

Aug. 2019 Operational Assessment Summary (NEFSC CRD (in prep))

Public Presentation: Oct. 2019

Operational Assessment Process

- 1. Lead Assessment Scientist carries out AOP-approved analysis**
- 2. External Peer Review Panel of SSC members + external Independent Expert**
- 3. Products: (Reviewer's Report) + (Science Report)**
- 4. Management advice:**
 - Assessment report and Panel Report support SSC in making ABC recommendation.**

Operational Stock Assessment Review Committee
Stephen H. Clark Conference Room – Northeast Fisheries Science Center
Woods Hole, Massachusetts
August 5-7, 2019

SARC Chairman:

Dr. Thomas Miller
(MAFMC SSC; U. Maryland)

SARC Panelists:

Mr. J-J Maguire
(NEFMC SSC; Quebec
CAN)

Dr. Kate Siegfried
(NOAA SEFSC, Beaufort)

Dr. Michael Wilberg
(MAFMC SSC; U. Maryland)

A. Black sea bass

B. Scup

C. Bluefish

Operational Stock Assessment TORs (shortened)

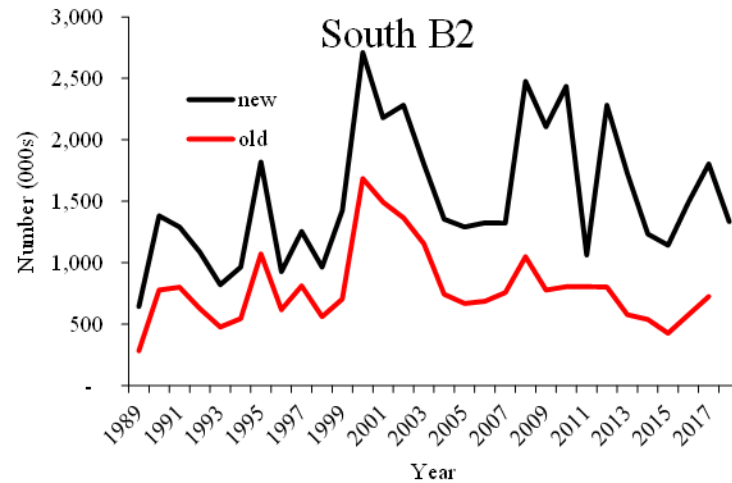
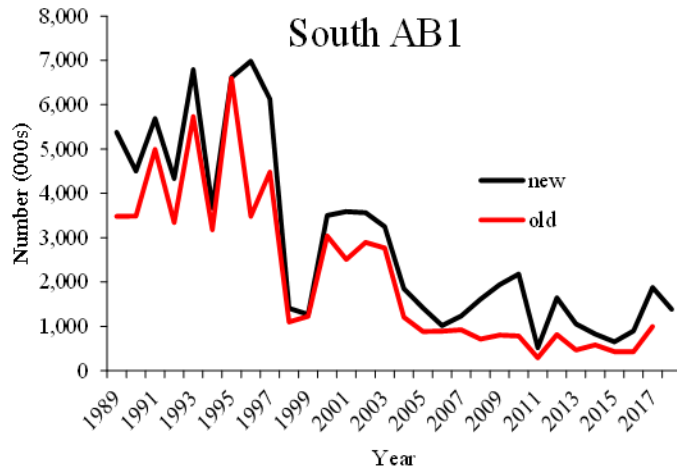
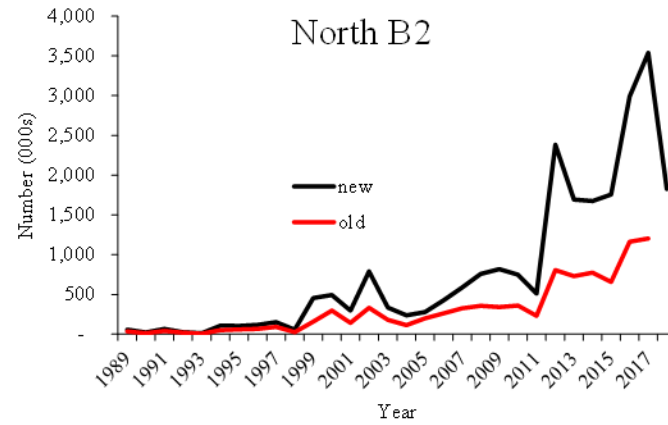
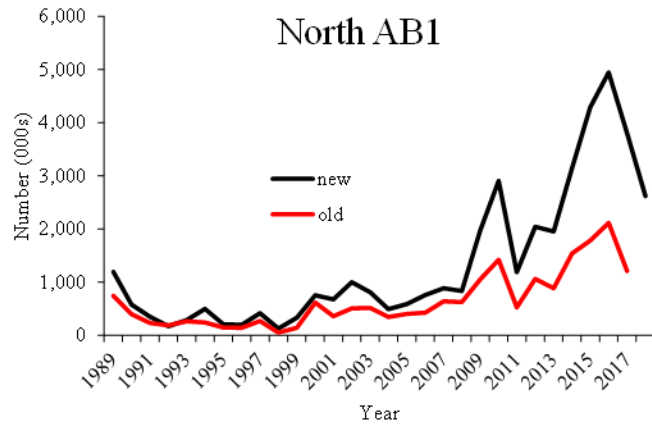
- 1. Describe revised data and any new data sets being used in the stock assessment**
- 2. Estimate F, R, and B. Prepare a Plan “B” in case Plan “A” is rejected.**
- 3. Update the values of biological reference points (BRPs) for this stock.**
- 4. What is the stock status based on BRPs? Include qualitative descriptions of the stock.**
- 5. Perform Population projections and estimate OFL.**
- 6. Comment on research areas or data issues to consider that might lead to improvements**

