

MEETING SUMMARY
AMERICAN LOBSTER TECHNICAL COMMITTEE
January 4 - 5, 2001
Woods Hole, Massachusetts

Participants: Bob Glenn, Vic Crecco, Carl LoBue, Kevin Kelley, Bruce Estrella, Bill Andrews, Joe Idoine, Clare McBane, Carl Wilson, Heather Stirratt, Tom Angell, Steve Robbins III, Mike Fogarty, Diane Cowan, Paul Rago.

Welcome/Introductions

Heather Stirratt introduced herself to the Technical Committee (T.C.). Heather explained the difference between the 2 ASMFC stock assessment training courses (*Introductory*, for ASMFC commissioners, advisors and Technical Committee representatives with limited backgrounds in population biology and *Technical*, for ASMFC member state stock assessment biologists with backgrounds in population biology). Heather handed out an evaluation of the horseshoe crab assessment process for consideration by the Lobster T.C.

Approval of November Minutes

Addition: In Section 8, *Other Business*, Tom Angell added to the status of Rhode Island's 2000 fishing year. Trawl surveys indicate sublegal and legal to be declining in numbers. Sea sample CPUE of legal sized lobsters is currently stable, but he expects a decline.

Motion to approve the November minutes with the above addition: Carl Wilson;
seconded: Carl LoBue.

Review/Approval of Jan 4 - 5 Agenda

*Larry Jacobson recommended that bottom trawl survey data be examined by the T.C. between lobster assessments annually, as a matter of routine.

- An annual review of bottom trawl survey data (fall & spring) from NMFS, RI, MA, ME & CT was recommended to be a routine practice where particular attention would be paid to trends in abundance of recruits and legal lobsters. It was mentioned that both the CT and MA trawl survey data are presently available for 2000.
- Discussion followed. Carl Wilson suggested that the T.C. look at more than just the trawl surveys on an annual basis. Joe Idoine pointed out that this would be difficult because different areas cover different time series.
- The job of standardizing the units for trawl surveys is to be given to the Database Subcommittee (Bruce Estrella, Kevin Kelley, Joe Idoine) as recommended by Joe Idoine. This committee is to be formalized by Carl Wilson and Gordon Calvin.
- Bottom trawl surveys will be examined at the next T.C. meeting.

*Areas to be covered during January 4 -5, 2001 T.C. meeting:

- Reference Points – Presentation by Larry Jacobson
- Economic Analysis – Presentation by Dick Allen
- Conservation Equivalency Evaluation - V-notching
- Effort Reduction - Update from Effort Reduction Sub-Committee

Reference Points

***Presentation by Larry Jacobson: “Reference Points; What They Are and What Examples are Available for Crustacean Fisheries”**

- SUMMARY

This presentation addressed the definition of a reference point. Reference points are benchmarks or guideposts used by scientists in describing stock status and managers in making management decisions. Targets and threshold reference points were discussed using several biological examples. He pointed out that reference points imply management action will take place and they have zero practical value if this action does not occur. Managers need to tell the T.C. what they want as target(s) and threshold(s). There is a whole package that needs to be put together for reference points to be successful in stock management. This package includes: policy and goals, target reference points, threshold and limits reference points, stock assessments and management actions. Larry strongly recommended that targets and threshold reference points be distinguished and that the process be kept as simple, practical and realistic as possible. All should consider: costs and logistics, precision of data, frequency of assessments, speed of management actions, honesty about uncertainties and amount of time to do the work.

Key points for policy makers were: 1) need for managers to specify their goals (so that performance of reference point options can be evaluated), 2) need to distinguish between target and threshold reference points, 3) benefits of a control rule approach, 4) consideration of uncertainty and 5) robustness to declines in lobster recruitment.

- DISCUSSION

- Determination of a Threshold

- It is difficult to determine a threshold if there has not been a crash of a population; thus, there is a lot of uncertainty with lobster. There are lots of models based on finfish whose populations have crashed. Models should be used on fished populations because there is data on what happens with different levels of fishing.

