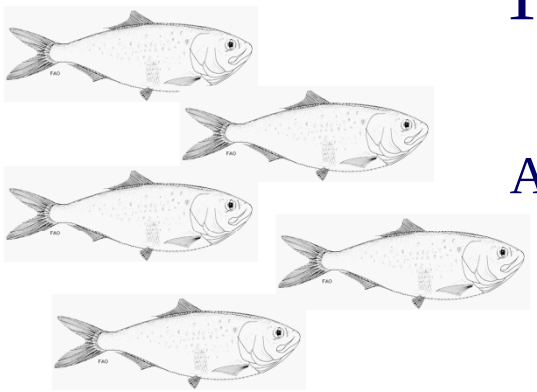
Working towards healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by 2015

Atlantic Menhaden
Technical Committee Report



Atlantic Menhaden Management Board

February 2013

Overview

- Stock status update relative to new SSB reference point
- Funding request to recover data for use in 2014 stock assessment
- Update on development of fixed gear index criteria

Stock status

- Addendum 5
  - F reference point changed to MSP-based target and threshold
  - SSB remained in terms of median recruitment

- Amendment 2
  - Resolved inconsistency
  - SSB reference points now MSP-based

- TC evaluated stock status relative to new SSB reference points using results of 2012 stock assessment

Stock status continued

- Different results depending on shape of selectivity curve
  - Flat topped → overfished
  - Dome shaped → not overfished
- Too much uncertainty regarding shape of selectivity to make determination
- Selectivity curve will be evaluated in detail during 2014 assessment

Stock status continued

- TC stock status determination
- Overfishing is occurring
- Overfished status is unknown

Funding request

- Extensive tagging program during late 1960s
  - Over 1 million menhaden tagged
- Provides information on size specific migration, natural mortality, fishing selectivity/mortality
- Only known source of information to base spatially explicit stock assessment model on
- Currently in paper format

Funding request continued

- TC is requesting approximately **$35,000** to key enter data
- Must be promised by March in order for data to be available for 2014 stock assessment
- Will provide useful info on M, F, migration, and selectivity
- Without this info, spatially explicit model would not pass peer review

Fixed gear index

- Amendment 2 requires states to develop fixed gear adult indices to supplement/complement PRFC index

- A2 requires states to collect pounds landed and # nets fished
  - Allow development of PRFC-like pound net indices in other states

- TC will continue to refine index development
  - Other gears
  - Additional data elements to improve resolution
  - More rigorous analytical method
  - Data sources prior to Amendment 2 (FI and FD)

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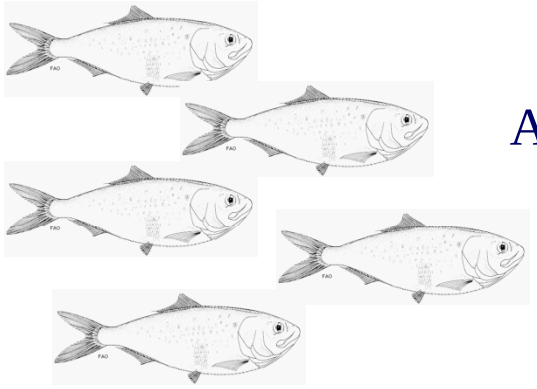
Episodic Events Set Aside



Atlantic Menhaden Management Board

February 2013

Overview

- Board approved a set aside for episodic events through Amendment 2

- Incomplete, need to discuss and finalize implementation details

Episodic Events Set Aside

- One percent (1%) of the overall TAC Set Aside
- Episodic events are times and areas where Atlantic menhaden are available in more abundance than they normally occur.
- Provides flexibility for states opt into the set aside to harvest more than their allocated quota.
- To qualify for the episodic events set aside a state's bait landings must have been less than 2% of the total coastwide bait landings from 2009-2011.
- ME, NH, RI, CT, NY, DE, SC, GA, and FL are eligible to opt into the episodic events set aside.

Opting In to Set Aside

- State opting in forfeits their state allocation
- Forfeited quota is reallocated to other states
- The set aside is shared by all that opt in

Provisions of Set Aside

- Unused quota rolled over to overall Sept 1
- Board requires catch and effort controls to scale fisheries to set aside
- Meet or exceed timely reporting system
- Overages are paid back the following year

