Black Sea Bass

SSC Meeting
July 17, 2018
Outline

- Stock status
- Fishery performance
- AP comments
- Review 2019 ABC
Stock Status

- Last benchmark stock assessment: 2016 benchmark (SAW/SARC 62)
  - Successful addressing prior assessment concerns and uncertainties
  - Modeled as two separate sub-units (North and South) divided at approximately Hudson Canyon
  - Data through 2015
Fishing Mortality

- Avg F (ages 4-7)
- F 40% (Fmsy proxy)
- Retro Adj F
SSB, Recruitment

- Recruitment
- SSB
- SSB Target (SSBmsy proxy)
- SSB Threshold (1/2 SSBmsy proxy)
- Retro Adj SSB

Recruitment (millions of age 1 fish)
SSB (mil lb)


Recruitment (millions of age 1 fish)
2018 Data Update

- 2011 year class remains dominant in fisheries and surveys in N region
- 2015 year class appears above avg in many N & S surveys and fishery discards
- 2017 com. landings highest since at least 1982 (1,761 mt/3.88 mil lb)
- Most com. landings from stat areas off NY-DE. Most com. discards from S region
- Most rec. landings, discards occurred in N
2018 Commercial Landings

Black Sea Bass Quota Monitoring Report

Cumulative Landings (Pounds)

- 3,967,460
- 3,173,968
- 2,380,476
- 1,586,984
- 793,492
- 0

Date

- 01 JAN 2018
- 01 MAR 2018
- 01 MAY 2018
- 01 JUL 2018
- 01 SEP 2018
- 01 NOV 2018
- 01 JAN 2019

Graph Legend:
- Prior Year's Landings (Pounds)
- Quota Remaining (Pounds)
- Current Year's Landings (Pounds)
Length (cm) frequency of 2017 commercial landings by gear category.
Age composition of 2017 commercial landings
2017 commercial discards (mortalities) by gear type and region

### 2017 Source NEGEAR MT

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Gear Type</th>
<th>MT</th>
</tr>
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<tbody>
<tr>
<td>NORTH</td>
<td>OBS</td>
<td>Otter trawl</td>
<td>224.1</td>
</tr>
<tr>
<td></td>
<td>VTR</td>
<td>Handline</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>VTR</td>
<td>Fish pots</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>VTR</td>
<td>Other pots</td>
<td>1.4</td>
</tr>
<tr>
<td>SOUTH</td>
<td>OBS</td>
<td>Otter trawl</td>
<td>560.1</td>
</tr>
<tr>
<td></td>
<td>OBS</td>
<td>Gillnet</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>VTR</td>
<td>Handline</td>
<td>0.3</td>
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<tr>
<td></td>
<td>VTR</td>
<td>Fish pots</td>
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</tr>
<tr>
<td></td>
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<td>Other pots</td>
<td>0.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>805.9</td>
</tr>
</tbody>
</table>

Year:
- 1989
- 1990
- 1991
- 1992
- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017

Metric tons
0 100 200 300 400 500 600 700 800 900

Year

1989-2017

Commercial discards (mortalities) 1989-2017
Recent increases in observer coverage for pot fisheries allows alternative estimates of discards than VTRs

<table>
<thead>
<tr>
<th>Source</th>
<th>NEGEAR</th>
<th>MT</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Gillnet</td>
<td>5.8</td>
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<tr>
<td>VTR</td>
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<td>0.3</td>
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<tr>
<td>OBS</td>
<td>Fish pots</td>
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<tr>
<td>OBS</td>
<td>Other pots</td>
<td>110.2</td>
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<td>TOTAL</td>
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<td>1513.1</td>
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2017 recreational catch length frequencies by region

