

**Horseshoe Crab Technical Committee**  
**Atlantic States Marine Fisheries Commission**

**DRAFT**

*Baltimore, MD*

Holiday Inn

*March 5-6, 2002*

***Technical Committee Members:***

Stew Michels, DE  
Larry Delancey, SC  
Gregory Breese, USFWS  
Frank Germano, MA  
Scott Olszewski, RI  
Peter Himchak, NJ  
Alice Weber, NY  
Penny Howell, CT  
Lewis Gillingham, VA  
Joanna Burger, Rutgers  
Bob Unsworth, Industrial Economics  
Steve Doctor, MD  
Andrew Draxler, NMFS  
Jeff Brust, ASMFC

***Presenters:***

Jim Berkson, Virginia Tech  
Andy Rosenberger, Virginia Tech  
Brad Andres, USFWS  
Tim King, USGS  
Dave Smith, USGS

***Public:***

Paul Perra, NMFS  
Mike Eackles, USGS  
Colleen Callahan, USGS  
David Hata, Virginia Tech  
Whitney Grogan, Virginia Tech  
Jeff Boyd, Biowhittaker

***Staff:***

Carrie Selberg

***Election of New Chair***

Greg Breese was nominated and unanimously elected vice-chairman. He will take over chair duties after the May Board Meeting. There were no volunteers for the vice-chair position.

***Updates on Horseshoe Crab Research***

*(for copies of each of these presentations please see attachments – below are brief summaries)*

**Night Airvideo HSC Pilot Study –**

Andy Rosenberger from Virginia Tech presented results from a pilot project that explored the feasibility of using night vision video technology from a low flying airplane to be used as a supplement to the ground counts. He explored various types of equipment and settled on one that will not give an exact count but it could give an area of crab color as an index of spawning activity with less manpower. Currently they are seeking funding (\$30,000) for a field test this May.

**Pilot Benthic Trawl Survey**

Jim Berkson presented the results from the pilot trawl survey conducted last Fall. This study was funded by the states of NJ, MD, DE and the National Fish and Wildlife Foundation. The study was successful and they are ready to move from pilot to final design pending some guidance from the SAC and funding. Level of effort required is lower than expected. He estimated that the survey could be done this year for approximately \$50,000 - \$100,000 depending upon the final design chosen.

**Horseshoe Crab Survival, Demography and Movements in the Vicinity of Chincoteague and Ocean City, MD**

400 horseshoe crabs were held in captivity (half had been bled) for two weeks and the bled crabs had an increased mortality of 7.5%. Comparison of populations between Chincoteague and Ocean City indicated that the Chincoteague area had younger crabs and more females than the Ocean City area; and over the three years of the study there appeared to be a trend of fewer older crabs and fewer female crabs in Ocean City. Finally, horseshoe crabs tagged in these two areas were re-encountered as far north as Sandy Hook, N, and in both Chesapeake and Delaware Bays (17.4% of

returns were from Delaware Bay). Return rate was 1.61%, 53% of returns were alive when encountered and 11.6% were reported as “a tag found only” possibly indicating tag loss. This work will be continued for 3 more years (funded by BioWhittaker).

### **Update on Genetic Work**

Tim King, USGS, reported to the Committee on progress that his lab has made on genetic work. He is still looking for samples from spawning beaches from New York, North Carolina, Yucatan – Mexico, and possibly South Carolina. He outlined some preliminary results and indicated he expects to be finishing the work by the end of the year but will be publishing parts of the work before that.

### **Delaware Bay Horseshoe Crab Spawning Survey**

Dave Smith, USGS, distributed the latest results of the Delaware Bay Spawner Survey. There are not enough years in the series for a trend to be identified, but a pattern seems to be emerging of NJ starting high then waning while DE starts slow, builds to a peak, then subsides. An updated version of what was presented to the TC is available on the web at <http://ael.er.usgs.gov/groups/stats/Limulus/>

### **Other on-going work:**

Many other research programs are on-going including identifying a way to determine horseshoe crabs just before they enter the breeding population (Virginia Tech), size specific fecundity (DE), beach replenishment effects on horseshoe crab spawning (DE), horseshoe crab returns to spawning beaches during the spawning season (funding from FWS’s DR/DC Ecoteam), testing underwater acoustics for identifying movement and concentration areas (DE), and completion of the Shorebird energetics on Delaware Bay (finish lab work and analysis of 1999 work and publication of two reports in refereed journals; funding from DE, NJ, and FWS’s DRDC Ecoteam).

### **Research Needs**

The Technical Committee had a general discussion about priority research needs based on previous work and the presentations.

*Tagging*- The group discussed the importance of coordinating horseshoe crab tagging programs. Currently there are several studies going on that would benefit from coordination. The TC would like to revive the tagging group to outline both the objectives and protocols for tagging programs along the coast. They recognized that there would most likely be multiple studies with multiple questions. Volunteers for this group included Dave Smith, Jeff Brust, Jim Berkson, Peter Himchak, Larry Delancey, and Shelia Eyler). *Genetics* – Several TC members stressed the importance of completing the genetics work. *Benthic Trawl Survey* – The Technical Committee was encouraged by the results of the pilot study. J. Berkson responded to several TC questions and indicated they were not yet funded to continue this work for 2002 and they would continue this work in the same study area as last year unless they got direction to expand either the time or area. The Technical Committee indicated they would like the TC chair to inform the Board that the trawl survey pilot results are encouraging, that this work is critical, and they recommend that it continue in 2002.

