

## **Red Crab PDT Meeting**

**Friday, March 5, 2010**

**9:30 a.m.**

**Hilton Garden Inn  
One Thurber Street  
Warwick, RI**

### **Summary Minutes**

1. Chairman Allen provided a Power Point summary presentation of the PDT Draft MSY Proxy Reevaluation Document
2. Discussion by PDT members and Dr. Alexei Sharov, SSC Red Crab Lead
  - a. Dr. Joe DeAlteris pointed out obvious problems with the locations of trips shown on the map in the document. He suggested a note to indicate that some of the locations were obviously wrong.
  - b. Dr. Sharov pointed out that the data provides only two biomass estimates with CVs for the two surveys. Based on the overlap in the confidence intervals, the biomass estimates could be the same, but they appear to be different.
  - c. Moira Kelly pointed out that females are caught in the fishery and should be included in the Overfishing Limit (OFL), the allowable biological catch (ABC), and the annual catch limit (ACL). Considering the fact that the assessment was done with consideration of male crabs only, Moira suggested that the PDT should ask the SSC for advice in how to handle females.
  - d. Dr. DeAlteris suggested that natural fluctuations could account for the observed apparent increase in red crab biomass between the two surveys.
  - e. Dr. DeAlteris suggested that estimates of  $F_{msy}=M$  were reasonable.
  - f. Moira suggested that more context on the size distribution of the crab population would be helpful.
  - g. Dr. Sharov also requested that size distribution data be included in the document.
  - h. Dr. DeAlteris suggested that the preponderance of the evidence suggested that a value for MSY of approximately 2,000 mt appeared to be indicated by the multitude of analyses in the document.
  - i. Dr. Sharov noted that the exploitation rate for red crab appeared to be less than 0.1 and that we would be pretending that we were doing science if we tried to draw firm conclusions from the data available. He noted that the sustainable yield estimates that had been produced were not proxies for MSY and were likely to be below MSY.
  - j. Moira asked what the number produced by the Data Poor Working Group represented and suggested that the 1700-1900 mt figure could be viewed as the acceptable landings.

- k. Dr. Sharov noted that the information that was presented showed that the Depletion-Corrected Average Catch model calculates a sustainable yield that is lower than MSY. He suggested that scientists could argue forever about MSY until the fishery were pushed to the point where yield declined.
- l. Toni Chute suggested that sample lengths could be used as an indicator and noted the decline in size.
- m. Advisory Panel member Jon Williams informed the PDT that the red crab industry is supporting a graduate student who will be dedicated to red crab research for two years.
- n. A discussion took place concerning the roles of the PDT, NMFS, and the Northeast Fishery Science Center in collecting, analyzing, and presenting information on the status of the red crab resource and fishery.
- o. Dr. Sharov suggested that the PDT should calculate the fishing mortality rates that would be associated with the various yield options in the document, surmising that they might cover a very small range.
- p. Moira suggested that the PDT present options based on DCAC model sustainable yield estimates being 50% and 72% of MSY.
- q. Dr. DeAlteris suggested that the PDT provide options using both an assumed zero DELTA and a calculated -0.2 DELTA in the DCAC model.
- r. The PDT discussed the use of the long-term average landings as the ACL/ABC, particularly because the long-term average landings were consistent with the other methods of estimating sustainable yield. Dr. Sharov pointed out that the average catch in the future will end up lower than the average long term landings if the average long term landings are used as a cap on landings. He reasoned that the catch would be below the cap in some years and would never be higher than the cap, resulting in an average that would be lower than the cap/long term average landings.
- s. Dr. DeAlteris suggested the use of 2002-2007 as the basis for the long-term average catch because we have confidence in the reliability of landings reports during that period.
- t. The PDT noted that it would be necessary to estimate discard mortality and add that value to the landings if the ABC were intended to include discard mortality.
- u. The PDT discussed the relationship between the various estimates of sustainable yield and noted that the long-term average landings is the only number in which we can have a high degree of confidence.
- v. The PDT discussed possible approaches to an ABC control rule. Dr. Sharov noted that in a lightly exploited fishery it may not be possible to see any indication of change in the stock size from catch per unit of effort (CPUE) – the noise level may be higher than the signal.
- w. The PDT discussed a value of 1853 mt as the total allowable landings for male crabs with an additional allowance of approximately 40 metric tons for dead

discards, resulting in an ACL of approximately 1890 mt for male crabs. PDT members expressed the view that this level of landings was supported by both the modeling exercises and the long-term landings history. The value can be arrived at from the bottom up by starting with landings and adding estimated discards or by starting from the top with an estimate of sustainable yield from modeling exercises and subtracting buffers for uncertainty. This convergence toward the same value was considered by the PDT as adding confidence to the value.