(A.) Black sea bass

Assessment Lead: Gary Shepherd

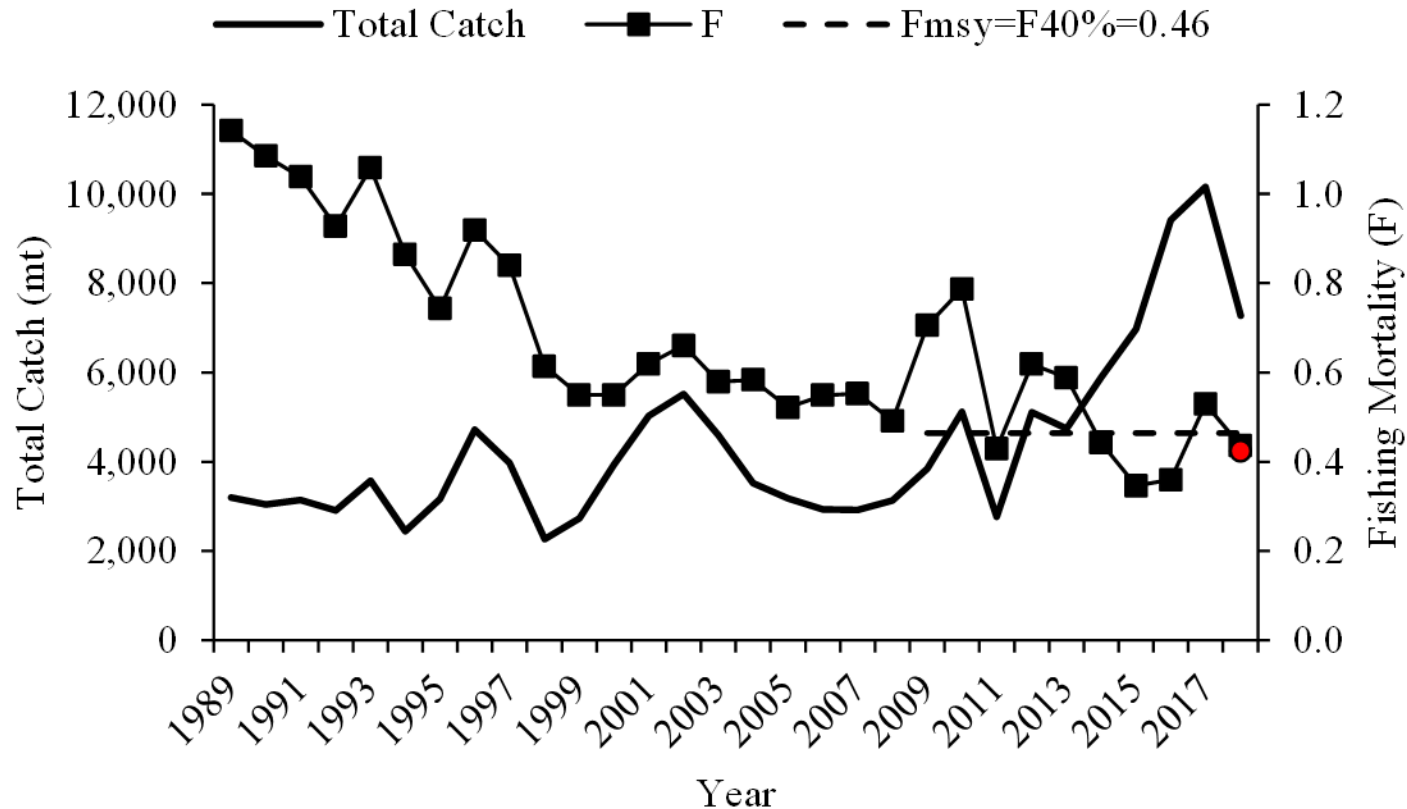
BSB

MRIP Estimates old vs new



**“New” MRIP recreational catch estimates are higher than “old”.
The degree of change is greater in the last 10 years, especially in the North.**

BSB : Total Catch and F (1989-2018)

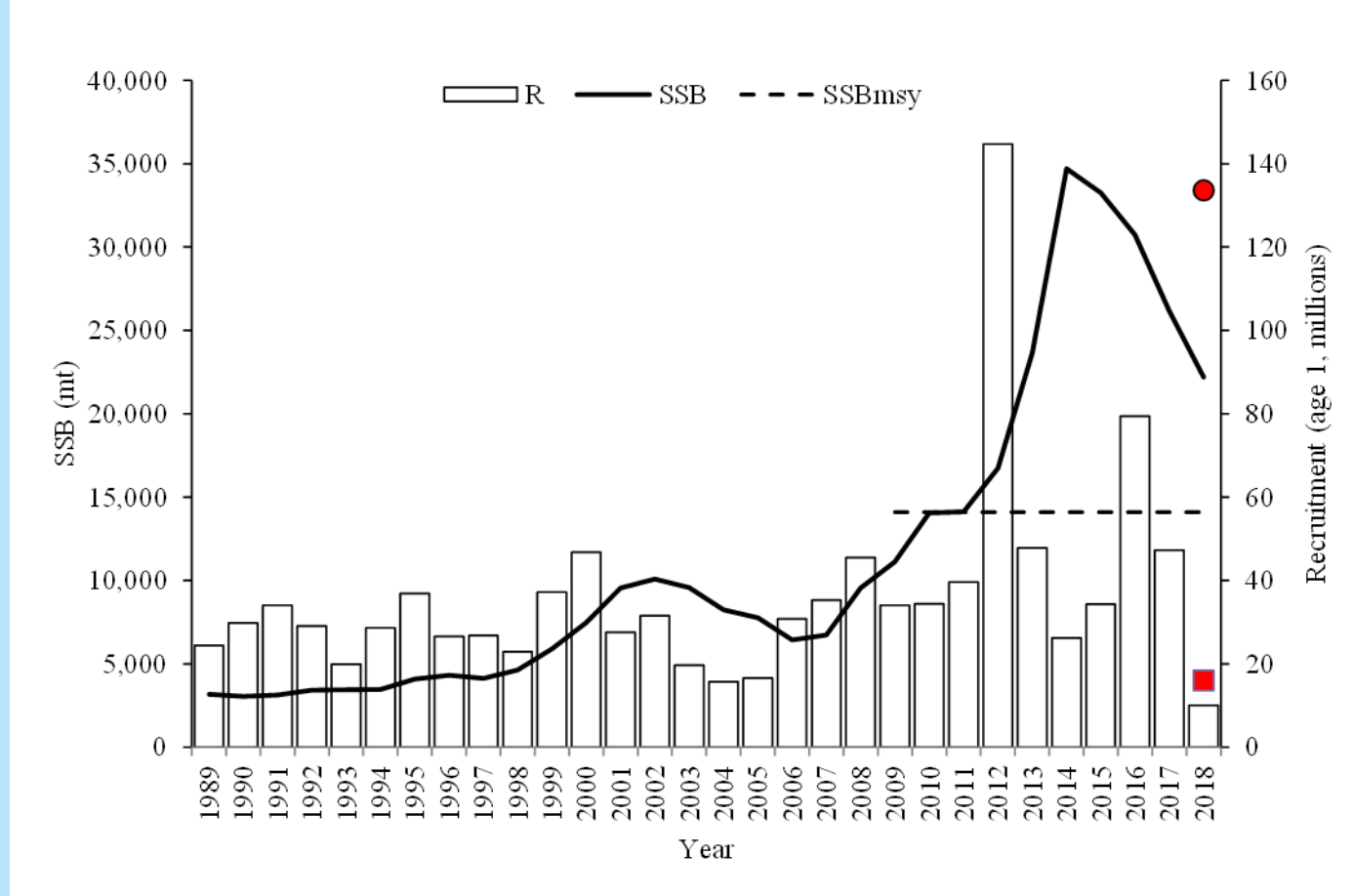


F was high in the 1980s-90s. It is currently below overfishing thresh. (● = Retrospective adjusted $F_{2018} = 0.42$; used)

Annual Catch has approx doubled since 2011.

Recreational fishery accounts for majority (70-80%) of tot catch in last 3 yrs.

BSB : Spawning Biomass and Recruitment (1989-2018)

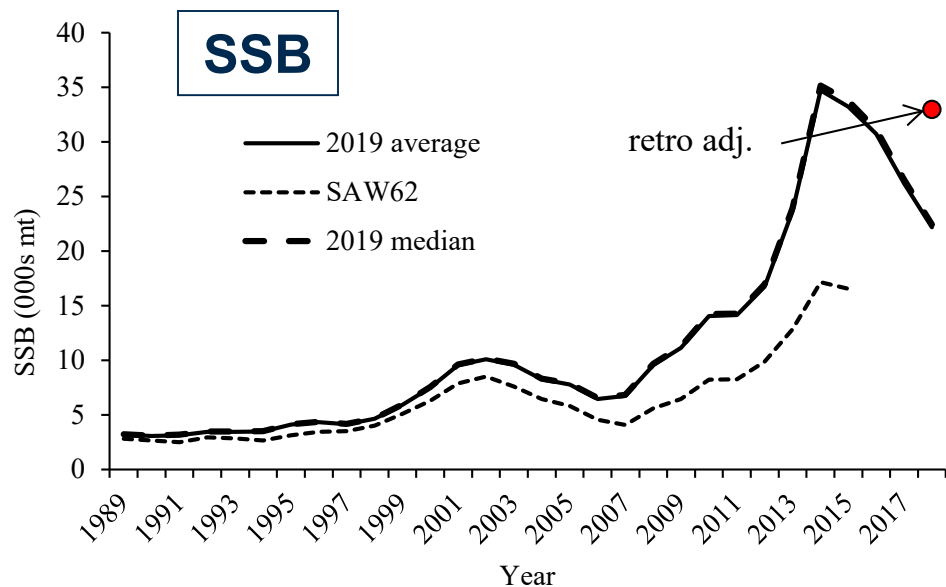
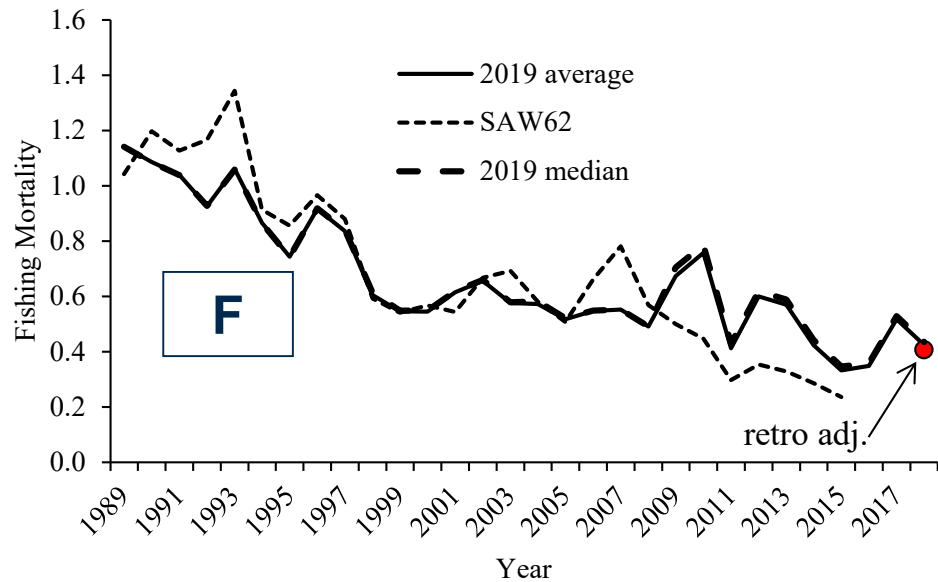


