

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver *Chris*  
Executive Director

ESTIMATED TIME 1 HOUR
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DATE: May 4, 2004

SUBJECT: Crab Management

**ACTION REQUIRED**

Receive update from the crab workgroup on revising the crab FMP overfishing definitions;  
Receive Crab Plan Team report.

**BACKGROUND**

At their October 2003 meeting, the Crab Plan Team reviewed the current overfishing definitions in the FMP for BSAI king and Tanner crab stocks. The current overfishing definitions were adopted by the Council under Amendment 7 in 1998. At that time, the plan team recommended that the overfishing definitions be reviewed five years after the adoption of Amendment 7. A working group, comprised of analysts from state and federal agencies, has been working on evaluating the necessity of revising these overfishing definitions in the Crab FMP and the scope of work involved in doing so. A work plan prepared by the working group, detailing the scope of their task and those elements of the current definitions in the FMP that merit revision, was presented to the SSC at their February 2004 meeting. At that time, the SSC requested that the workgroup next present a draft tier system for BSAI king and Tanner crab stocks. This draft tier system is attached as Item D-4(b)(1). Dr. Jack Turnock (NMFS) will provide an overview of the working group's draft tier system and an update on the working group's progress to date.

The Crab Plan Team met in Anchorage May 18-19th, 2004. The purpose of this additional meeting was to review fishery and stock information prior to the fall plan team meeting as per Council direction in October 2003. The minutes from the Crab Plan Team meeting are attached as Item D-4(b)(2). Mr. Doug Pengilly (ADFG), the chairman of the Crab Plan Team, will provide an overview of the items discussed at the meeting, and review the utility of having an additional spring Crab Plan Team meeting on an annual basis.

**Crab Working Group Draft Tier System for BSAI King and Tanner Crab Stocks**

**Lou Rugolo, Shareef Siddeek, Jack Turnock, Jie Zheng**

**May 28, 2004**

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**The current tier system for BSAI King and Tanner crab stocks (Crab FMP 1998)**

The existing tier system is based mostly on the amount of survey information since survey data is used to estimate overfishing definitions. Tier 1 is the least amount of information, tier 3 the most information. Overfishing is evaluated by comparing MSY (includes mature males and females) to the Guideline Harvest Level (GHL) (includes retained males only, no bycatch).

Tier 1. crab stock is not surveyed. Some catch data available.

$F_{msy} = M = 0.2$  (King), 0.3 (Tanner and snow)

Bmsy not estimable

MSY is estimated from a proxy of mature biomass and stock utilization rate

Tier 2. sporadic or limited years of survey data. Catch and effort data on each crab stock is well documented.

$F_{msy} = M = 0.2$  (King), 0.3 (Tanner and snow)

Bmsy not estimable

MSY is estimated from a proxy of mature biomass and stock utilization rate

Tier 3. Data available: historical catch, continuous inseason catch and effort data, stock assessment, growth, maturity, limited natural mortality and stock recruitment relationship information.

$F_{msy} = M = 0.2$  (King), 0.3 (Tanner and snow)

Bmsy is the average survey biomass of mature males and females from 1983 to 1997

$MSY = B_{msy} * F_{msy}$

MSY has been estimated for all stocks except Aleutian Islands scarlet king and Eastern Bering Sea scarlet king crabs.

**Draft tier system for BSAI King and Tanner crab stocks**

The proposed tier system has six tiers that have been modified from the current NPFMC groundfish tier system. Tiers are based on whether reliable estimates are available for biomass (survey or model) and reference points, and whether a model has been implemented for the assessment. Tiers 1 through 3 are for stocks with length or age structured models which incorporate survey and fishery data. For tiers 1 through 3, reliable estimates of necessary input data and parameters are needed for models that provide estimates of a time series of B, and of

Bmsy and Fmsy or their proxies. Stocks in tiers 1 through 3 do not necessarily have annual surveys, however surveys and other information have to be reliable to be used in a stock assessment model. Tiers 1 and 2 are for stocks with a reliable estimate of the spawner recruit relationship. Tier 1 is for stock assessments where the probability density function of Fmsy is estimated. Tier 3 is for stocks where reliable estimates of the spawner recruit curve are not available, however, proxies for Bmsy, Fmsy and Ftarget can be estimated.

