

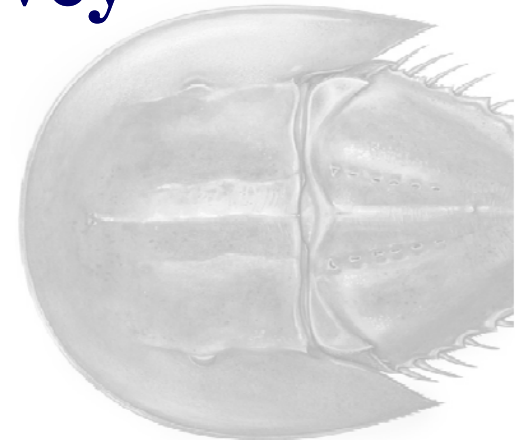


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Working towards healthy, self-sustaining populations  
for all Atlantic coast fish species or successful  
restoration well in progress by 2015

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# Virginia Tech Trawl Survey Funding Update



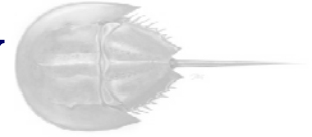
Horseshoe Crab Management Board  
May 2013



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# Uses of VT Trawl Survey

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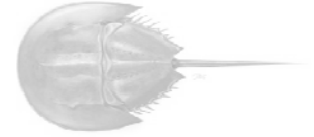
- **State variable in the Adaptive Resource Management (ARM) Framework**
- **Estimates of horseshoe crab abundance are needed to run the model**
- **Full funding was not achieved for 2012, but ARM WG developed a method to expand estimates of Core area to entire Delaware Bay area**



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## Status of 2013 Funding

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- **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**

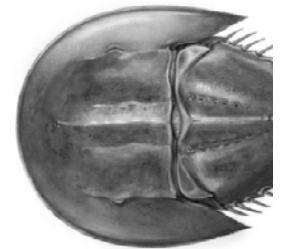


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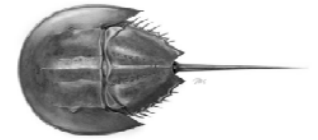
## **Horseshoe Crab 2012 Fishery Management Plan Review**



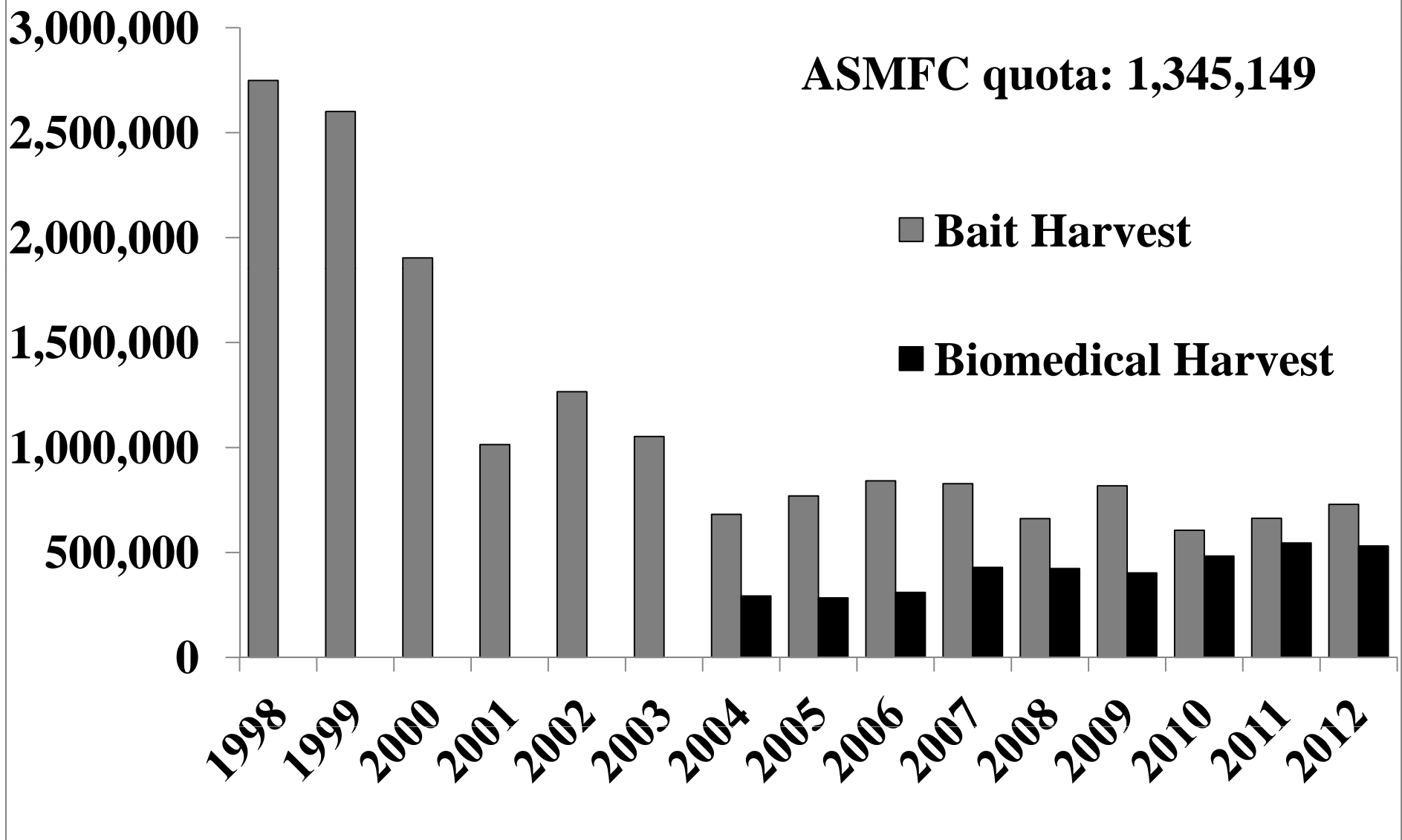
Horseshoe Crab Management Board  
May 2013