**SSB has increased since 2008. SSB_{2018} well above the SSB target ~ 14 kmt.
 (● = Retrospective adjusted SSB_{2018} ~ 33 kmt ; used)**

R_{2011} YC was largest in time series. R_{2017} YC is well below average.

Black sea bass

Historical Retrospective

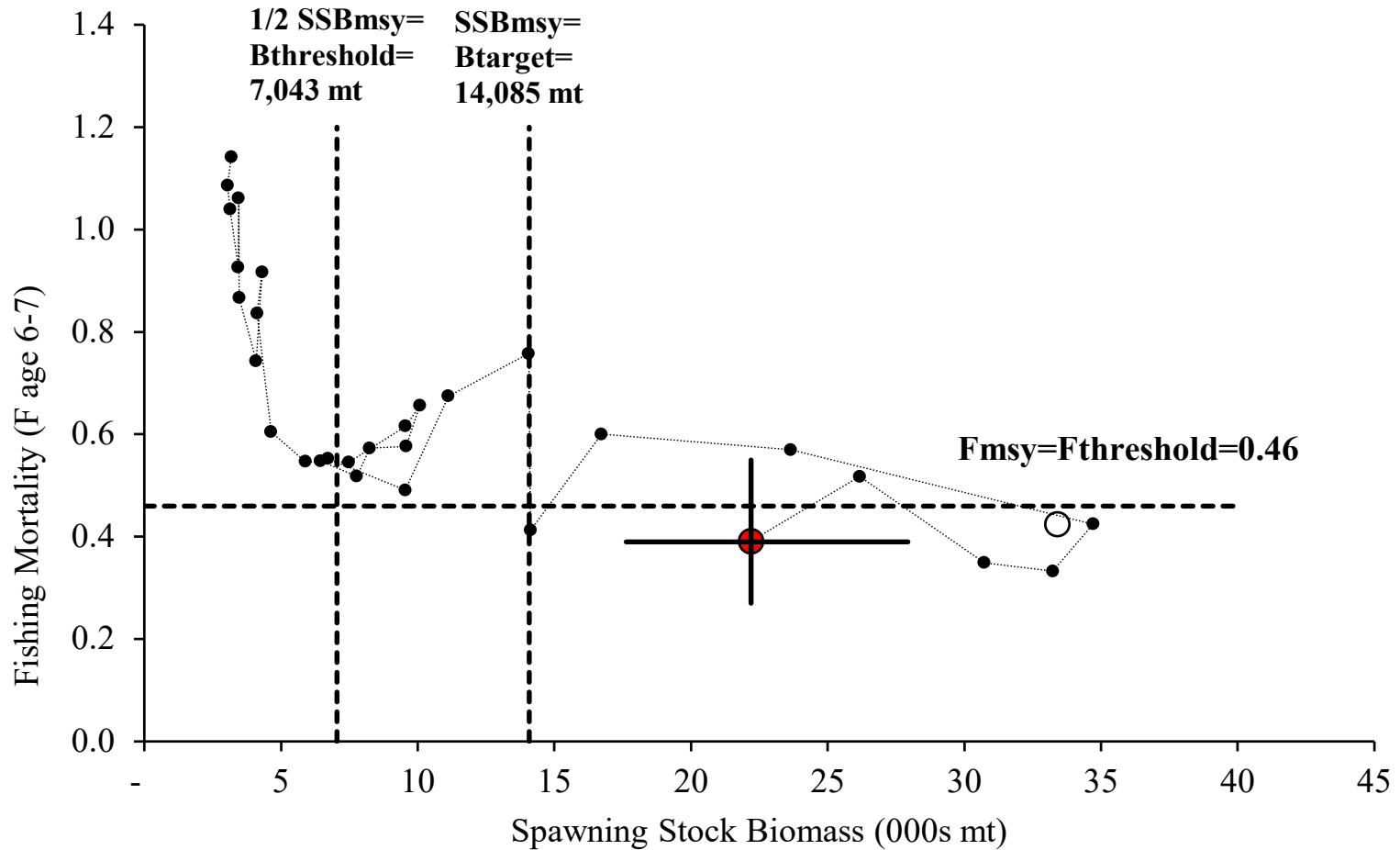


Comparison of results between the 2016 and 2019 assessments.

Both estimated F_t and SSB_t increased.

Primary cause of the changes? New MRIP data.

BSB: Stock Status Plot



Status: Not overfished and not overfishing in 2018.

Note: Open circle shows retro adjusted value (used).

