

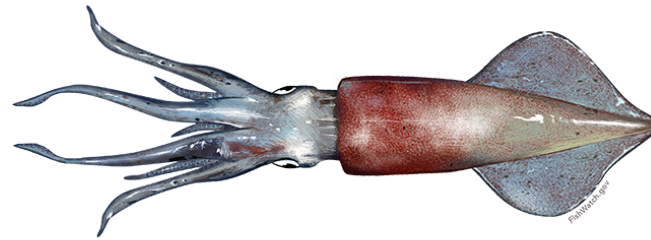
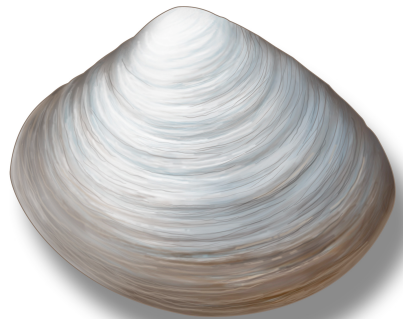
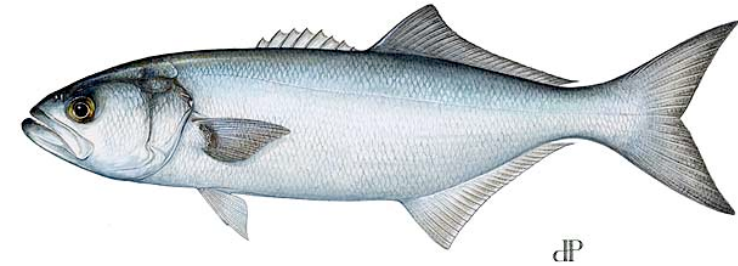
Species Specific Slides for August 2020

MAFMC

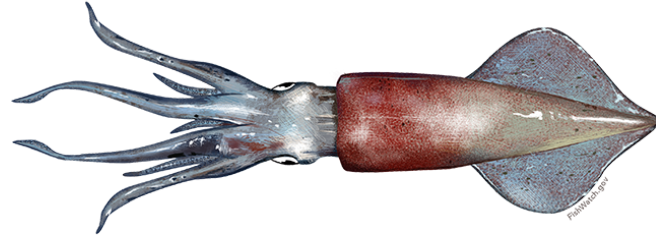
Council Meeting
Webinar

August 10-13, 2020

From Paul Rago, Chair SSC



Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

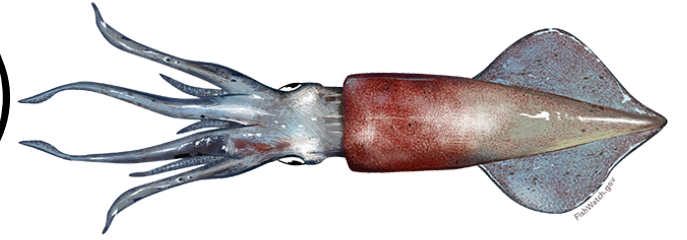


July 2020 SSC Meeting Summary

ABC Recommendations for *Longfin Squid*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid (“likely” not overfished; overfishing status unknown)	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Longfin Squid (OFL not estimable)



- **Highlights**

- Level 3 assessment laid basis for a revised model that acknowledges complex patterns of growth and recruitment between summer and winter periods.
- Possible differences in fisheries supportable by seasonal patterns
- No basis to change previous ABC of **23,400 mt**

- **Uncertainties**

- Differences in productivity in intra-annual cohorts
- Short life span, high M, delays in data acquisition make traditional stock assessments problematic
- Range may not be fully covered in surveys
- Highly variable survey trends

- **Research**

- Improved modeling approach
- Revisions to partitioning of existing data
- Estimate age in spring and fall surveys, investigate egg production, maturation
- Investigate influence of oceanography on trends
- Consider real-time management approaches

- **Based on Best Scientific Information Available**



July 2020 SSC Meeting Summary

ABC Recommendations for *Butterfish*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish (NOT Overfished; Overfishing NOT occurring)	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Butterfish(100% OFL CV)



- **Highlights**

- Data updated but no changes in model parameterization
- Revised model compares well with earlier versions
- SSB and recruitment have declined since 2000
- Model estimates a high natural mortality rate $M=1.29$ (~73% decrease/year)
- Developed OFL CV Decision Table

