies by region; 75 fish limit or 150 fish limit with two or more licensed fishermen on board; hook & line/cast net only.

Compliance and *De minimis*



- All states are in compliance with the FMP
 - 12” min TL
- ***De minimis***
 - Requests from NJ and DE
 - 3 year average, combined comm and rec, 1%
 - Both states qualify



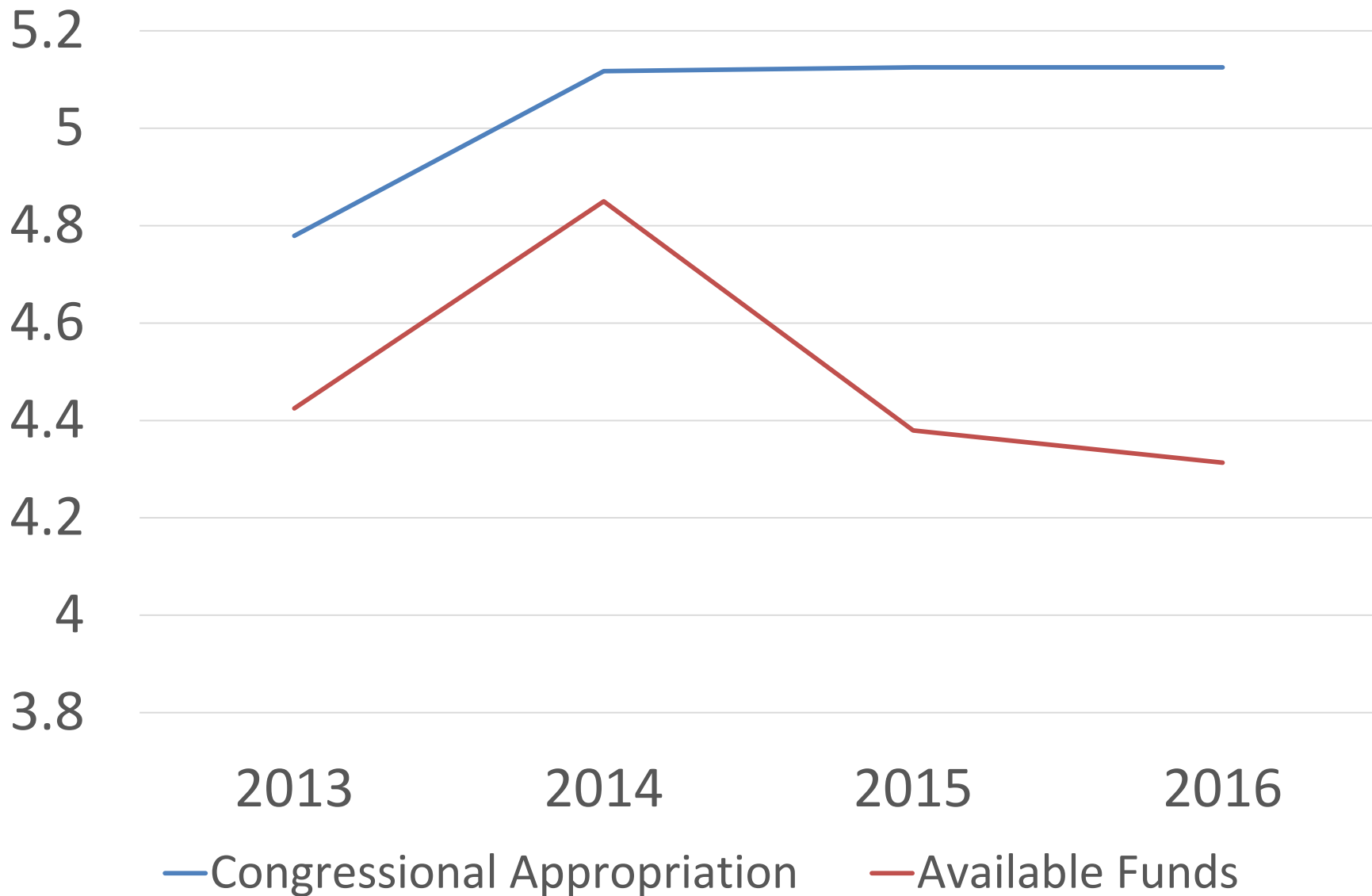
Comments or Questions?



SEAMAP Funding Update

October 25, 2016

SEAMAP Funding (in millions)



Impact on SEAMAP-SA



- Coastal Trawl Survey
 - Spanish mackerel, menhaden, spot & croaker
 - Reduction of sampled stations from 201 to 112
 - Reduction in collection and processing of life history information
- Expected reductions
 - Elimination of one entire sampling season

Impact on SEAMAP-SA



- Reef Fish Survey
 - Black sea bass, gag/snowy grouper, blueline tilefish
 - Eliminated gag ingress sampling component
 - Reduction of sea days from 35 to 19
- Expected reductions
 - Further reduction of sea days or longline sampling component
 - Reduction in life history processing

Impact on SEAMAP-SA



- Coastal Longline Surveys (NC, SC, GA)
 - Red drum and large coastal sharks
 - SC: reduction in seadays from 15 to 10
- Expected reductions
 - GA: reduce seadays from 44 to 20 by various methods
 - NC: reduce by one full week of sampling

Survey Amendments



- SEAMAP-SA Committee to meet in early 2017 with Coastal Trawl Survey and Coastal Longline Survey workgroups
 - Decide how to modify due to budget constraints
 - Reductions of seadays/stations may have unintended consequences on stock assessments
- Further reductions are expected due to Fair Labor Standards Act