

# **Technical Committee Report**

Horseshoe Crab

Activities Summary, Subcommittee Tasks for 2003, and Other Considerations

*Prepared by:*

Horseshoe Crab Technical Committee

*Presented to:*

Horseshoe Crab Management Board

February 2003

The Horseshoe Crab Technical Committee met on February 10, 2003 to review state compliance reports, review the FMP, and discuss recent activities regarding horseshoe crab science and management. Below is a summary of the meeting.

### State Compliance Report / FMP Review

As reported in the PRT=s State Compliance Report, the TC found that all states were in compliance for 2002. Several states have outstanding landings data because their 2002 season extended through December, and the data is not yet available. However, the TC believes that this data, once reported, will not change compliance findings. Table 1 shows the landings data.

Table 1: Reported Horseshoe Crab Bait Landings by State

Jurisdiction	RPL	Quota <sup>a</sup>	1998	1999	2000	2001	Preliminary 2002
ME	13,500	13,500	13,500	1,500	1,391	100	0 <sup>b</sup>
NH	350	350	200	350	180	0	120
MA	440,503	330,377	400,000	545,715	272,930	134,143	138,613
RI	26,053	26,053		26,053	13,809	3,490	3,886
CT	64,919	48,689	34,583	55,000	15,921	11,508	32,080
NY	488,362	366,272	352,462	394,026	628,442	126,336	177,052 <sup>c</sup>
NJ	604,049	453,037	241,456	297,680	398,629	261,239	281,134
PA	-	-	75,000	-	0	0	0
DE	482,401	361,801	479,634	402,913	248,938	243,489	298,318
MD	613,225	459,919	114,458	134,068	152,275	170,653	278,211
PRFC	-	-		-	0	0	0
DC	-	-		-	0	0	0
VA	203,326	152,495	1,015,700	650,640	145,465	48,880	36,525 <sup>d</sup>
NC	24,036	24,036	24,036	25,602	14,973	9,130	11,115
SC	-	-		-	0	0	0
GA	29,312	29,312		29,312	0	0	0
FL	9,455	9,455	5,920	11,505	10,462	0	200 <sup>e</sup>
<b>TOTAL</b>	<b>2,999,491</b>	<b>2,275,296</b>	<b>2,756,949</b>	<b>2,574,364</b>	<b>1,903,415</b>	<b>1,008,968</b>	<b>1,257,254</b>
Pct. Reduction							
Relative to RPL			8.1	14.2	36.5	66.4	58.1
Pct. Reduction							
Relative to Quota					16.3	55.7	44.7

<sup>a</sup> States that qualify for de minimis status are not required to reduce landings by 25%.

<sup>b</sup> 2 permits issued in September 2002 (limited to 25/day); however, state has not received landing reports.

<sup>c</sup> NY's previous overages are paid back.

<sup>d</sup> Does not include NMFS December landings & December state landings may be incomplete.

<sup>e</sup> Through October only.

The TC received the PRT's draft report, A2003 Review of the Fishery Management Plan for Horseshoe Crab (*Limulus polyphemus*)<sup>a</sup>. The findings of the PRT were discussed and recommendations/issues for the Management Board to consider are highlighted below.

### *Changes needed in the next Addendum*

Some of the wording in the FMP has become dated due to increased understanding of the issues, science, and resources available to manage this resource. Examples include p. 23, Component A, C, and D; p. 24, Component E; p. 26, section 4.2.2.1 and 4.2.2.2; p. 27, section 4.2.3; and p. 33, section 6.0.

### **Tasks for Subcommittees/Working Group**

#### *Stock Assessment Subcommittee*

The SAS is scheduled to have one face-to-face meeting this year, in order to assess progress on the Stock Assessment. As part of this effort, the TC has tasked the SAS to consider how Monitoring Component A, "...Each state must characterize a portion of the commercial catch..." fits into the overall stock assessment picture and make recommendations for data needs and effort needed to make this a useful contribution to a coast-wide stock assessment. The SAS is tentatively planning to meet this spring to develop Terms of Reference for its upcoming stock assessment update in late 2003 or early 2004. The Terms of Reference will have to be reviewed and approved or disapproved by the Board at the June 2003 or August 2003 meeting week.

