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

Virginia Tech Trawl Survey Funding Update

Horseshoe Crab Management Board
May 2013
Uses of VT Trawl Survey

- State variable in the Adaptive Resource Management (ARM) Framework
- Estimates of horseshoe crab abundance are needed to run the model
- Full funding was not achieved for 2012, but ARM WG developed a method to expand estimates of Core area to entire Delaware Bay area
Status of 2013 Funding

- Virginia Tech has received some funding in 2013
- Not enough to support the survey
- Currently unclear whether the 2013 survey will proceed or not
  - ARM WG is looking at other options for future ARM models
- FMP: Addendum VI quotas or previous ARM Framework’s harvest levels
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Horseshoe Crab 2012
Fishery Management Plan Review

Horseshoe Crab Management Board
May 2013
Annual Total Harvest

ASMFC quota: 1,345,149

Bait Harvest

Biomedical Harvest
2012 Bait Fishery

- Total coastwide harvest of 729,100 crabs
  - Increase of ~10% since 2011
  - All states increased landings except CT and NC which experienced decreases in landings
Biomedical Harvest

- Reported number of crabs brought to biomedical facilities: 611,827
  - 13% increase from past 5-year average
  - Crabs used as bait and bled: 81,030
    - 3% decrease from past 5-year average
  - Coastwide mortality estimate: 79,786
    - Threshold to consider action: 57,500
    - PRT recommends making development of BMPs a high priority item
August 2011; biomedical *ad hoc* working group was formed to develop best management practices

November 2011 the document was brought to the Board

- A timeline was to be developed
- ARM Framework intervened
Biomedical Mortality

- May 2012 the mortality was over threshold
  - Dr. Dawson (Associates of Cape Cod) was tasked with working with other biomedical companies to further development of BMPs
- Dr. Dawson is satisfied with everything as it stands as each state has different operations and procedures
- Threshold was established in 1998 when 200,000-250,000 crabs were harvested (now ~600,000)
State Compliance

- PRT found all states management measures to be consistent with the FMP
- DC did not submit a report
  - PRT recommends that DC, as well as PRFC, take steps to be removed from Board
Additional Issues

- PRT strongly recommends the continuation of the VT Trawl Survey
Request for *de minimis*

- NH, PRFC, SC, GA, and FL all qualify and request *de minimis* status for 2013
- NJ qualified but did not request
- PRT recommends all requests for *de minimis* status be granted
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Status of Horseshoe Crab Stock and Whelk Fishery

Horseshoe Crab Management Board
May 22, 2013
Stock Assessment Update
2013 Timeline

- April: Data request
- May – June: Crunch the numbers
- June – July: TC review the update and revise
- October: Present to Board
Gulf of Maine Population

- No data from ME available; NH and MA data are available
- New Hampshire CPUE declined from 0.05 horseshoe crabs per foot in 2001 to a time series low of 0.008 in 2006
  - 0.02 horseshoe crab per tow in 2012
- Massachusetts mean number crabs per tow for both spring and fall surveys indicate a trend of generally low abundance over time,
  - 2012 spring survey results continuing downward
DE Bay Spawning Surveys

- No trend in baywide index of female spawning activity
- Increasing trend in male spawning activity
- Sex ratios favor males which is consistent with these trends
Mid-mid-Atlantic

- CT, NY, NJ, DE, MD, VA, NC

- Abundance indices in Delaware indicate a decreasing trend
  - Geometric mean catch per tow of 5.29 in 1990; 0.51 in 2012

- New Jersey abundance indices indicate no clear trend
Virginia Tech Trawl Survey

- Mean catches per tow for immature females and males were higher in 2012, but not significantly.
- No trend for newly mature crabs over the time series.
- Mature crabs were highest in 2011, but the variances were largest then as well.
Atlantic Florida

- No data from SC and FL
- Georgia catch-per-trawl has remained consistent across time series
  - 0.86 horseshoe crabs per tow in 2002 and 0.99 horseshoe crabs per tow in 2012
HSC Timeline

- DE requested review of DE Bay Egg Survey
  - Recommendation should be complete by October
- SAS is conducting stock assessment update
  - Should be reviewed by TC and complete by October
- ARM WG is collecting data to run ARM Model
  - FMP indicates summer or fall meeting; aiming for October to approve specifications
- No August meeting for HSC