Example

TAC	170800	1% Set Aside	1708	
State	*TAC (MT)	All eligible states opt in	TAC given up by states opting in	Re-Allocated TAC
ME	66.58	1	66.58	shared SA
NH	0.05	1	0.05	shared SA
MA	1417.94		0.00	1420.23
RI	30.29	1	30.29	shared SA
CT	29.50	1	29.50	shared SA
NY	93.76	1	93.76	shared SA
NJ	18924.42		0.00	18955.02
DE	22.33	1	22.33	shared SA
MD	2320.98		0.00	2324.73
PRFC	1049.69		0.00	1051.39
VA	144272.84		0.00	144506.06
NC	833.23		0.00	834.57
SC	0.00	1	0.00	shared SA
GA	0.00	1	0.00	shared SA
FL	30.39	1	30.39	shared SA
		9	272.9	

For Board Consideration

- Develop specific criteria to determine if a state's effort controls scale their fisheries to the size of the set aside quota level.
- Add language that clarifies the proposed effort controls of states opting into the set aside must be approved by the Board.
- Consider a mechanism for states to adjust effort controls in the fishing year if a state(s) effort controls do not adequately reduce effort in their fishery.
- In season adjustments may be necessary to prevent set aside overages.

For Board Consideration

- The Board may consider requiring trip level reporting through the e-trips SAFIS system for all states that opt into the set aside.
- Without timely quota monitoring it is feasible that the set aside quota would be exceeded very quickly if states have large trip limits.
- The overages have the potential to be significant without proper monitoring. Recommended weekly

For Board Consideration

- The Board may consider if a percentage of the set aside quota is harvested by September 1, (e.g., 50%, 75%) then the set aside quota would be extended through the end of the year and would not be rolled over into the overall TAC for all states.

- The PRT recommends that state(s) opting into the episodic events set aside are not eligible for *de minimis* status to ensure that biological samples (age and length data) are collected by state(s) harvesting from the set aside pool.

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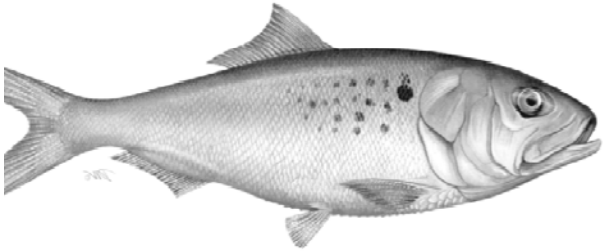
Biological Ecosystem Reference Points Working Group Report

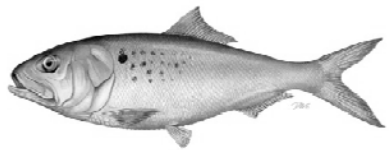
February 20, 2013

Matt Cieri, Chair



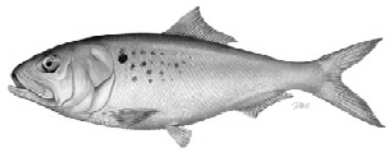
Tasks for Today

- Additional predators to be added to the MSVPA-X
- BERP: Update on reference points status
- MODA: Update and current status



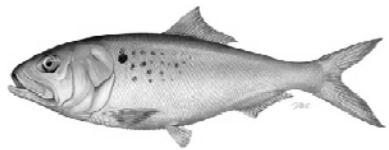
Additional predators for MSVPA-X

- Board tasked BERP WG with investigating predators to add to the MSVPA-X
  - List of additional predators considered
  - Note that some have been initially removed
- These are *preliminary* estimates: some may shift or be removed depending on available data
  - Important to understand the goal: "What predators are important to the coast-wide menhaden population?"



Top Predators in Food Habits Database

SPECIES	Biomass (kg)	Con. Est	Rank
STRIPED BASS	87,771,000	76,396,383	1
SPINY DOGFISH	582,700,000	42,520,852	2
BLUEFISH	132,900,000	18,913,290	3
SPINY BUTTERFLY RAY	27,143,709	8,831,171	4
SMOOTH DOGFISH	97,530,135	921,670	5
GOOSEFISH	255,330,000	800,111	6
WEAKFISH	1,330,000	236,087	7
ATLANTIC ANGEL SHARK	4,406,534	74,872	8
DUSKY SHARK	1,517,536	60,081	9
ATLANTIC HERRING	1,322,446,000	30,320	10
SANDBAR SHARK	30,431,026	23,851	11
CLEARNOSE SKATE	8,384,868	11,284	12



Potential predators to be added

SPECIES	Biomass (kg)	Con. Est	Rank
STRIPED BASS	87,771,000	76,396,383	1
SPINY DOGFISH	582,700,000	42,520,852	2
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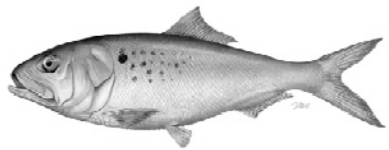
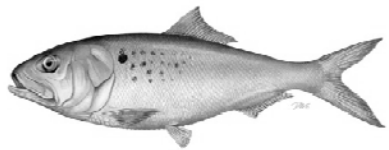


Additional predators for MSVPA-X

- Proposed predators to add…
  - Limitations of adding some of these predators
    - → Adding in predators that don't have good time series data will increase uncertainty
  - Birds, mammals, and HMS, are also being considered
    - → Data gathering phase (similar to Atlantic herring)
  - Feed back?
    - → Goal: "What predators are important to the coast-wide menhaden population?"