Total AB1 Harvest

Total B2 Catch
2017 recreational catch age frequencies by region

2017 Rec Landings (AB1)

2017 Rec Discards (B2)
<table>
<thead>
<tr>
<th>Year</th>
<th>Quota (mil lb)</th>
<th>Landings (mil lb)</th>
<th>% of quota landed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2.17</td>
<td>2.26</td>
<td>104%</td>
</tr>
<tr>
<td>2014</td>
<td>2.17</td>
<td>2.18</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>2.21</td>
<td>2.29</td>
<td>104%</td>
</tr>
<tr>
<td>2016</td>
<td>2.71</td>
<td>2.59</td>
<td>96%</td>
</tr>
<tr>
<td>2017</td>
<td>4.12</td>
<td>3.99</td>
<td>97%</td>
</tr>
<tr>
<td>2018</td>
<td>3.52</td>
<td>--</td>
<td>--</td>
</tr>
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</table>
## RHLs & Rec. Harvest

<table>
<thead>
<tr>
<th>Year</th>
<th>RHL (millions of lb)</th>
<th>Harvest (millions of lb)</th>
<th>% of RHL harvested</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2.26</td>
<td>2.46</td>
<td>109%</td>
</tr>
<tr>
<td>2014</td>
<td>2.26</td>
<td>3.60</td>
<td>159%</td>
</tr>
<tr>
<td>2015</td>
<td>2.33</td>
<td>3.79</td>
<td>163%</td>
</tr>
<tr>
<td>2016</td>
<td>2.82</td>
<td>5.19</td>
<td>184%</td>
</tr>
<tr>
<td>2017</td>
<td>4.29</td>
<td>3.93</td>
<td>92%</td>
</tr>
<tr>
<td>2018</td>
<td>3.66</td>
<td>--</td>
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</table>
Recreational Harvest by State

ME  NH  MA  RI  CT  NY  NJ  DE  MD  VA  NC

AP Comments

- MRI P data inaccurate, should be replaced with reporting via smart phone app
- Predictability, stability in regulations needed
- Concerns about trawl survey data
- RSA should be used to fund research
- Research should be done on hook sizes, gear configurations to reduce discard mortality
- Council and Board don’t listen to AP input
AP Comments

- BSB range has expanded – negative impacts lobster, clam, and other fisheries
- Catch limits should be increased to address these negative impacts
- Abundance is cyclical
- Winters and springs are colder – seasonal patterns of landings have changed
- Research recommendation – why are BSB moving into new areas?
AP Comments

- Council should modify risk policy to allow more harvest, given biomass >2x target.
- Frustration that ABC is declining from 2018-2019 even though biomass is >2x target and 2015 year class is above avg.
AP Comments

- Bottom trawls tend to catch bigger fish and have accounted for a greater proportion of landings over time.
- Dealers pay more per pound for bigger fish – shift towards trawl gear may have impacted overage avg price.
- Markets are generally stable but mid-year change in 2017 quota flooded the market and caused prices to drop.
AP Comments

- Frustration with current restrictive recreational management measures
- High discard rate is troubling
- Challenges with managing in lb vs #s
  - With increasing min. size limits anglers can keep fewer fish
  - RHL more easily exceeded
  - Higher discards
AP Comments

- Should consider different bag limits for private and for-hire.
- Southern states don’t have the same diversity of rec. species as northern states – BSB very important for VA.
- Non-compliance is an issue in some areas.
- High rec. catches suggest stock is bigger than we think.
AP Comments (Email)

- Issues with varied regulations by state
- Consider requiring venting
- Consider male-only rec. fishery
- Research on survival at different depths
Projections from 2016 benchmark assessment

- OFL projections assumed:
  - ABC would be caught in 2016
  - F in 2016 & 2017 = F_{MSY}

SSC modified OFL CV = 60%

Risk policy – typical life history ($p^* = 40\%$)
<table>
<thead>
<tr>
<th>Year</th>
<th>OFL</th>
<th>ABC</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>mil lb</td>
<td>mt</td>
</tr>
<tr>
<td>2017</td>
<td>12.05</td>
<td>5,467</td>
</tr>
<tr>
<td>2018</td>
<td>10.29</td>
<td>4,669</td>
</tr>
<tr>
<td>2019</td>
<td>9.18</td>
<td>4,163</td>
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2019 Specifications