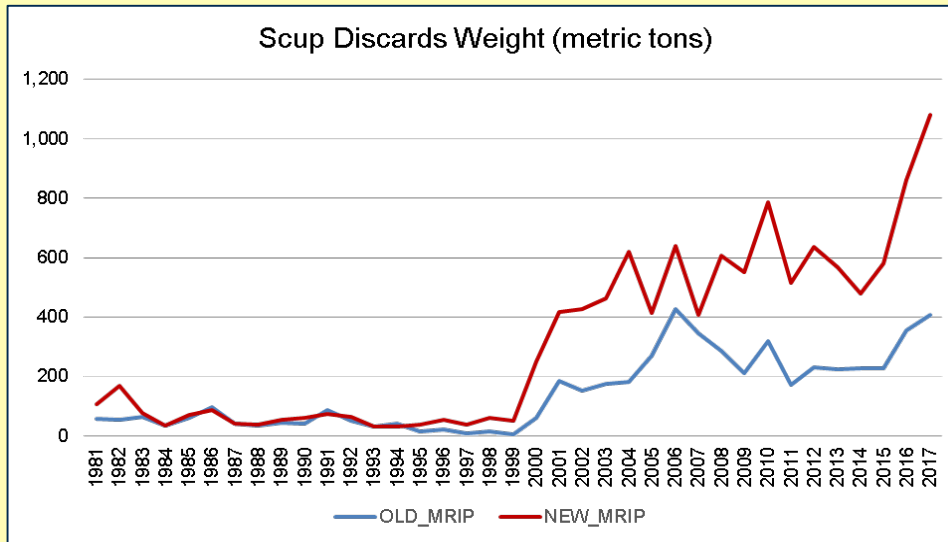
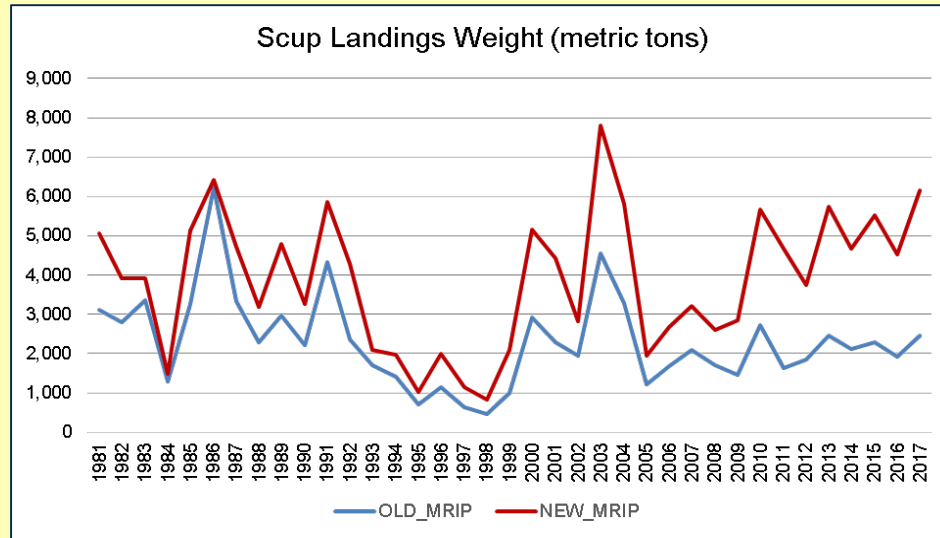
- **Assessment is accepted. Recommended Status: Not overfished, Not overfishing**
- **“Combined” (N and S) model estimates with retrospective corrections are reasonable.**
- **“Combined” projections should be used.**
- **Sources of Uncertainty: 1.)High 2016 MRIP estimate; 2.)Added variance with applying retrospective correction to results; 3.)Approach to derive “combined” assessments and BRPs.**

- **Re-examine criteria for splitting stock into two units**
- **Re-examine which fishery independent indices to include in model**
- **Consider natural mortality (M) used in model, given unusual life history**
- **Explore causes of pattern and magnitude of recruitment**
- **Consider impacts of range shifts/expansion**

(B.) Scup

Assessment Lead: Mark Terceiro

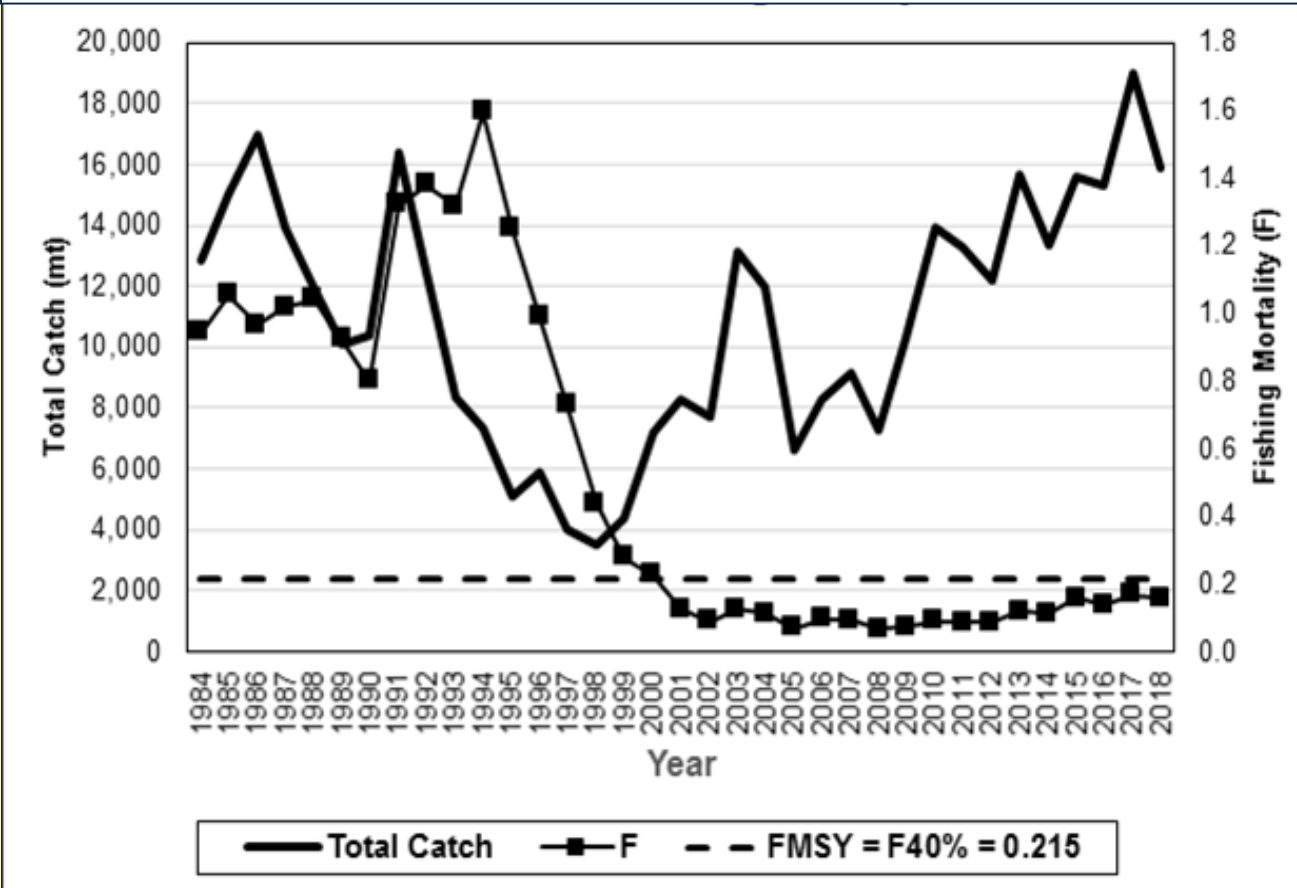
Scup: Recreational Catch, 1981-2017



New MRIP

New MRIP increased estimated Landings (top panel) and Discards (bottom). Greater difference in recent years.