- $F_{10\%}$ (the current ASMFC threshold)
 - Mike Fogarty relayed the history of how $F_{10\%}$ was chosen as the threshold for lobsters. Mike indicated that $F_{10\%}$ was not put into place to say that when you arrive at $F_{10\%}$ egg production, the stock is in big trouble. It was intended to have a large buffer to accommodate for poor conditions. Mike does not believe that the credibility of $F_{10\%}$ is in jeopardy because nothing “bad” has happened to the lobster population. As long as there is a big enough buffer included in the $F_{10\%}$ (the overfishing definition), $F_{10\%}$ is currently working well. Mike compared going over $F_{10\%}$ to a 2-ton maximum bridge with a 3-ton truck traveling over it and the bridge not collapsing.
 - Joe Idoine pointed out that $F_{10\%}$'s original implication was that it was a precautionary level (e.g., thin ice ahead, time to slow down).
 - Carl LoBue noted that $F_{10\%}$ has been treated as a target in the past. Mike Fogarty, however, stated that $F_{10\%}$ should NEVER be considered a target. There is general consensus among the T.C. that going over the $F_{10\%}$ indicates that action should take place to correct the situation. Bruce Estrella noted that when the TC voted on the efficacy of the $F_{10\%}$ definition in fall, 1999, it was assumed, based on discussion before the vote, that the $F_{10\%}$ was a precautionary threshold.
 - Vic Crecco noted that a threshold is a line in the sand. If the population goes above it for long, something “bad” will happen. Vic pointed out that $F_{10\%}$ (the point of overfishing) has been exceeded for decades in the Gulf of Maine (GOM) and nothing serious has happened and it is impossible to tell if $F_{10\%}$ is a threshold or a target. There are no targets established for lobsters. Vic Crecco does not believe that the GOM lobster population is near a collapse. If the GOM is actually at ~3% of virgin egg production and 97% of the egg production has been removed, something serious would have happened by now. Vic believes that the lobster GOM population could not persist for this long time period if indeed the population was at this low level. Vic further pointed out that it's the GOM that has to have the enormous cut (54%) in catch.
 - Vic Crecco suggested that maybe the T.C. should hindcast and look at F 's before 1982. He suggested the possibility of using the ASPIC model which likes contrasting F 's (ups & downs). Vic pointed out that between 1982 and 1999, there is not enough contrast.
 - Mike Fogarty stated that in the GOM, the fishing effort does need to have fishing effort reduced by ~50%. It was suggested to have this a long-term goal and implement this reduction in small steps. But, what is a reasonable pace to reach this 50% reduction?
 - Mike Fogarty pointed out that we can't blame the industry for being negative, but they should realize that the great number of animals just above minimum

size is a vulnerability.

- Heather Stirratt suggested that the T.C. ask the Board how they view $F_{10\%}$. Is it a threshold or a target?

- **Overfishing vs. Overfished**

- Larry Jacobson made a technical suggestion that overfishing should be avoided before an overfished stock is reached.
- Carl Wilson asked if LIS lobsters are in an overfished state since the die off? Vic Crecco pointed out that the LIS lobster stock has fallen to 1990 levels and stated that perhaps the die off in Western LIS occurred because lobsters were so dense that disease spread.

- **The Environment and Larval Subsidies**

- Carl Wilson pointed out that lobsters are sensitive to temperature.
- Mike Fogarty pointed out that although the lobster populations may be able to persist at very high rates under favorable conditions, a switch to unfavorable conditions (e.g., cold water temperature) could result in a situation where exploitation rates that were sustainable under favorable conditions would no longer be sustainable. Even if high exploitation rates can be sustained, they are far from optimal from either a biological or economic perspective and they entail increased risk to the population and this is not smart management. Mike believes the $F_{10\%}$ threshold provides a buffer against this uncertainty.
- Larry Jacobson stated that if the T.C. thinks that a changing of the environment could occur and this change would affect lobsters, the Managers need to be told.
- Mike Fogarty pointed out that if there are larval subsidies (large amount of larvae) from areas not heavily fished and these subsidies are helping out with the entire population, this has to be taken into consideration.

- **Setting Up Models and Their Risks**

- Larry Jacobson noted that if more complicated models are to be used in addressing the status of the lobster stock, the T.C. should look at the whole model and be sure to describe the risks to the Managers. If there is uncertainty about the analysis, it's best to have a wide separation between the target and the threshold.
- Vic Crecco pointed out that everything must be explained to the Managers.

- Larry Jacobson announced that it's not hard to set up simulation models, but it takes a long time to analyze the results.

- **Alternate Reference Points**

- A working table was drafted to address possible alternative reference points. This table presents: statistic used, model used, data source and whether the model or data presently exists. This will be given to the Management Board to help them direct the T.C.
- Another table was drafted to describe how different goals can be reached and the tools needed to meet these goals. This table is also to be used by the Management Board to direct the T.C.
- Heather Stirratt stated that the alternative reference points submitted to the Lobster Board will be from the T.C. as a whole.
- Larry Jacobson suggested that it would be best to find a reference point that works well with high levels of uncertainty (something robust). There should be a good explanation of why a particular reference point is used.
- It was noted by Heather Stirratt that the T.C. should consider the objectives in Amendment 3.
- It was noted that it will cost a lot of money to develop a reference point and there's a possibility that a better reference point will not be found.

***Presentation by Dick Allen: "Missing the Boat. Why Economics Beats Biology in Providing Fishery Management Guidance".**

- **SUMMARY**

This presentation stressed that although fishery management is generally considered a biological exercise, it is primarily an economic exercise concerned with the allocation of scarce resources among competing users. Biological reference points alone give little fishery management guidelines.