- **Uncertainties**

- Foundation of F_{msy} proxy is ad hoc
- Conflicting trends among surveys not included in model
- Environmental effects in model dynamics
- No update of thermal habitat availability indices since 2014.
- Inability to forecast observed declining trend in recruitment in projections; preference for time varying ABC rather than average

- **Research**

- Improve methods for estimation of thermal habitat
- Study alternative F_{msy} estimates
- Consider use of additional surveys

- **Based on Best Scientific Information Available**



Bill Overholtz, NEFSC

July 2020 SSC Meeting Summary

ABC Recommendations for *Atlantic Mackerel*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel (Overfished but overfishing <u>unlikely</u> to be occurring based on rebuild schedule)	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49

Atlantic Mackerel (100% OFL CV)



- **Highlights**

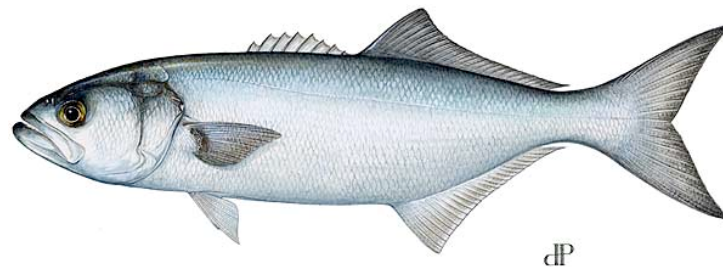
- Assessment update delayed due to availability of data
- Assessment postponed until June 2021; will now synchronize with Canada
- Fishery closed in 2019 due to river herring/shad bycatch cap
- Canadian assessment (March 2019) recommends low catches for northern contingent
- Endorses staff ABC recommendation of **29,184 mt** in 2021 and 2022.

- **Uncertainties**

- MANY—see below

- **Considerations for 2021 Management Track Assessment**

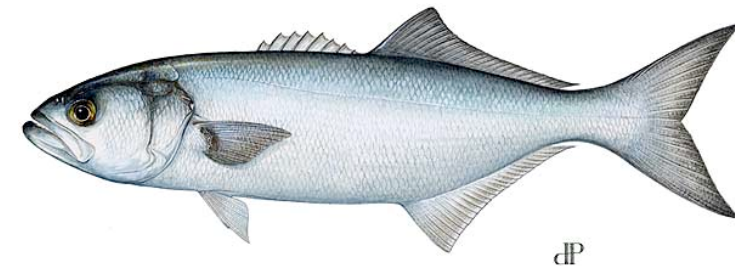
- Recreational landings expected to be high (~39% since 2010)
- Absence of spring survey in 2020 and egg survey data.
- Southern contingent is small (~6.4%) of total stock.
- Concerns expressed about 2015 year class—it drives the rebuilding trajectory
- Unpredictable timing of offshore movements
- Low recent recruitment and low SSB in Canadian egg survey
- Missing catch information from bait and recreational fisheries in Canada



July 2020 SSC Meeting Summary

ABC Recommendations for *Bluefish*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish (Overfished but overfishing not occurring)	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49



Bluefish

- **Background**

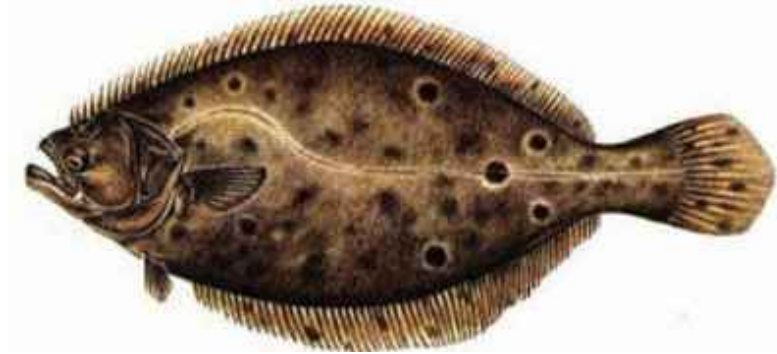
- 2021 is second year of 2-year rebuilding specifications package.
- Stock is overfished but overfishing is not occurring.
- Application of the Council's revised risk policy has minimal effects