Fabc is the maximum target F to ensure a buffer between the overfishing F and the target F as required by National Standard Guidelines 1 (NSG1). The setting of the target F has been deferred to Alaska Department of Fish and Game (ADF&G) with oversight by the Federal Government. The target F corresponding to the annual quota can be set anywhere below the Fofl, however, to comply with NSG1 there must be a buffer between the target F and the Fofl to ensure that the Fofl is not exceeded.

Tiers 4 through 6 are for stocks with no stock assessment model. The MSY control rule for tiers 4 and 5 declines with B similar to tiers 1-3, however, a proxy for Btarget is estimated based on survey data instead of through modeling. Tier 4 is where maturity information and other life history information are available to estimate proxies for Fmsy and Ftarget, however, there is no stock assessment model. Btarget would need to be determined based on survey data. Tier 5 stocks have no estimates of proxy Fmsy or Ftarget, so a default value of M is used, i.e. there is a reliable estimate of current biomass (survey biomass) and of M. Tier 6 stocks have no reliable estimates of biomass and/or M, so catch history is used to set limits and targets in terms of catch instead of fishing mortality.

The control rule reduces F as biomass declines for tiers 1 through 5 (groundfish control rule reduces F for tiers 1 through 3 only). A proxy for Btarget would need to be estimated for tiers 4 and 5. The groundfish control rule uses an  $\alpha$  of 0.05 (F is zero at  $0.05 \cdot B_{msy}$ ), uses F35% as a proxy for Fmsy and F40% as a target F when Fmsy is not estimable. The proxy values are being determined for crab stocks based on modeling work. Biomass values for groundfish are female spawning biomass. Crab stocks will use effective spawning biomass, which incorporates female and male spawning biomass with an adjustment for the mating ratio. If there are not enough mature males to fertilize females, then the effective spawning biomass will be lowered. This requires assumptions regarding the optimum mating ratio and the component of the male stock that is effective at mating. All mature males may not be successful at mating depending on their size and molt history.

The proposed tier system for crabs incorporates a relative biomass value ( $\beta$ ) below which F is 0 (Figure 1). This would result in F=0 at a biomass value most likely above the value implied by  $\alpha$ . For example, the current harvest strategy for Bering Sea snow crab (not the overfishing definitions) reduces fishing mortality to 0 at 25% of Bmsy.

**Tier 1) Information available: *Reliable point estimates of B and B<sub>MSY</sub> and reliable pdf of F<sub>MSY</sub>.***

1a) Stock status:  $B/B_{MSY} > 1$

$F_{OFL} = \mu_A$ , the arithmetic mean of the pdf

$F_{ABC} \leq \mu_H$ , the harmonic mean of the pdf

1b) Stock status:  $\beta < B/B_{MSY} \leq 1$

$F_{OFL} = \mu_A \times (B/B_{MSY} - \alpha) / (1 - \alpha)$

$F_{ABC} \leq \mu_H \times (B/B_{MSY} - \alpha) / (1 - \alpha)$

1c) Stock status:  $B/B_{MSY} \leq \beta$

$F_{OFL} = 0$

$F_{ABC} = 0$

2) Information available: *Reliable point estimates of  $B$ ,  $B_{MSY}$ ,  $F_{MSY}$ ,  $F_{PMSY}$  (proxy for  $F_{msy}$ ), and  $F_{Target}$ . The  $F\%$  proxies for  $F_{msy}$  and  $F_{target}$  would need to be determined for crab stocks.*

2a) Stock status:  $B/B_{MSY} > 1$

$$\begin{aligned} F_{OFL} &= F_{MSY} \\ F_{ABC} &\leq F_{MSY} \times (F_{Target}/F_{PMSY}) \end{aligned}$$

2b) Stock status:  $\beta < B/B_{MSY} \leq 1$

$$\begin{aligned} F_{OFL} &= F_{MSY} \times (B/B_{MSY} - \alpha)/(1 - \alpha) \\ F_{ABC} &\leq F_{MSY} \times (F_{Target}/F_{PMSY}) \times (B/B_{MSY} - \alpha)/(1 - \alpha) \end{aligned}$$

2c) Stock status:  $B/B_{MSY} \leq \beta$

$$\begin{aligned} F_{OFL} &= 0 \\ F_{ABC} &= 0 \end{aligned}$$

3) Information available: *Reliable point estimates of  $B$ ,  $B_{Target}$ ,  $F_{PMSY}$ , and  $F_{Target}$ . The  $F\%$  and  $B\%$  proxies for  $F_{msy}$ ,  $F_{target}$  and  $B_{target}$  would need to be determined for crab stocks.*