Also, the TC tasks the SAS to coordinate with F&WS's Shorebird TC, NJ, and DE on developing a Delaware Bay egg survey. While this had been attempted in 1999, gaps in knowledge about the science and effectiveness of methods necessitated research over the last few years. This resulted in two separate surveys occurring, one in NJ and one in DE. The PRT and TC feel it is now time to revisit this Monitoring Component to see if a consistent, bay-wide monitoring effort can be implemented.

Finally, the TC tasks the SAS to review two manuscripts due out soon regarding spawning surveys and report to the TC on their findings as related to Monitoring Component D.

#### *Ad-hoc Tagging Subcommittee*

The HSC Tagging Subcommittee met on January 28, 2003, to discuss the need for and practicality of a coast-wide HSC tagging program. Objectives and a draft frame-work for a coast-wide tagging program were developed, along with an estimated cost of \$120K per year for 10 years. While this is not as high a priority as the Benthic Survey, it would be a valuable addition for stock assessment, providing estimates of mortality, sub-populations, and movement/migration. The funding would allow FWS's Maryland Fisheries office to provide

sufficient support and purchase tags and provide rewards. This office has already committed to maintain the database and has been collecting return information. Short term steps will be to: (1) coordinate tag numbers between various existing programs; and (2) recommend best management practices via a website that catalogues the programs. The TC tasks representatives of the Tagging Subcommittee to meet with the Commission's Interstate Tagging Committee in Spring 2003 to review the guidelines. The Subcommittee is aware of an existing website for other species= tagging programs. The TC tasks members of the Subcommittee to work with the webmaster to include horseshoe crabs on the website and begin to collect information on the various tagging programs.

#### *Ad-hoc Biomedical Working Group*

In recent years the Biomedical Working Group has developed and implemented surveys to parts of the biomedical industry that harvest horseshoe crabs. The survey proved useful for better understanding the industry. However, changes in the industry have occurred. The TC tasks the Working Group to develop an updated biomedical survey to better understand harvest numbers, differential mortality, and movement of crabs across state boundaries. Furthermore, the TC tasks the Working Group to distribute the updated survey as soon as practical.

#### **Horseshoe Crab Research and Other Updates**

##### *HSC Population Structure/Genetic Analysis Study*

Dr. Tim King of USGS is nearing the end of his study on horseshoe crab population structure. About 900 samples from Maine to Yucatan were used in the study. Dr. King reported that the genetic markers are working well and conclusions are being drawn. He is finding that there are at least six groupings of populations throughout the study range. There is effective movement (natural or man-made) throughout the zone of most abundance (mid-Atlantic). One area of further study recommended by Dr. King is to explore the differences between horseshoe crab populations on the DE and NJ shores of the Delaware Bay. The report is due out in the next few months.

##### *New Development at Cambrex*

The division of Cambrex that researches and utilizes horseshoe crab blood and LAL, formerly BioWhittaker, has been working on developing a substitute for LAL. The company is manufacturing a substance called Recombinant-C that works as well as LAL to detect the presence of contamination in medical supplies. Recombinant-C is currently being tested and may be accepted in pharmaceutical grade form by the FDA in as little as 3 years. If Recombinant-C is made available, dependence on LAL and, therefore, horseshoe crabs may decrease. However, there may be a slow turnover to use Recombinant-C because some companies and hospitals will continue to use LAL.

##### *Alternative Bait Workshop II*

The USFWS funded and held a workshop to explore possible management options in light of what currently was understood regarding horseshoe crabs and shorebirds dependent upon the Delaware Bay Spring Stopover. One of the highest priority actions identified was for a second Alternative Bait and Bait Bag Improvement Workshop. The Technical Committee Chair and Plan Coordinator are in the process of collecting funding to implement the follow up workshop.