- **Concerns/Comments**

- Catches and survey indices have been trending downward over the past decade.
- Covid 19 potentially leading to potential overages in recreational catches in 2020
- Some fishermen have reported abundant Bluefish stock offshore
- High abundance of sandeels generally bodes well for Bluefish stocks

- **Conclusion**

- Council staff recommends no changes from current ABC of **7,385 mt** for 2021.
- **SSC concurs**

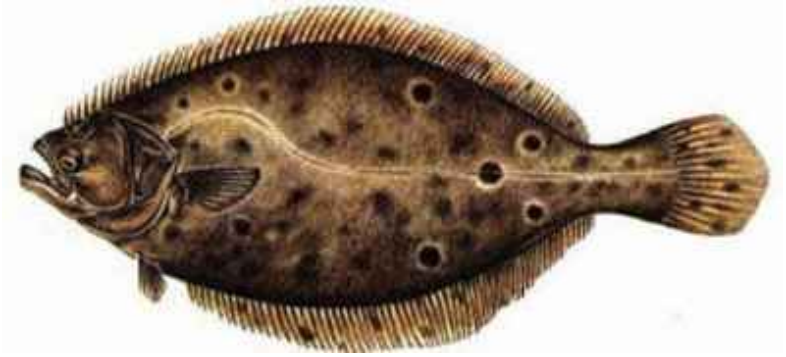


July 2020 SSC Meeting Summary

ABC Recommendations for *Summer Flounder*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder (Not Overfished, Overfishing Not occurring)	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Summer Flounder (60% OFL CV)



- **Highlights**

- Preliminary indications of an above average 2018 year class
- ABC recommendation of **12,297 mt** in 2021
- Change in Council Risk Policy led to 8% increase in ABC over previous 2021 recommendation
- Increasing abundance of males. Previously few males >10yr old. Now up to 19 yr.
- Summer Flounder MSE promising

- **Uncertainties**

- 2018 Year class and potential effects on stock abundance and discards
- Projections are based on most recent seven years of recruitment in 2018 assesment

- **Considerations for 2021 Management Track Assessment**

- Endorse research recommendations from SAW 66 benchmark review
- Verify strength of 2018 year class using a synthesis of various surveys
- Quantify size, magnitude and uncertainty of discards. Discards may increase in 2020 and 2021 if 2018 year class is above average.



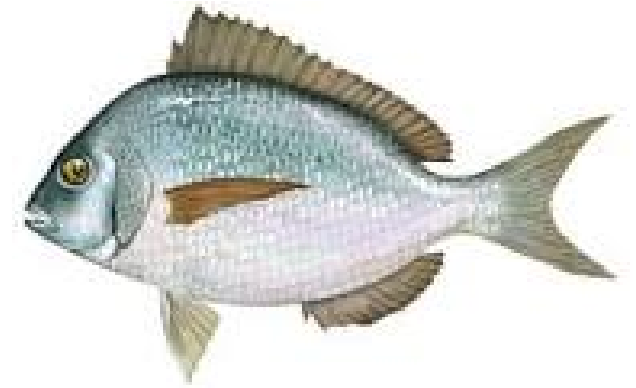
July 2020 SSC Meeting Summary

ABC Recommendations for

Scup

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
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Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup (Not Overfished, Overfishing Not occurring)	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Scup (60% OFL CV)



- **Highlights**

- SSC Recommends ABC=**15,791 mt**, a 13% increase from previous 2021 ABC
- Landings have been stable since 2013
- Removals in 2019 were below ABC; similar pattern expected in 2020
- SSB declining as predicted but still about 60% above Bmsy.