3a) Stock status:  $B/B_{Target} > 1$

$$\begin{aligned} F_{OFL} &= F_{PMSY} \\ F_{ABC} &\leq F_{Target} \end{aligned}$$

3b) Stock status:  $\beta < B/B_{Target} \leq 1$

$$\begin{aligned} F_{OFL} &= F_{PMSY} \times (B/B_{Target} - \alpha)/(1 - \alpha) \\ F_{ABC} &\leq F_{Target} \times (B/B_{Target} - \alpha)/(1 - \alpha) \end{aligned}$$

3c) Stock status:  $B/B_{Target} \leq \beta$

$$\begin{aligned} F_{OFL} &= 0 \\ F_{ABC} &= 0 \end{aligned}$$

4) Information available: *Reliable point estimates of  $B$ ,  $F_{PMSY}$ , and  $F_{Target}$ . No stock assessment model, but reliable estimate of a proxy for  $B_{Target\%}$  based on survey data. The  $F\%$  and  $B\%$  proxies for  $F_{msy}$ ,  $F_{target}$  and  $B_{target}$  would need to be determined for crab stocks.*

4a) Stock status:  $B/B_{Target} > 1$

$$\begin{aligned} F_{OFL} &= F_{PMSY} \\ F_{ABC} &\leq F_{Target} \end{aligned}$$

4b) Stock status:  $\beta < B/B_{Target} \leq 1$

$$\begin{aligned} F_{OFL} &= F_{PMSY} \times (B/B_{Target} - \alpha)/(1 - \alpha) \\ F_{ABC} &\leq F_{Target} \times (B/B_{Target} - \alpha)/(1 - \alpha) \end{aligned}$$

4c) Stock status:  $B/B_{Target} \leq \beta$

$$\begin{aligned} F_{OFL} &= 0 \\ F_{ABC} &= 0 \end{aligned}$$

- 5) Information available: *Reliable point estimates of B and natural mortality rate M. No stock assessment model, but reliable estimate of a proxy for B<sub>Target</sub> (B% would need to be determined for crab stocks) based on survey data. There may need to be a multiplier on natural mortality ( $\gamma$ ) to get F<sub>OFL</sub> if M is determined not to be a good proxy for a target F for crab stocks.*

5a) Stock status:  $B/B_{Target} > 1$

$$F_{OFL} = \gamma \times M$$

$$F_{ABC} \leq 0.75 \times F_{OFL}$$

5b) Stock status:  $\beta < B/B_{Target} \leq 1$

$$F_{OFL} = \gamma \times M \times (B/B_{Target} - \alpha)/(1 - \alpha)$$

$$F_{ABC} \leq 0.75 \times F_{OFL} \times (B/B_{Target} - \alpha)/(1 - \alpha)$$

5c) Stock status:  $B/B_{Target} \leq \beta$

$$F_{OFL} = 0$$

$$F_{ABC} = 0$$

- 6) Information available: *Reliable catch history from a time period to be determined (groundfish uses 1978 through 1995). Need to evaluate 0.75 reduction for crab stock.*

*OFL = the average catch from a time period to be determined, unless an alternative value is established by the SSC on the basis of the best available scientific information.*

$$ABC \leq 0.75 \times OFL$$

### Incorporating the limit reference point system into the tier system

The limit reference point system proposed for crab stocks would result in an overall score based on scores for individual components of the health and status of a stock. This overall score would be used to adjust the F<sub>OFL</sub> and F<sub>ABC</sub> values in the above tier system. The scoring system, which tiers to apply it to and the method of application will be recommended by the working group.