- In 2017, Council and ASMFC decided to postpone adoption of 2019 specifications
  - Signs of large 2015 year class
  - Potential for assessment update prior to 2019
- Operational assessment update currently planned for early 2019
- May revise 2019 specs mid-year
**Survey Indices**

**NEFSC** spring north offshore stratified mean number per tow (± 90% CI) of Black Sea Bass, 1968-2018.

NEFSC Black Sea Bass spring indices at age from northern region.

NEFSC spring indices at age 1 from northern region, 1984 – 2018.
Survey Indices

**NEFSC spring south offshore stratified mean number per tow (± 90% CI) of Black Sea Bass, 1968-2018.**

NEFSC Black Sea Bass spring indices at age from southern region.

**NEFSC spring indices at age 1 from southern region, 1984 – 2018.**
**Survey Indices**

**NEAMAP** spring Northern stratified mean number per tow (± 90% CI) of Black Sea Bass, 2008-2017.

NEAMAP Black Sea Bass. 2017 spring Northern stratified mean number per tow at age 1

NEAMAP Black Sea Bass. 2017 spring Northern stratified mean number per tow at age
**Survey Indices**

**NEAMAP spring Southern stratified mean number per tow (± 90% CI) of Black Sea Bass, 2008-2017.**

**NEAMAP** Black Sea Bass. 2017 spring Southern stratified mean number per tow at age 1.
**Survey Indices**

**MA DMF Black Sea Bass**

Spring stratified mean number per tow (± 90% CI), 1989-2017.

**MA Spring Black Sea Bass Trawl Survey Index**

**MA DMF Black Sea Bass**

2017 spring stratified mean number per tow at age 1

**MA DMF Black Sea Bass**

2017 spring stratified mean number per tow at age 1

**MA DMF Black Sea Bass Age 1 index**

**MA DMF Black Sea Bass**

2017 spring stratified mean number per tow at age 1
Survey Indices

RI DEM Black Sea Bass spring stratified mean number per tow (± 90% CI), 1989-2017.

RI DEM Black Sea Bass. 2017 spring stratified mean number per tow at age 1
Survey Indices

**CT DEP** spring Black Sea Bass stratified mean number per tow (nominal index), 1984-2017.

CT LIS 2017

**CT DEP** Black Sea Bass 2017 spring stratified mean number per tow at age
NY DEC spring Black Sea Bass stratified mean number per tow at age 1, 1990-2017.
**Survey Indices**

**NJ DEP Black Sea Bass**
spring stratified mean number per tow (± 90% CI), 1989-2017.

**NJ BSB Survey Index**

**NJ DEP** Black Sea Bass 2017
spring stratified mean number per tow at age

**NJ DEP Black Sea Bass 2017**
spring stratified mean number per tow at age
Survey Indices

**DE DFW** Black Sea Bass spring stratified mean number per tow (± 90% CI), 1978 - 2017.
MD DNR Black Sea Bass spring stratified mean number per tow at age 1, 1989-2017.
**VIMS** Black Sea Bass spring stratified mean number per tow at age 1, 1989-2017.
MRIP recreational catch (AB1B2) per angler for northern and southern regions, 1981-2017. Effort based on catch per angler trip within a regional guild of species.
Thanks to the following for providing information:
Tiffany Vidal Cunningham MA DMF
Jason MacNamee RI DEM
Greg Wojick CT DEP
John Maniscalco NY DEC
Jeff Brust – NJ DEP
Rich Wong – DE DEM
Steve Doctor MD DNR
Sydney Alhale - VMRC
Chris Bonzek VIMS
James Gartland VIMS
Joshua Dayton (age data) – NEFSC
Alicia Miller – NEFSC Survey maps

And of course all the fishermen providing catch information