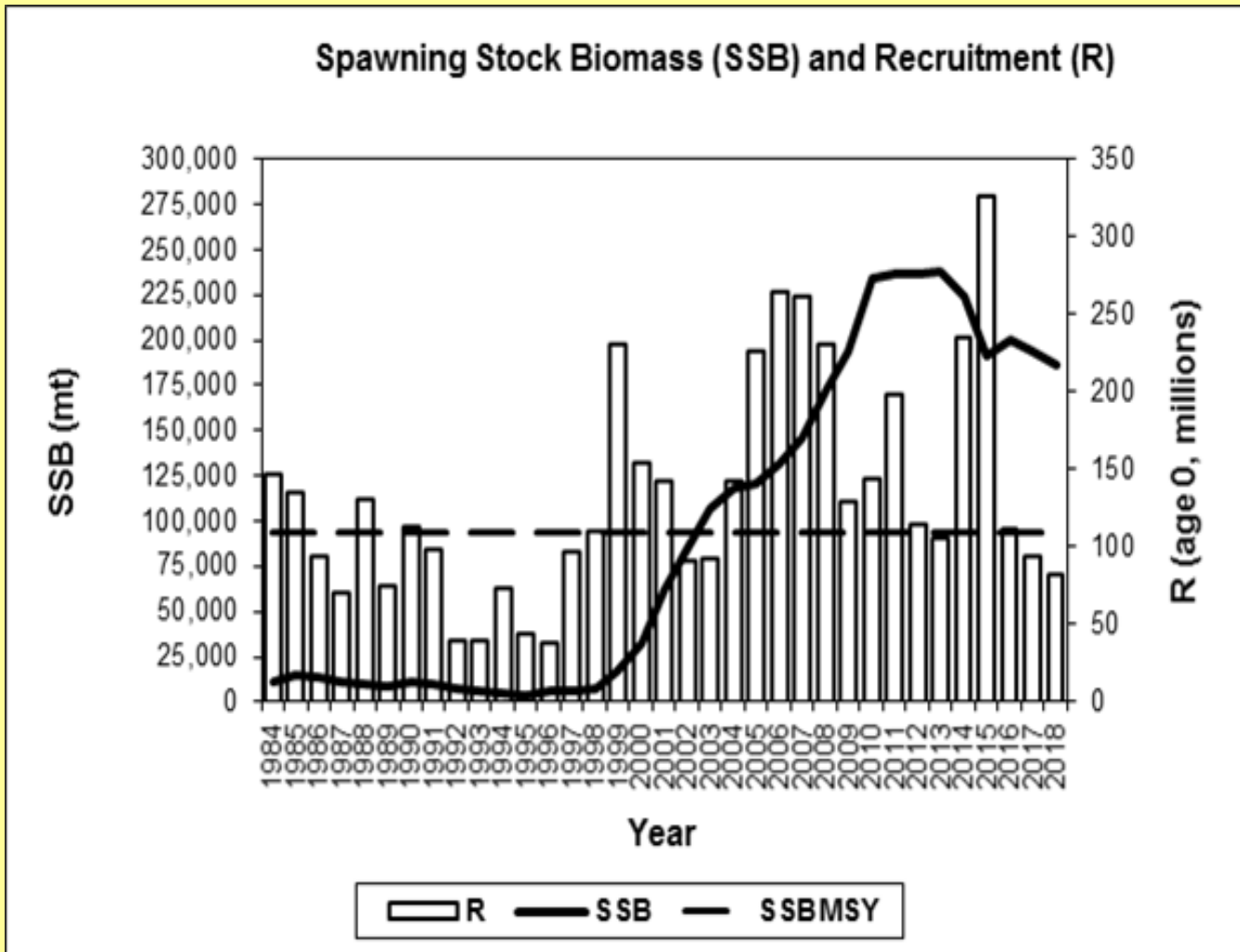
Scup : Catch and F (1984-2018)



F was high in the 1980s-90s. It is currently below overfishing thresh.

Commercial fishery accounts for majority (60-65%) of total catch in last 3 yrs.

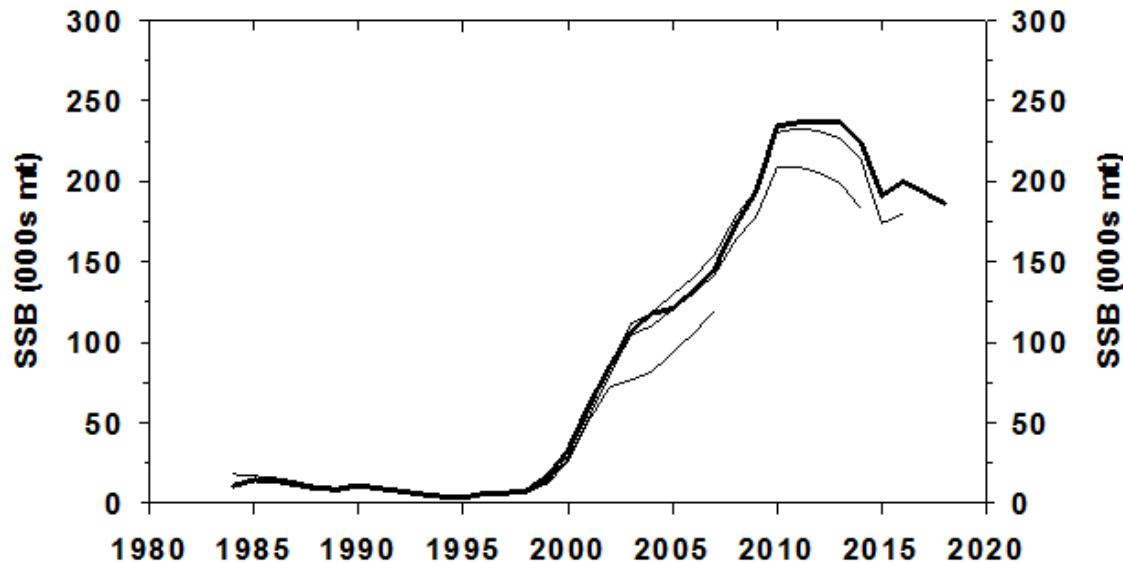
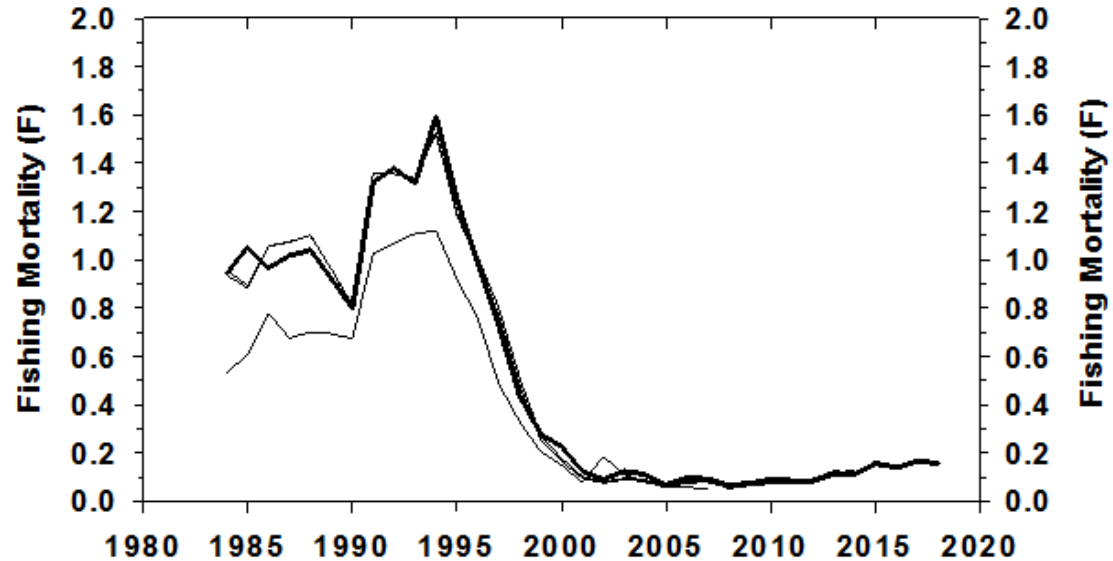
Scup : SSB and Recruitment (1984-2018)



SSB₂₀₁₈ (~187 kmt) is above the SSB target (~ 94 kmt).

Recent Recruitment is below average.