### **Current tier system assignment**

#### Tier 1 stocks

Pribilof Islands golden king

Saint Matthew golden king

Western Aleutian Tanner crab (*C. bairdi*)

Saint Lawrence Island blue king

Aleutian Islands scarlet king

Bering Sea triangle Tanner

Eastern Aleutian Islands triangle Tanner

Eastern Aleutian Islands grooved Tanner

Western Aleutian Islands grooved Tanner

Bering Sea grooved Tanner

Tier 2 stocks

Adak red king

Dutch harbor red king

Norton Sound red king

Aleutian Islands golden king

Eastern Aleutian Islands Tanner (bairdi)

Tier 3 stocks

Bristol Bay red king

Pribilof Islands red king

Pribilof Islands blue king

Saint Matthew Island blue king

Bering Sea C. bairdi Tanner

Bering Sea C. opilio snow

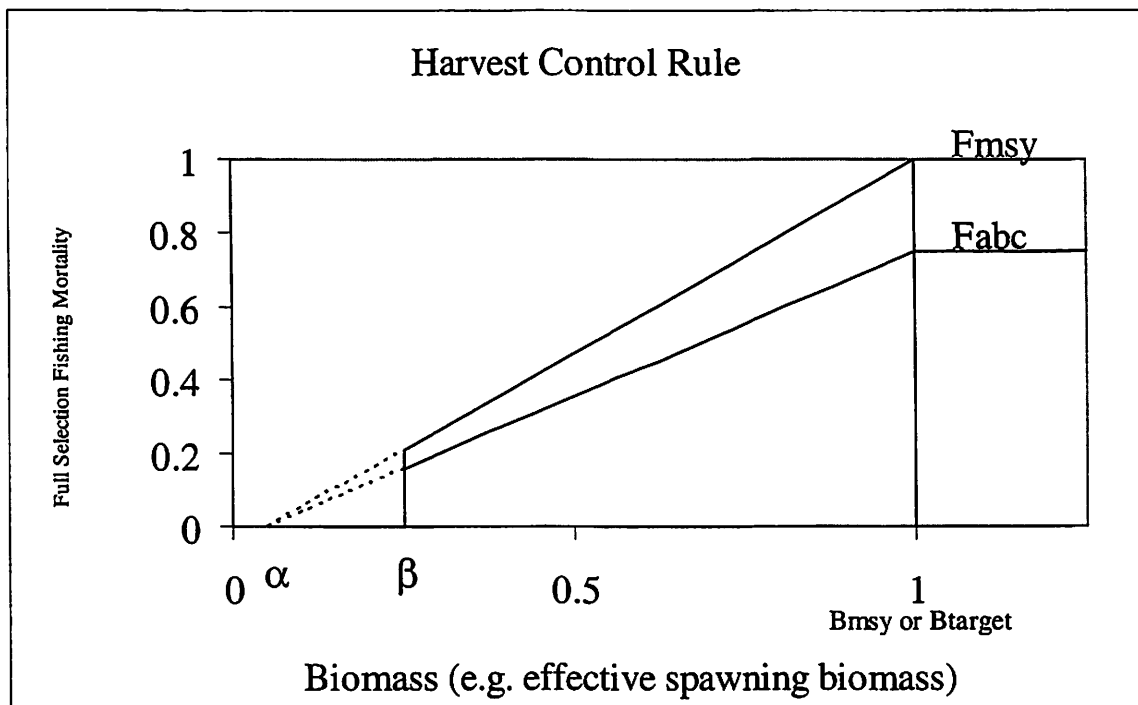


Figure 1. Harvest control rule example.

**DRAFT BSAI King and Tanner Crab Plan Team minutes  
May 18-19th, 2004  
West Coast International Inn, Anchorage, AK**

Members present:

Doug Pengilly (ADFG, chair)  
Gretchen Harrington(NMFS)  
Bob Otto(NMFS)  
Forrest Bowers(ADFG)  
Wayne Donaldson (ADFG)  
Diana Stram (NPFMC)  
Tom Shirley (UAF)  
Jack Turnock (NMFS)  
Shareef Sideek (ADFG)  
Herman Savikko (ADFG)

Members absent: Lou Rugolo (NMFS), Joshua Greenberg (UAF)

Additional personnel attending: Brent Paine, Ken Tippet, Jack Tagart, Russ Moore, Warner Lew, Ivan Vining, Jie Zheng, Arni Thompson (phone), Gary Painter (phone), Mark Messing (phone), Tom Casey (phone)

The BSAI Crab Plan Team meeting was convened at 10am on Tuesday May 18<sup>th</sup> at the West Coast International Hotel in Anchorage, AK.

The following agenda was approved for the meeting:

- Review purpose and products from spring and fall CPT meetings
- Process and information requirements for Data Quality Act
- Stock Assessments and Catch Data
- Update by Crab Workgroup on revising overfishing definitions
- Update on Crab Rationalization
- Wrap up

The Team agreed to discuss a policy for teleconference access to CPT meetings and other logistical issues at the end of the meeting under the "Wrap Up" session.

