The Bering Sea/Aleutian Islands (BSAI) Crab Plan Team met September 20-21 in Anchorage. The Team meeting was held to prepare the annual stock assessment and fishery evaluation (SAFE) report and review guideline harvest levels (GHLs). The meeting was based on the following agenda.

- Introductions, Agenda
- Review survey information and GHLs
- Prepare and review SAFE report
- Review biological seasons for crab
- Status reports on development of biological reference points
- Crab FMP EIS Scoping meeting
- Review of BOF proposals pertaining to crab
- Discussion of biological issues relative to rationalization programs
- Report on Crab EFH SEIS

The team welcomed a new member, Forrest Bowers. Mr. Bowers is the ADF&G Area Management Biologist for the shellfish fisheries of the Bering Sea/Aleutian Islands and replaces Rance Morrison (ADF&G, retired) on the team. The team also voted to add an additional member to the team, Dr. Louis Rugolo. Dr. Rugolo is a fishery research biologist at the NMFS Kodiak Lab with responsibilities including those pertaining to crab assessment and management issues. Dr. Rugolo was formally the director of a fisheries research and stock assessment program for the state of Maryland, was SSC member to the Mid-Atlantic Fishery Management Council process, chair of the NOAA Chesapeake Bay Stock Assessment Committee, and taught fisheries science, management, and population dynamics at the University of Maryland.

Survey Data and GHLs

The Team reviewed the survey data, and rationale for the 2001/2002 GHLs. A full summary is provided in the SAFE report. A few additional notes were discussed by the team and included here.

**Pribilof Blue king crab** - The stock is in a 7 year declining trend and approaching MSST.

**Pribilof red king crab** - The stock is estimated to be above Bmsy, but survey estimates are highly uncertain. The fishery remains closed in 2001 due largely to concerns about potential blue king crab bycatch, coupled with uncertainty of the red king crab stock abundance estimates. The team expressed continued dismay and frustration at the inability to improve precision of stock abundance estimates, particularly for those of the Pribilof red king crab stock. Present methods and coverage of the NMFS EBS trawl survey do not provide the data for reliable estimates of abundance and trends that is needed for management of this stock. New surveys may be required for Pribilof red and blue king crabs. The appropriateness of the Bmsy established for this stock was also questioned; Bmsy estimated for this stock from the 1983-1997 data may be too low for current conditions.
SAFE Report

This year's SAFE report includes an updated Executive Summary, which now includes information on CDQ fisheries and number of licenses issued under the crab license limitation program, the American Fisheries Act crab sideboards, and the BSAI crab capacity reduction program.

Biological Seasons

The Team reviewed Figure E-3 from the FMP, which shows the molting/mating time periods for BSAI crabs. Gretchen brought it to the teams attention given its potential importance relative to season management under future rationalization programs. The team offered its expert opinions on timing of molting/mating periods, and suggested some changes to reflect the best available scientific information. A revised figure will be prepared based on the following molting/mating time periods. The plan team may revise these dates after consulting additional scientific information.

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Molting/mating time period</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. opilio</td>
<td>May 15 to July 31</td>
</tr>
<tr>
<td>C. bairdi</td>
<td>April 1 to July 31</td>
</tr>
<tr>
<td>blue king</td>
<td>Feb. 1 to July 31</td>
</tr>
<tr>
<td>red king</td>
<td>Jan. 15 to June 30</td>
</tr>
<tr>
<td>red king Norton Sound</td>
<td>Sept. 15 to Oct. 31</td>
</tr>
<tr>
<td>golden king</td>
<td>Jan. 1 to Dec. 31</td>
</tr>
</tbody>
</table>

At the request of the Plan Team, Tom Shirley provided an overview of results from recent studies on the effects of wind chill on crabs and old shell crab senescence.

BOF Proposals

The crab plan team reviewed the proposal categories and management measures for the March 2002 State of Alaska Board of Fisheries meeting. The attached spreadsheet summarizes that review. The team highlighted proposals #414, 416, 419, 422, 424, 425-431, 437, 496, and 51 as issues that the Council may be interested in. There are several groundfish proposals that the Council may have an interest in: 402, 407, and 50. Groundfish proposals are scheduled for public hearing at the January Board meeting, with deliberation on the proposals to occur at the March Board meeting.