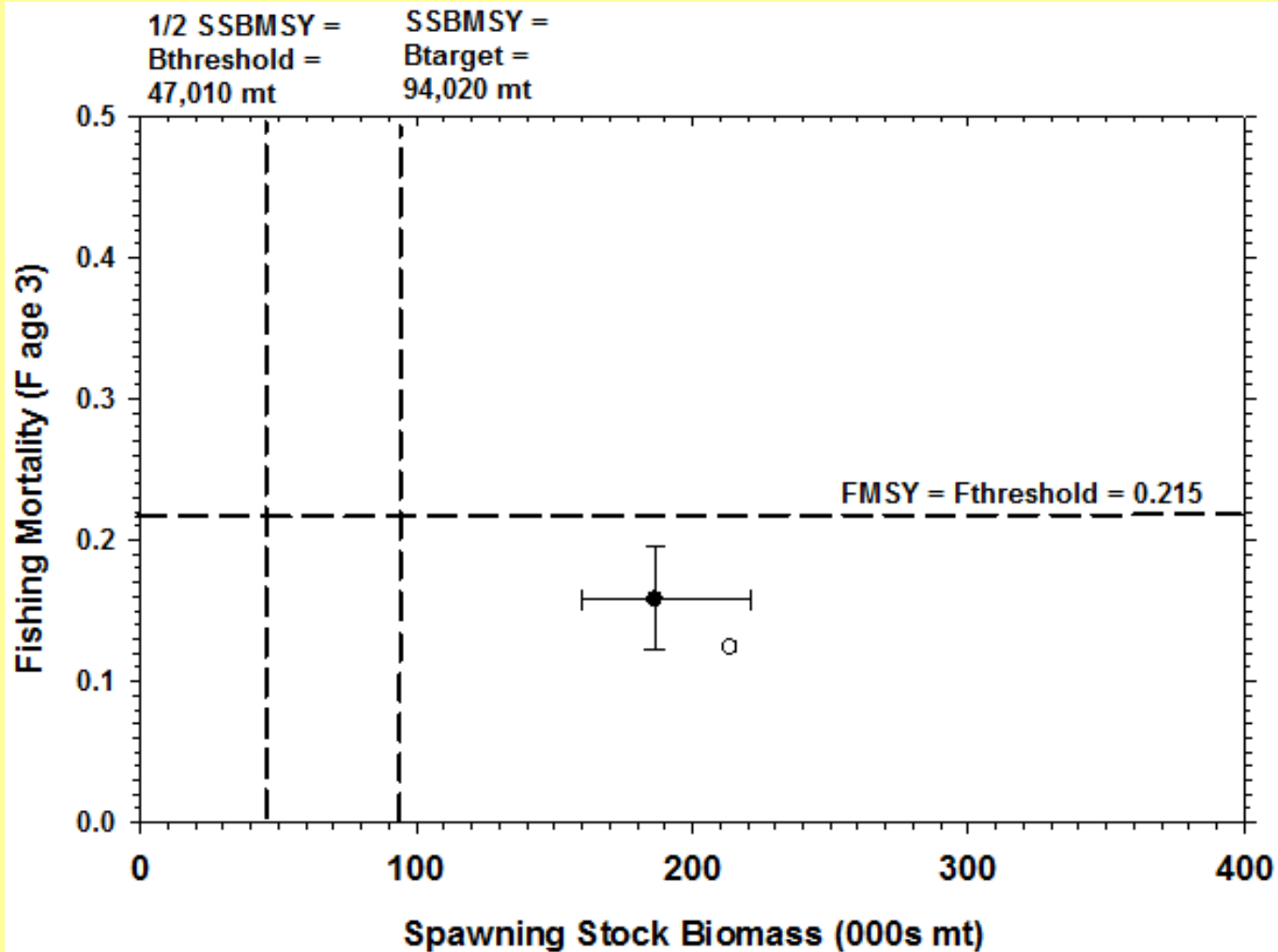
Scup Historical Retrospective 2008-2019 Stock Assessments



**Comparison of
most recent
assessment
results with
earlier
assessments:**

**Trends and
results from
scup stock
assessments
over time have
been
consistent.**

Scup: Stock Status Plot



Status: Not overfished and not overfishing in 2018.

Note: Open circle shows retro adjusted value (not used).

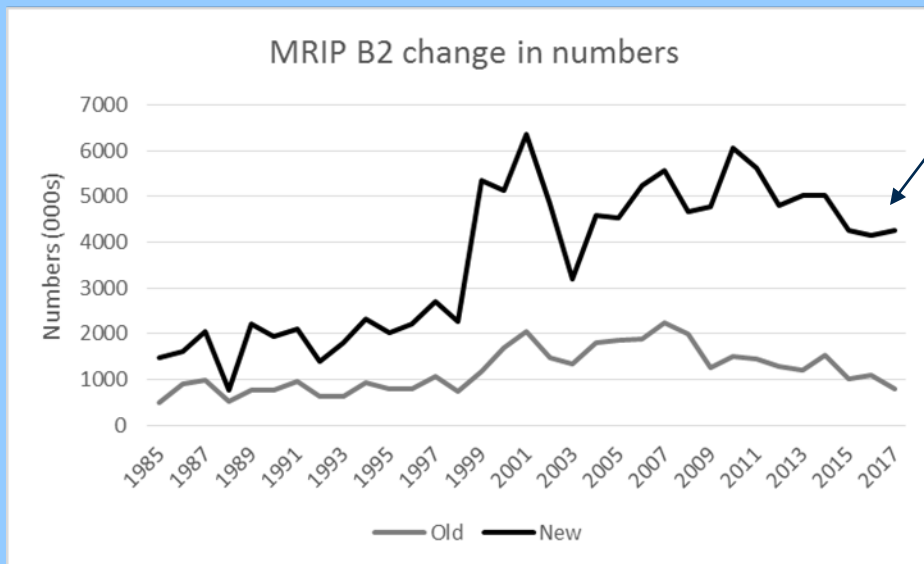
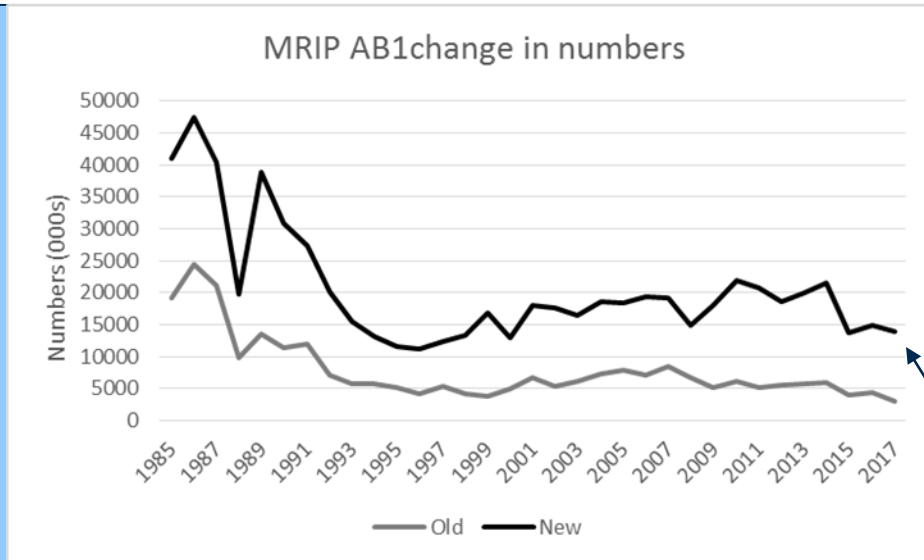
- **Assessment is accepted. Recommended Status: Not overfished, Not overfishing**
- **Model fit with the updated data: v. good.**
- **With new MRIP data, scup removals currently ~60% commercial and 40% recreational**
- **Annual estimates of MRIP-based recreational removals increased in this assess. (especially from 2000 on)**
- **Given that recent recruitments are below average, short-term population projections may be too optimistic (too high).**
- **Sources of Uncertainty: Discard rates may change as 2015 YC exits; Dynamics of older fish less certain, dome exists in fishery selectivity.**

- **Determine whether a new selectivity block in the model is warranted.**
- **Monitor weights at age and age at maturity, which have declined recently.**
- **Consider role of climate in influencing recruitment**