The Team decided to allow informal participation by the public during this meeting with the provision that, if that became disruptive, questions and comments from the public would be limited to the end of an agenda item.

**Review purpose and products of CPT meeting(spring and fall)**

The Team discussed the purpose and rationale for convening a Spring CPT meeting. The idea was initially discussed at the September 2003 CPT meeting. The primary function of the spring meeting would be to better prepare the Team for their for the fall meeting at which the annual SAFE report is produced. A review of the most recent stock assessment reports (including an overview of methods and discussion of any

problems or issues) and review of the most recent season's fisheries during the spring meeting would serve that function. Due to time and other constraints, only limited time has been available for such reviews during the fall meetings. The spring meeting also allows for timely progress reports by CPT work groups. The Council concurred with the CPT that a spring meeting might provide useful discussion opportunity and agreed to try this for one year on a trial basis and then reevaluate how useful the meeting was.

It was noted that there would still not be sufficient time for detailed technical review of each stock assessment model during the Spring meeting. Detailed technical reviews of assessment models have been performed at annual NMFS-ADF&G stock assessment workshops that were initiated two years ago; some, but not all participants in those meetings are Team members. One possibility considered by the Team was to also perform a technical review of one stock assessment model each year at the Spring Plan Team meeting. One practical issue noted in this regard is that not all authors of crab stock assessment models are Plan Team members; some are ADF&G staff. How would their participation be required and financially supported?

Related to review of stock assessment models, the Team discussed the role of the Plan Team in the GHL-setting process. Currently the Team reviews GHLS established and announced by the state for compliance with the FMP. There was some disagreement, however, among Team members as to whether the Plan Team can or should provide further review and comments on GHLS and the state's GHL-setting process and whether GHLS can or should be reviewed at Team meetings prior to the state's establishment and announcement of GHLS. Some members felt that it would be impossible to separate a stock assessment and overfishing evaluation from the determination of the GHL. In support of an expanded review of GHLS at Plan Team meetings, the October 1993 State/Federal Action Plan for Management of Commercial King and Tanner Crab Fisheries was cited: "The purpose of a Plan Team review (of GHLS) will be to formally incorporate its input in the GHL process". On the other hand, it was noted that the citation was open to interpretation and should not be interpreted in contradiction with the state's authorization to establish GHLS as a Category 2 measure frameworked in the FMP. This led to a general discussion of the 1993 State/Federal Action Plan relative to the FMP and questions as to whether or not ADF&G and NMFS need to review and potentially revise this agreement.

The Team decided to seek guidance from the SSC and the Council on three matters:

- 1) Does the Council find the spring CPT a necessary component of the CPT's responsibility to review stock and fishery information for preparation of the Crab SAFE?
- 2) Does the Council find regular technical review of stock assessment models a necessary responsibility of the CPT?
- 3) Clarification on the Crab Plan Team review of and input in the state fishery GHL (or TAC) determination process: What, if any, other input in the GHL/TAC process can or should the CPT provide beyond those pertaining to compliance with the FMP? Can or should GHLS (TACs) be reviewed at CPT meetings prior to their establishment and announcement by the state?

#### **Data Quality Act:**

Jack Turnock gave a presentation on the Information Quality Guidelines (IQG) and discussed how this might relate to issues and documentation related to stock assessments and the Crab SAFE report. Gretchen Harrington commented on how NOAA fisheries complies with the IQG, but stated that the Crab SAFE report was excluded because it is a Council document and thus not covered by these guidelines. However, any NMFS input to the SAFE report should comply, as well as the annually produced Report to Industry. Groundfish SAFE reports were noted to be a separate case because NMFS adopts these SAFEs in the TAC-



Setting process (the groundfish SAFE Reports are actually appendices and thus part of the TAC Setting EA produced by NMFS).

### **Stock Assessment and Catch Data**

Forrest Bowers provided the Team with an overview of the most recent fisheries and management issues for each stock for which data was not confidential: 2003 Aleutian Islands golden king crab; 2003 Bristol Bay red king crab; Petrel Bank red king crab; and 2004 Bering Sea snow crab. Bowers also provided the Team with an overview of the important issues associated with those fisheries. This information is still in preliminary draft form but will be included in the 2004 SAFE report to be compiled at the Fall CPT meeting. Douglas Pengilly provided the Team with an overview of the observer data available from those fisheries.