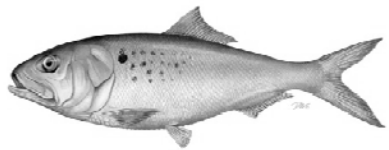
BERP WG update

- Issues with updating the MSVPA-X
  - MSVPA-X and BAM exhibit same retrospective bias
  - Need to correct some MSVPA-X diet parameters
  - Large time commitment for both update and corrections
- Natural mortality for menhaden in recent years appears stable, therefore…
- BERP suggests delaying update in favor of correcting/fixing MSVPA-X for peer review.



MODA update

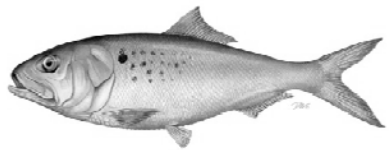
- MODA: Management Objective Decision Analysis
- Currently several funding options pursued, but full outside funding unlikely at this time
- BERP WG has resumed work on ERP task



MODA : TC interpretation of ERP task

"Quantify the amount of menhaden biomass necessary to sustain the forage needs of striped bass, bluefish, and weakfish predators at their threshold biomass levels."

- Will generate a biomass reference point
- Indicates when menhaden biomass has dropped too low to support key predators at their threshold biomass set by those Boards
- Will generate a fishing mortality rate reference point to maintain that level of menhaden biomass

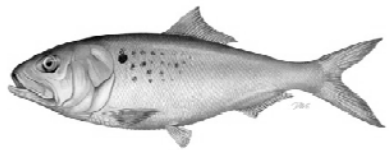


Ecological Reference Points

- Task: using the MSVPA (and JAM and EwE when ready) to generate an estimate of the biomass of menhaden required to maintain its major predators at threshold levels.
  - On track; but can only be completed when the issues with the current menhaden & MSVPA models are resolved
- Parameterize prey to predator feedback loop
  - Also on track; but similar to above
  - Will require extensive work to complete, but can be accomplished for peer review

Ecological Reference Points

- Anticipate “strawman” results for Board feedback at Annual Meeting 2013
- Peer review of all models and ERP options was delayed to 2015+, depending on menhaden assessment timeline



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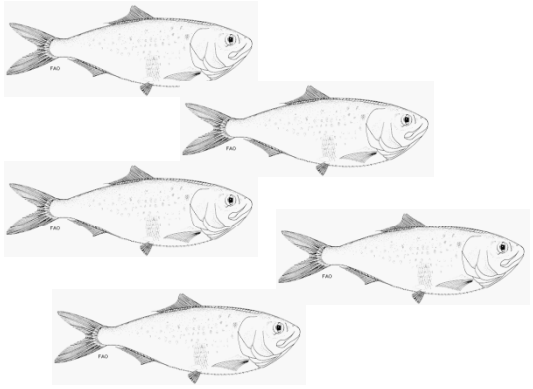
Stock Assessment Subcommittee Membership



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SAS Membership

- Matt Cieri, (ME)
- Robert Latour, (VIMS)
- Micah Dean, (MA)
- Behzad Mahmoudi, (FL)
- Jason McNamee, (RI)
- Amy Schueller, (NMFS)
- Alexei Sharov, (MD)
- Joseph Smith, (NMFS)

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Plan Review Team Membership

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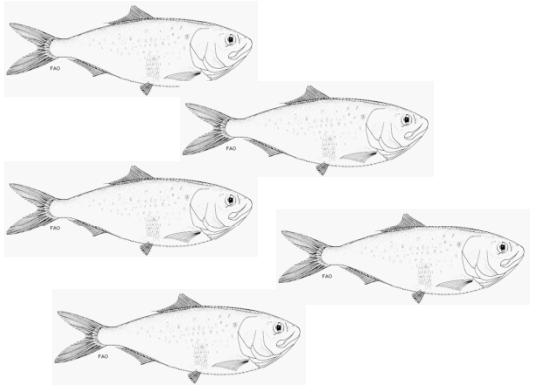

Plan ReviewTeam (PRT)

- Ellen Cosby, (PRFC)
- Steve Meyers, (NMFS)
- Trish Murphey, (NC)
- Nichola Meserve (MA)