(C.) Bluefish

Assessment Lead: Tony Wood

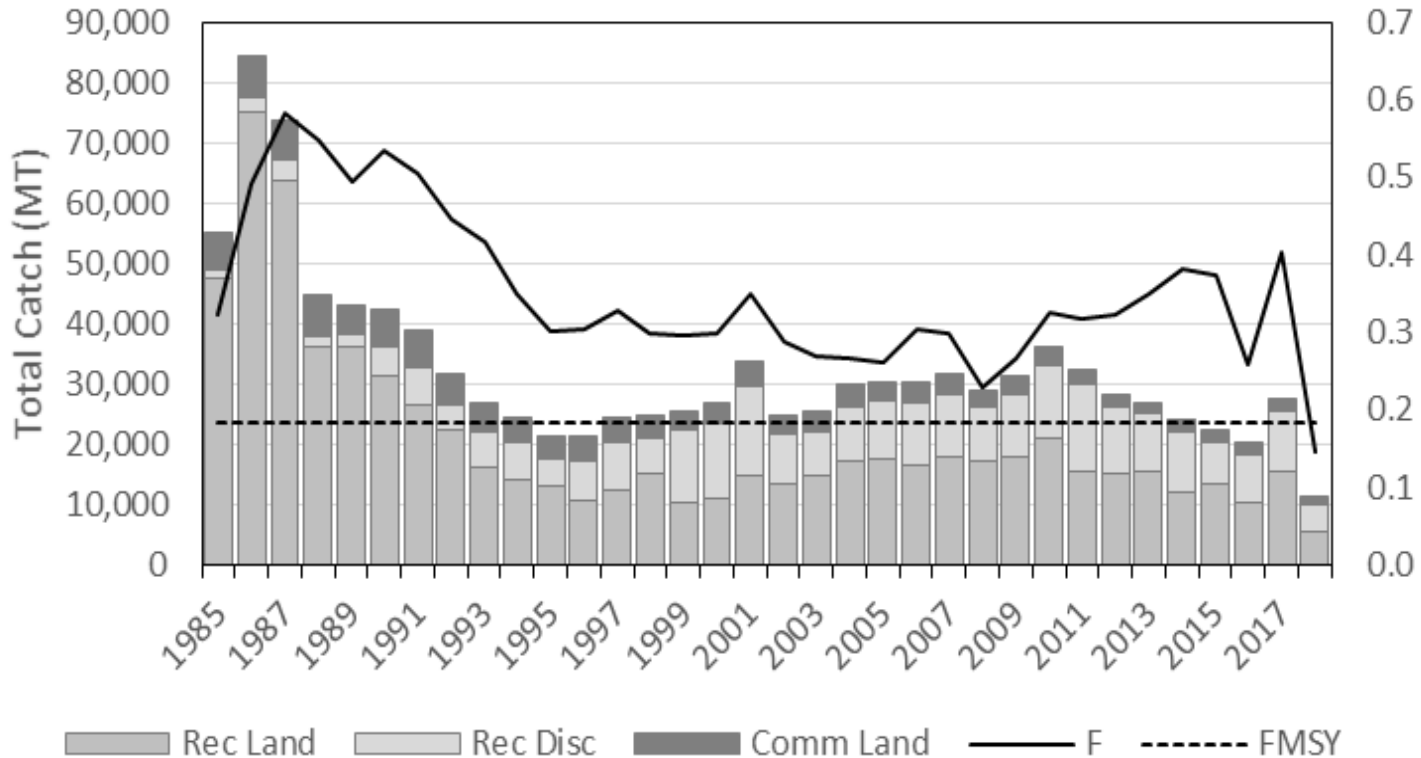
Bluefish : MRIP data changes



New MRIP

New MRIP increased estimated Rec Landings (top panel) and Rec Discards (bottom) from 1980s to present.

Bluefish : Catch and Fishing Mortality (1985-2018)

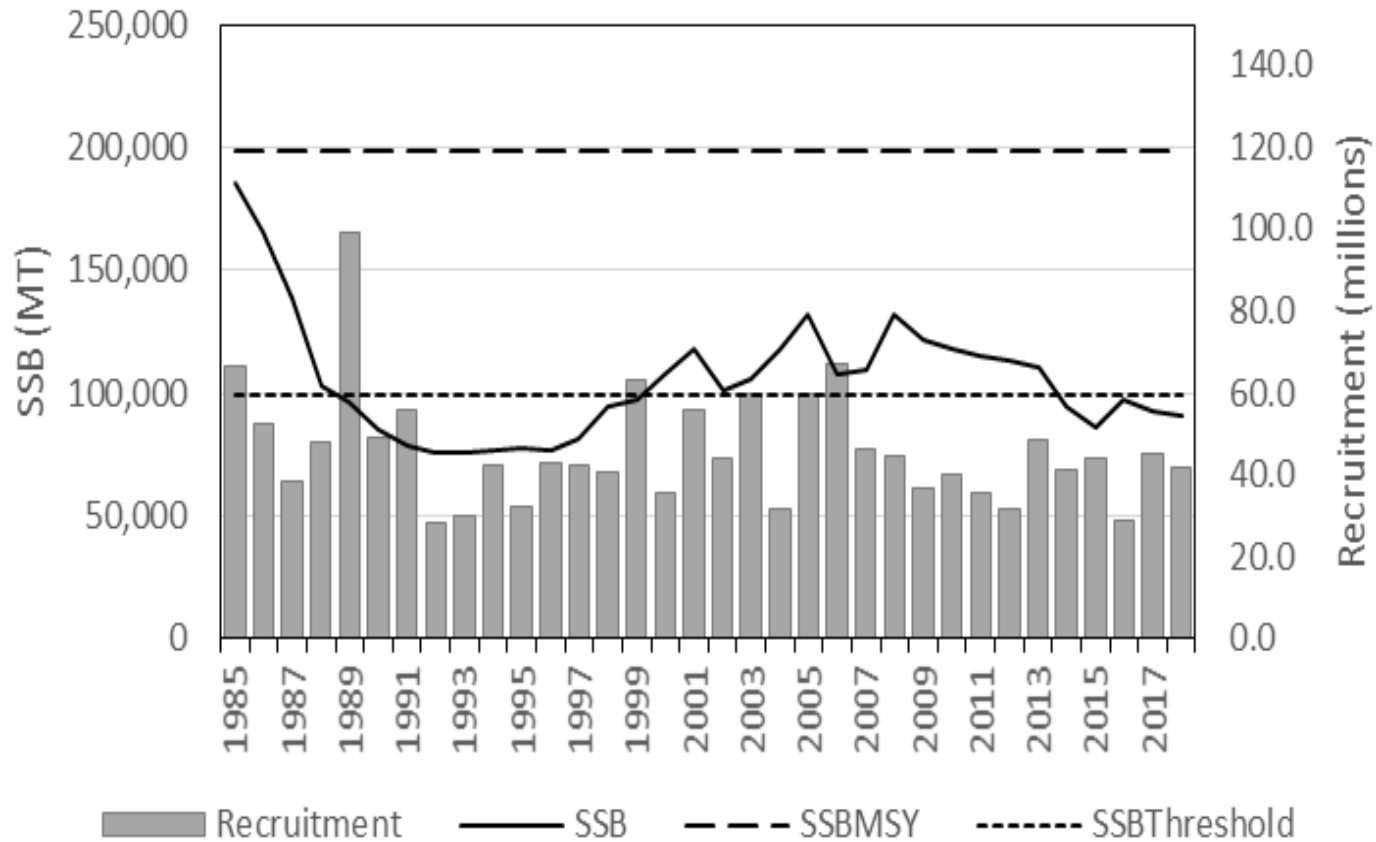


Majority of Bluefish Catch is from recreational fishery (90-95% of total catch in last 3 yrs).

Catch₂₀₁₈ was very low.

F has been increasing since 2008, but then dropped in 2018 (and so Not Overfishing in 2018).