The desirability of reviewing fisheries for all 22 FMP stocks was noted. The issue of state confidentiality restrictions for some fisheries was discussed in this regard; virtually all data from fisheries in which less than three vessels or processors participated are considered confidential by the state. Hence there are problems in reviewing smaller fisheries in an open session. The team discussed the possibility of an executive session to discuss any stocks or information that is protected by the state confidentiality statute. Bowers also noted that a review of Norton Sound and St. Lawrence Island stocks would require presence of ADF&G Region III staff at the meeting.

### **Issues pertinent to summer research schedule**

#### **Trawl performance issues:**

Bob Otto provided an overview of a recent manuscript by P. Von Szalay and D. Somerton (NMFS, AFSC) regarding performance of the trawl gear used in the annual NMFS eastern Bering Sea survey. The manuscript is currently under internal review and was not available to the Team. The manuscript reports on trends in survey CPUE (biomass) of four species of flat fish that suggest decreased catchability due the lifting of the footrope off the bottom. It is not clear whether the apparent problem has been consistently expressed during each of the 14 years that the current gear and vessels have been used in the survey. There have been concerns raised recently that these findings could be pertinent to opilio biomass estimates from the NMFS trawl survey. Otto reported that the trawl survey data on opilio for last 14 years of trawl surveys have been supplied to the NMFS scientists for analysis. Noting the importance of survey catchability for the stock assessment models, the Team will request that NMFS complete the analysis of the opilio data as soon as possible so that this issue can be resolved in time for incorporation into the on-going work on the overfishing definitions. The team will revisit this issue at the fall 2004 CPT meeting with a status report of the analysis and review of any additional information available at that time.

#### **Aging of Snow Crab:**

Tom Shirley presented a discussion of the poster he recently presented at the 2004 World Fisheries Congress. This poster described on-going work on a new technique for estimating ages of snow crabs. Results of the study and application of the aging method may assist in our understanding of the biology of crab and in estimating parameters for stock assessment models. The paper will be provided to the CPT once it has been peer-reviewed and accepted for publication.

Industry-funded augmentation of the NMFS EBS trawl survey for assessment of snow crab:

Bob Otto reported on development of an MOU between NMFS and a research foundation funded by the BSAI crab industry. Otto noted that the MOU has been completed and funding is available for use this summer. Currently, greatest interest from the industry group is to provide funds for augmenting the NMFS EBS trawl survey to better evaluate snow crab stock status.

Otto provided an overview of two questions pertaining to snow crab that could be potentially addressed by augmenting the 2004 trawl survey. One is evaluating the changing distribution of snow crabs in recent years. Otto presented some preliminary work on the results of the 2001-2003 surveys in relation to the distribution of snow crab. There has been a trend in an increasing proportion of the annual survey catch of mature animals occurring at the northern margins of the regular survey area, suggesting the possibility that a decreasing proportion of the population's mature animals are available to the regular survey. Augmenting the survey by extending the survey beyond the northern margins of the regular survey area could be useful in evaluating this situation. Alternatively, there has been the desire for increased precision in the snow crab abundance estimates. Using the research funds to increase the sampling effort within the regular survey area could increase the precision of the abundance estimates for the surveyed area. However, Otto presented a preliminary analysis suggesting that increasing sampling with the funds available may provide only a negligible increase in precision.

Suggestions were solicited from the CPT for other means to approach this problem as well as other ideas for opilio research or other crab research that might be amenable to industry funding. Team members noted that increasing sampling within the regular survey area would provide more information on survey precision and design, if not appreciably increasing survey precision. The need for tagging studies was discussed, although they were acknowledged to be difficult to implement, need to be exceptionally well-designed, and would be expensive to achieve worthwhile results. Studies on the effects of ocean temperature on opilio reproduction were suggested: What is the relative reproductive capacity and contribution to the reproduction of the population by females in the colder habitat areas and what is the larval survival at different temperatures? Related to that is the need to investigate amount of time mature female opilio spend in colder waters relative time constraint to effect diapause in embryos and initiate biennial spawning (versus annual) spawning.