- **Uncertainties**

- Recruitments for 2016-2018 appear to be below average but no trend
- Fishery independent indices for ages 4+ are less reliable

- **Considerations for 2021 Management Track Assessment**

- Revisions to 2006-2018 selectivity may be warranted
- Improve discard estimates and discard mortality
- If low recruitment persists, consider change to basis for projections
- Continue investigations on influence of availability on fishery independent indices



July 2020 SSC Meeting Summary

ABC Recommendations for *Black Sea Bass*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
Longfin Squid	Level 3 Management Track	NA	23,400	NA
Atlantic Mackerel	Data Update	100	29,184	0.386
Bluefish	Data Update	100	7,385	0.183
Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass (Not Overfished, Overfishing Not occurring)	Data Update	100	7,916	0.49

Black Sea Bass (100% OFL CV)



- **Highlights**

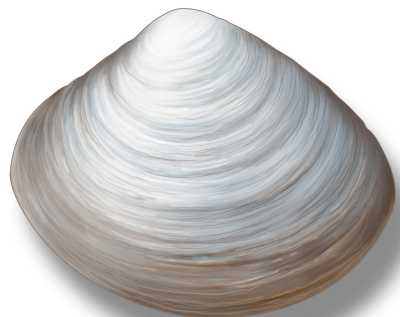
- SSC Recommends ABC= 7,916 mt an increase of 15.8% over previous 2021 ABC
- With Pstar of 0.49 the chances of overfishing occurring will be higher if ABC is exceeded.
- Partial information from 2020 Spring survey suggests slightly higher index

- **Uncertainties**

- 2018 Year class may be above average
- Effects of catches exceeding ABCs in multi-year projections

- **Considerations for 2021 Management Track Assessment**

- Base multi-year projections on realized catch rather than ABCs
- Forecast implications of strong year classes on projected discards
- New information on discard mortality rates may be useful in 2021 assessment



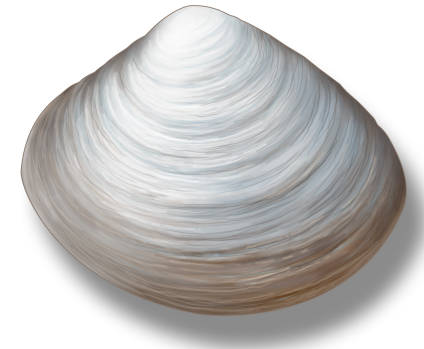
July 2020 SSC Meeting Summary

ABC Recommendations for

Surfclam

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam (Not Overfished, Overfishing Not occurring)	Level 3 Management Track	100	47,919	0.47
Ocean Quahog	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
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Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Atlantic Surfclam (100% OFL CV)



- **Highlights**

- Model was revised to combine areas using same approach as ocean quahog
- Revised survey design using industry based survey.
- Abundance is high, F is low. Greater certainty in scale due to increase in F in north.
- Developed OFL CV Decision Table

- **Uncertainties**

- Changes to scale suggest lower densities on Georges Bank than thought earlier
- Changing ecosystem
- Some suggestions of domed selectivity

- **Research**

- Link OFL with reproductive potential
- Examine recovery in previously fished areas, appropriate spatial scales
- Investigate methods for estimating natural mortality
- Examine recruitment dynamics

- **Based on Best Scientific Information Available**



July 2020 SSC Meeting Summary

ABC Recommendations for *Ocean Quahog*

Species	Process	OFL CV (%)	2021 ABC (mt)	P star = P(overfishing)
Surfclam	Level 3 Management Track	100	47,919	0.47
Ocean Quahog (Not Overfished, Overfishing Not occurring)	Level 1 Management Track	100	44,031	0.49
Butterfish	Level 2 Management Track	100	11,993 (time varying)	0.35
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Summer Flounder	Data Update	60	12,297	0.39
Scup	Data Update	60	15,791	0.49
Black Sea Bass	Data Update	100	7,916	0.49

Ocean Quahog (100% OFL CV)



- **Highlights**

- Benchmark in 2019, no new survey data.
- Revised survey design using industry based survey, but nearly equivalent results in south
- Abundance is high, F is low → little to no chance of becoming overfished in next 6 years
- Developed OFL CV Decision Table

- **Uncertainties**

- Changes to scale suggest lower densities on Georges Bank (31% less) than thought earlier
- Changing ecosystem
- Long lifespan and by comparison—short period of fishing and research
- Low fishing mortality and lack of contrast in model → reliance on catchability experiments

- **Research**

- Improve biological parameters, especially age composition, natural mortality, growth
- Examine recruitment dynamics and spatial processes
- Better understanding of survey dredge efficiency

- **Based on Best Scientific Information Available**