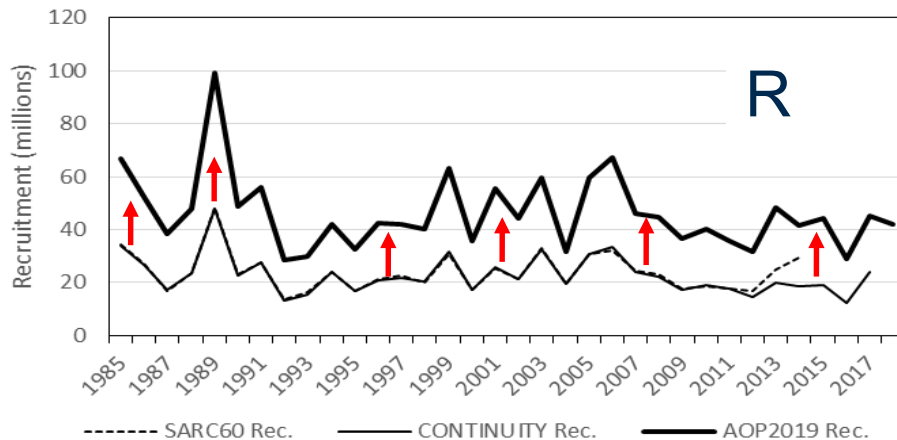
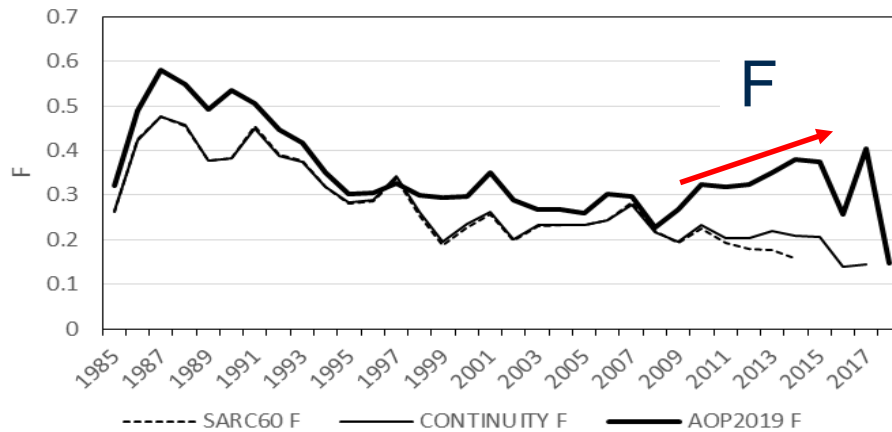
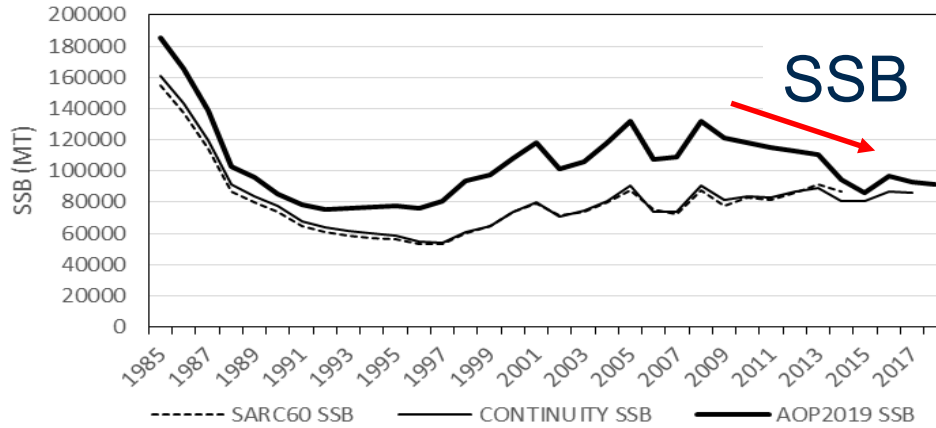
Bluefish : SSB and Recruitment (1985-2018)



**SSB has been declining since 2008,
and is Overfished in 2018.**

**Recent R has been slightly below longterm average,
with no huge year classes recently.**

Bluefish Assessment Historical Restrospective



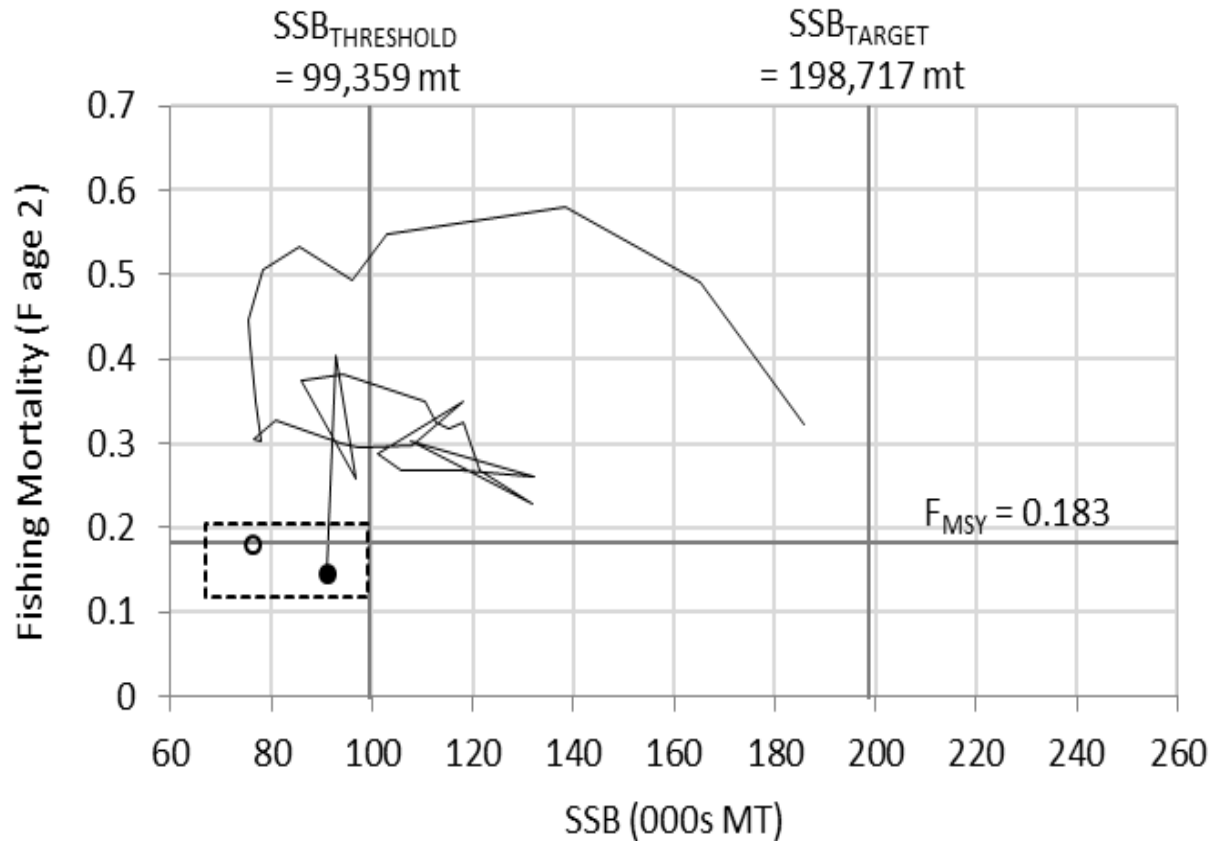
Comparison of newest results with previous stock assessment:

SSB has been in decline since 2008, rather than stable.

F went up 2008-2017, rather than stable.

R increased substantially for the whole time series.

Bluefish: Stock Status Plot



**Status in 2018: Overfished (this is a change), and Not overfishing.
Note: Open circle shows retro adjusted value (not used).**

- **Assessment is accepted. Recommended Status: Overfished (this is a change), Not overfishing**
- **Revised MRIP landings data had different temporal pattern than for other 2 stocks.**
- **Updated assessment indicated higher estimated stock biomass in several years. Associated with higher estimated recreational catch input data.**

- **Results indicated somewhat different trends in fishing mortality rates and biomass from previous benchmark**
- **SSB reference points increased from previous assesment. Main cause: increased scale of population size resulting from the new MRIP estimates**
- **Sources of Uncertainty: 1.)Revised MRIP estimates influenced model results. 2.)Rec landings estimates had a different trend than for other species reviewed.**

- **Examine revised MRIP estimates to explore why their temporal trends differed from that of other stocks.**