Biological Reference Points

Shareef Siddeek provided the Team with a review of his work on biological reference points. The team found the approach to be a promising alternative to the present method for determining overfishing rates, Bmsy, and MSST and that this approach should be strongly considered when the team reevaluates overfishing and Bmsy definitions in 2003. The team requested that he prepare a written report and distribute it to team members for further review by December 2001.
BSAI King and Tanner Crab FMP EIS

Gretchen Harrington presented information on the intent of NMFS to prepare an environmental impact statement for the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (FMP). This presentation was the first of a series of scoping meetings. NMFS is seeking written public comments on the scope of issues that should be addressed in the EIS and alternatives that should be considered for management of the BSAI crab fisheries. The proposed action to be addressed in the EIS is the rationalization of the BSAI crab fisheries. Given this proposed action, the scope of the EIS will be a programmatic review of the FMP, examining all activities addressing the conduct of the BSAI crab fisheries authorized under the FMP, including components of proposed rationalization programs and potential changes to the management of the fisheries under these programs. The scope of the analysis is intended to be broad enough for the Council and NMFS to make an informed decision on a rationalization program and undertake further analysis of other changes to the FMP as necessary with the implementation of these programs.

Discussion of biological issues relative to rationalization programs

The team discussed questions raised by Mark Fina (Council staff) relative to the Council analysis of BSAI king and Tanner crab fishery rationalization. Biological and management issues discussed included stock projections for the future, inseason management under a quota system, possible changes in management measures that are Category 2 under the FMP (seasons, size limits, pot limits, and GHLs), management of the Pribilof king crab fishery, possibilities for high-grading under a quota system, and allocation of quota in the Aleutians golden king crab fishery. The team provided some guidance on information available for stock projections. The team discussed but did not resolve the issues that would need to be addressed with regard to inseason management under a quota system. A point was made that the new conservative harvest strategies may preclude the need for inseason closures because the GHL is now a smaller portion of the harvestable stock and so there is a larger margin of error for the abundance estimates. The team noted that proposals to the Board of Fisheries on Category 2 management measures (particularly those pertaining to seasons, pot limits, and minimum GHLs) could be anticipated, but given the suite of issues involved in such measures and the uncertainty on the final form of any rationalization program, the team declined to predict exactly how such measures would change under rationalization. Given the size limits that exist in the crab fisheries and experience with the CDQ fisheries, the team tentatively did not feel that rationalization would lead to a substantial increase in high grading relative to that seen in present fisheries; changes in processor practices related to tiered pricing structures could, however, promote high grading. The team discussed the reasons for the practice of pooling the Pribilof red and blue king crab GHLs into a single Pribilof king crab GHL and felt that, given the present precision of estimates for those two stocks, the practice would continue under rationalization; substantial price differences between red and blue king crab in the future could, however, raise biological conservation concerns due to changes in fishing practices. The team felt that allocating quota shares for Aleutians golden king crab east and west of 174° W longitude raised no biological concerns as long as the fishery was continued to be managed to separate GHLs established for the areas east and west of 174° W longitude.

Report on Crab EFH SEIS

The team received a report from Cindy Hartman and Matthew Eagleton of NMFS Habitat Conservation on the SEIS that they will be preparing on the Essential Fish Habitat amendments to the FMP. The team noted the shortcomings on data related to essential fish habitat for crab in the BSAI and reviewed the approach and information supplied by the team relative to those shortcoming for the EFH amendment prepared in 1998. Team members offered to provide suggestions on any alternative approaches to defining crab EFH that may be feasibly employed and analyzed and noted that the team would review the SEIS, if requested by NMFS.

Others in attendance were: Ben Enticknap, Jeff Steele, Linda Kozak, Dick Powell, Lenny Herzog, Arni Thomson, Steve Davis, Joe Sullivan, Francine Bennis, and Tom Casey (by telephone).