*USGS/State Grant Habitat Mapping* – Dave Smith indicated that he was working on a project that would map habitat and HSC distribution. In response to questions, he said that this work would not replace the benthic trawl work.

### **NMFS Landings**

The NMFS is still using a 2.67 conversion factor when converting landings data to pounds. Some states have more accurate conversion factors and the TC discussed the value in incorporating them into a database possibility with ACCSP funds. The TC decided against recommending this because currently Horseshoe crabs are managed by ASMFC in numbers and TC members felt that it is easier to work with the NMFS database when it has one consistent conversion factor because they can easily convert the pounds into numbers.

### **EEZ reporting/Transfer at sea**

Paul Perra updated the TC on transfer at sea issues. He indicated with the emphasis of many law enforcement personnel on homeland security that this may not be the most appropriate time to move forward with a rule like this and asked for TC input on how significant of an issue this was.

TC members indicated that they thought the Sanctuary was helping with this matter and that they had not heard of any problems. Paul Perra also asked for input on the need for a federal reporting system. The group indicated that double permits may be confusing and that the previous problem in Virginia has been addressed through new VA rules.

**Biomedical Industry**

The TC discussed mortality rates associated with the Biomedical industry. They feel they have a grasp on the rate associated with activities from the industry accepting the crabs until they are back in the water but not on the rate from collection up to delivery to the company. Because the FMP has a trigger in place of approximately 57,000 crabs to reevaluate the industry if it is passed, the TC thinks it is important to better understand this rate. MD wil provide the committee members with their newly revised form that allows better tracking of rejection and disposition at each transfer point, as horseshoe crabs move from point of capture to the biomedical facility.

The TC also discussed following up with the FDA to take the clause out of their permits which requires the industry to return the crabs to the waters where they were taken. Last year, at meetings with the FDA, it was decided that the States would have jurisdiction over this issue. While the FDA has agreed to this, nothing officially has been done. C. Selberg and P. Himchak will contact the FDA to follow up. The group also indicated that they would like to repeat the biomedical survey, which was done several years ago, and add questions about their initial rejection rate of crabs.

**Shorebird Technical Committee**

Brad Andres, USFWS and chair of Shorebird TC, updated the TC on the Shorebird groups progress. He indicated the group has been formed and includes shorebird expertise from many areas and the HSC TC and SAS chairs. C. Selberg is an observer. The group has agreed to a Terms of Reference which was distributed and they are currently finalizing the outline which includes the topics this group will address and data sets. The TC discussed the membership of this Committee because Stew Michels is currently a

member of the Shorebird Committee as TC chair and the new TC chair, Greg Breese, is already on the group as a shorebird biologist. The TC indicated that they thought this was a decision that the Board should make but that they saw the value in Stew Michels continuing on the committee once his chairmanship was completed.

**Law Enforcement Reporting**

C. Selberg updated the TC on the PRT and Law Enforcement discussions about the Law Enforcement reporting requirement. This year law enforcement representatives indicated that they did not collect the information as outlined on the law enforcement reporting form, found the form to be time-consuming, and questioned how the information would be used. LE had raised these concerns before Addendum I was passed and the Board asked them to develop a more appropriate form. This was not done before the Addendum was passed. The PRT has discussed all of this and will be recommending to the Board in May that this requirement be altered through an addendum.

**Landings**

The big news was the continued reduction in landings. Coast-wide landings have been going down since 1998 and this year the decrease was doubled compared with 2000 landings:

Reference Period Landings(RPL):	2,999,491
25% Reduction Quota:	2,275,296
1998:	2,256,949 <i>(8.1% reduction from RPL)</i>
1999:	2,546,610 <i>(15.1% reduction from RPL)</i>
2000 (quota imposed):	1,903,415 <i>(36.5% reduction from RPL)</i>
2001(preliminary):	1,008,649 <i>(66.4% reduction from RPL)</i>

**State Reports**

*Component A - Component A* of the State plans asks States to characterize their commercial catch by prosomal width and gender. The TC discussed how this data could be used and ways to improve

it. The group discussed asking for weights but several states indicated this would be difficult for them to do. Because this information is being collected for the stock assessment, they decided to refer it to the SAS for input.

*Compliance* – The PRT indicated that they had reviewed the state reports and did not find any major compliance issues. They did have several questions for state representatives to clarify state reports. CT clarified that they did have the authority to close if their fishery reached the quota. RI indicated they were aware that they could have qualified for de minimis but did not request it. NY indicated that it is not sampling the commercial catch and that they would look into the 1999 landings. NY also indicated that the quota allocation system outlined as tentative in their state plan would be adopted. VA clarified that the landings numbers listed in their report are both the NMFS and VA figures combined.

### **Proceedings**

The TC approved the proceedings from the April 2001 meeting.