- **DISCUSSION**

- Dick Allen stated that with a fishing effort reduction per boat (reduction of # of traps) for all participants, that the profit for all fishermen will increase. Lobstermen need to cut back proportionally. Dick believes that lobstermen will make a better living if they understand this reduction in effort. Dick views trap reduction progress to occur in small steps within a 20 to 40 year span. Dick stated that a complete limited entry will change the possible management of the fishery. It was suggested that all lobstermen be given the ability to fish 800 traps, but of these 800 traps, 200 could be transferable

(details omitted here). The number of traps per individual would be reduced through the years and thus reduce the effort. Dick feels this will fulfill the objectives (#5 & #10) in Amendment 3.

- Paul Rago noted that reducing overall effort is difficult. Paul noted that Dick's ideal in 1995 was to lower everyone's # of traps; however, this did not happen. If this overall reduction occurred, and the lobstermen with fewer traps wanted to increase the number of their traps, they could have bought out the lobstermen with a greater number of traps when these lobstermen wanted to retire.
- Joe Idoine stated that it would be easy to reduce effort to the point that the lobster population could respond in a biologically favorable way. During the process, the industry would be reducing its costs of harvesting, and could absorb a short-term decrease in revenues (caused by a reduction in numbers and weight in the short term). The long-term expectation would be the continued lower level of numbers landed, but a return to approximately current levels of weight. The combination of the projected decrease in costs, and significantly less (if any) decrease in income would provide the industry with economic benefits, and the resource with a healthier size composition and improved resiliency for the future.
- It was noted that what has happened to the lobster fishery is that the lobstermen with lots of traps have had their trap numbers greatly reduced while all the lobstermen with fewer traps have been allowed to come up from the bottom.
- Mike Fogarty suggested that we look at Canada's management, where they have closures and fish when it's most economically profitable. (Remember that Canadians receive government subsidies).
- Carl Wilson noted that in order to get boats out of the fishery, the economics would have to be so bad that there would almost have to be a stock crash.

Measuring Conservation Equivalency

Conservation Equivalency for Mandated Prohibition on Possessing V-Notched Females

- Heather Stirratt pointed out that the Management Board wants the T.C. to look at conservation equivalency in detail at a future date and she asked for suggestions for points of discussion. Heather asked whether the T.C. can measure conservation equivalency for currently prohibition of possessing V-notched females. She noted that the Management Board will discuss this at the next meeting when they examine Amendment 4.
- It was noted that analyses of conservation equivalency of egg production (v-notching vs. that protected by gauge increases) were requested of Massachusetts TC representatives by the OCCLCMZ. This information was

prepared and presented to the TC in Portland, ME by Bob Glenn in spring of 2000. Since those data and associated analyses were not requested for discussion at this meeting further evaluation based on the specifics of those analyses were temporarily tabled.

- Bruce Estrella made reference to the previous TC meeting in Portland, ME last spring, 2000 where the OCC V-notch equivalency issue was first discussed. A question had been raised at that meeting about whether the taking of V-notch lobsters off the Outer Cape affects areas from which they originated. Several points were made to address this: (1) tagging studies show that lobsters not only move southwesterly from ME toward NH and MA (in addition to inshore and offshore throughout the range) but, lobsters also migrate from the Outer Cape area northward and westward into MA waters and northward into ME waters. No one really knows where the lobsters originated, i.e. their natal areas. Thus, there is a sort of trading going on, i.e., lobsters moving northward from MA are likely taken in ME waters; (2) There appears to be a “blanket” assumption that all V-notched lobsters originate in ME when, in fact, V-notching has been documented as a practice among some MA lobstermen as well. Therefore, the source of any one V-notched lobster caught off MA can not be definitively determined. Industry members tend to argue that the original intent of extending V-notch protection was to protect ME V-notched females; (3) Despite this knowledge, concerns have been raised about the taking of V-notch lobsters on the ME resource. Broad based protection of V-notched lobsters (i.e., beyond ME) has only been in relatively recent history. Yet, V-notching has been practiced in ME for roughly 75 years during which time V-notched lobsters migrated from ME waters and were landed in NH and MA and elsewhere. Given the stable (and escalating) history of landings in ME, it is therefore difficult to argue that the historical (out-of-state) landing of V-notched lobsters was or is harmful to the ME resource.
- Joe Idoine noted that the Outer Cape is a particular stock area and what they propose for conservation equivalency should be evaluated as to how well they lower their effort. Either as a T.C. we should state that they are coming up with a benefit to their area; or we say that we cannot evaluate as a T.C. on any one particular management area. Anything one area does may affect another area negatively, especially if areas are not matched with the stocks. The purpose of the management plan is to make the resource better instead of worse.
- Carl Wilson wants previous analyses and additional data treatments of the OCC conservation equivalency issue to be presented for discussion at the next TC meeting.
- There was no consensus on the V-notching issue.

Effort Reduction

- The Effort Reduction Sub-Committee (still to be approved) had nothing to report

since the “report was presented as part of the conference call preceding this meeting.”

Other Business

- The budget for future meetings was discussed. Amy Schick planned for a total of 3 or 4 T.C. meetings in 2001, but it was noted that if meetings were held in a location where the cost would be less, there might be an opportunity to hold additional meetings in 2001.