# Annual Total Harvest



ASMFC quota: 1,345,149

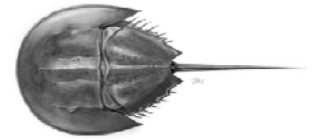




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# 2012 Bait Fishery

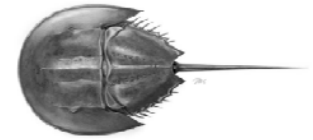
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- **Total coastwide harvest of 729,100 crabs**
  - **Increase of ~10% since 2011**
  - **All states increased landings except CT and NC which experienced decreases in landings**



# Biomedical Harvest



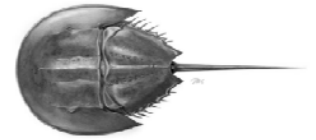
- **Reported number of crabs brought to biomedical facilities: 611,827**
  - **13% increase from past 5-year average**
- **Crabs used as bait and bled: 81,030**
  - **3% decrease from past 5-year average**
- **Coastwide mortality estimate: 79,786**
  - **Threshold to consider action: 57,500**
  - **PRT recommends making development of BMPs a high priority item**



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# Biomedical Mortality

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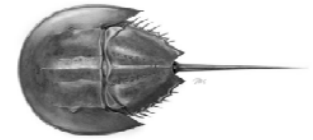


- **August 2011; biomedical *ad hoc* working group was formed to develop best management practices**
- **November 2011 the document was brought to the Board**
  - **A timeline was to be developed**
  - **ARM Framework intervened**





# Biomedical Mortality



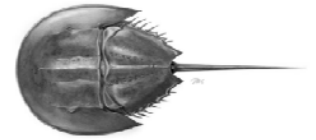
- **May 2012 the mortality was over threshold**
  - **Dr. Dawson (Associates of Cape Cod) was tasked with working with other biomedical companies to further development of BMPs**
- **Dr. Dawson is satisfied with everything as it stands as each state has different operations and procedures**
- **Threshold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



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# State Compliance

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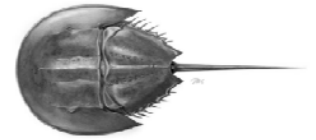
- **PRT found all states management measures to be consistent with the FMP**
- **DC did not submit a report**
  - **PRT recommends that DC, as well as PRFC, take steps to be removed from Board**



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## **Additional Issues**

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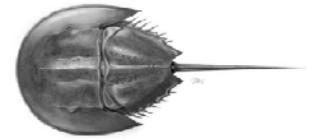
- **PRT strongly recommends the continuation of the VT Trawl Survey**



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## Request for *de minimis*

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- **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**



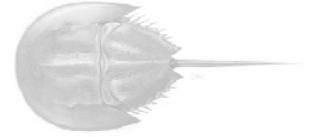
Horseshoe Crab Management Board  
May 22, 2013



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# Stock Assessment Update 2013 Timeline

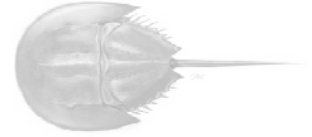
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- **April: Data request**
- **May – June: Crunch the numbers**
- **June – July: TC review the update and revise**
- **October: Present to Board**



# Gulf of Maine Population



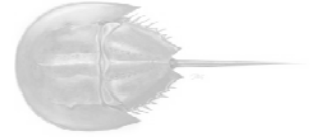
- **No data from ME available; NH and MA data are available**
- **New Hampshire CPUE declined from 0.05 horseshoe crabs per foot in 2001 to a time series low of 0.008 in 2006**
  - **0.02 horseshoe crab per tow in 2012**
- **Massachusetts mean number crabs per tow for both spring and fall surveys indicate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



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# DE Bay Spawning Surveys

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- **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**

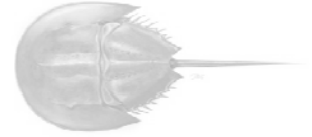




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## Mid-mid-Atlantic

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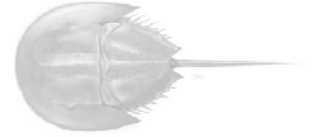
- **CT, NY, NJ, DE, MD, VA, NC**
- **Abundance indices in Delaware indicate a decreasing trend**
  - **Geometric mean catch per tow of 5.29 in 1990; 0.51 in 2012**
- **New Jersey abundance indices indicate no clear trend**



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# Virginia Tech Trawl Survey

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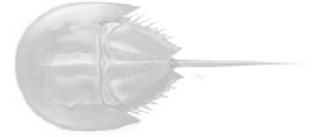
- **Mean catches per tow for immature females and males were higher in 2012, but not significantly**
- **No trend for newly mature crabs over the time series**
- **Mature crabs were highest in 2011, but the variances were largest then as well**



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# Atlantic Florida

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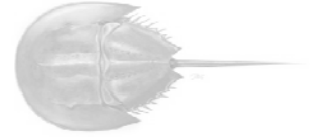
- **No data from SC and FL**
- **Georgia catch-per-trawl has remained consistent across time series**
  - **0.86 horseshoe crabs per tow in 2002 and 0.99 horseshoe crabs per tow in 2012**



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# HSC Timeline

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- **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**