Brent Paine suggested the CPT develop a priority list of research ideas for the research foundation to utilize in developing its plan for the next several years. He noted that the implementation of crab rationalization will allow for more flexible applied research as the pace of the fishery will slow down and more vessels of opportunity will be available as platforms.

Discussion ensued on the need for studies to directly evaluate the catchability of opilio by the survey trawl net given the concerns raised previously in this regard.

The team agreed on the value of three areas of research on opilio that could be initiated in conjunction with the 2004 survey: 1) increase the surveyed area (both spatial and bathymetric distribution) to better cover opilio distribution; 2) augment sampling in stations on the existing survey to increase or better estimate the precision of current estimates; 3) ground truth concerns raised on catchability of opilio by the trawl gear. It was decided that any sort of tagging studies or studies of on reproduction and larval survival would be inherently difficult in the first year of this augmented research.

The Crab Plan Team will reevaluate this at their fall 2004 meeting with the intent to put together a more long-range list of research priorities at that time.

Methodology for stock assessment modeling:

This agenda item was understood to be somewhat premature at this meeting, but allowed the team the opportunity to discuss expectations for future meetings and reviews of stock assessments and stock assessment modeling.

Members of the public present questioned when the public would get a chance to review technical details of the stock assessments and modeling methodology. It was noted that this usually occurs in inter-agency meetings that are closed to the public. The team discussed the potential for the spring meeting to function primarily as a stock assessment review, noting that this would require additional time allotted to this meeting as well as cause potential budgetary problems with travel for stock assessment authors to present at this meeting. The team decided to seek guidance from the Council on the role of the spring meeting and the length of time necessary for the meeting to become a more functional stock assessment review meeting. One possibility would be to focus on a single stock each year for detailed review while having shorter presentations on the status of the remaining stocks.

Jack Turnock gave a review of his on-going snow crab assessment model. Some of the issues that he is working on involve: 1) The problem of reliable shell-aging of crabs leading to uncertainty in the natural mortality parameter and molt probability in the model; and 2) Correlating periods of fishery exploitation peaks with the percentage of barren females in the population. Turnock noted the possibility that there is a spatial difference in the percentage of barren females, in which case, some consideration in the future might be given to splitting the GHL spatially to allow differential exploitation in south and northern areas.

Update by Crab Workgroup on overfishing definitions:

Siddeek presented an overview of the background behind the current overfishing definitions in the FMP as well as the work plan developed by the CPT workgroup on revising these definitions. The revision will occur as a plan amendment scheduled for initial review by the Council in June 2005. Siddeek provided an overview of the workgroup activities and the progress to date on the workplan. The workplan was presented to the SSC at the February 2004 Council meeting, and an update to the SSC on the draft tier system is on the schedule for the June 2004 SSC meeting.

Jack Turnock presented the draft tier system under development for the crab stocks. This tier system is based upon the groundfish tier system and will be presented to the SSC at their June 2004 meeting. The workgroup is still developing this tier system and has not yet assigned individual crab stocks to tiers. Siddeek gave his preliminary suggestions for assigning stocks to tiers, which were debated by Team. Principal comments pertained to questioning whether any stock met the data requirements for Tier 1. There was also general discussion about what was meant by "reliable estimate of spawner-recruit relationship" for assigning to tiers 1 and 2: did this pertain to the quality of data available or to the degree of fit in the data? It was clarified that tier 1 and 2 assignment was based on a good fit in the spawner-recruitment relationship.

The workgroup will next meet in Seattle in June just prior to the SSC meeting. Items to discuss at the next workgroup meeting will be the draft tier system, the life history parameters for crab stocks, and an outline of the EA for this amendment package.

General comments from the CPT to the workgroup focused on reminding the work group of the breadth of the undertaking and the need to stay on the schedule established for this work. The CPT reminded the workgroup that they are to regularly update the CPT via minutes from their meetings in a timely manner, and

that a timely review of workgroup products would be appreciated prior to submission to the SSC. The workgroup will provide a written update on their progress to the CPT at the fall CPT meeting and a draft of their work in January 2005.

### **Update on Crab Rationalization:**

Gretchen Harrington and Wayne Donaldson updated the team on the implementation schedule for rationalizing the crab fisheries in the BSAI and the related BOF task force meetings on this subject.

The next BOF meeting on this issue will take place in Anchorage October 8-9, while another task force meeting will occur in Anchorage in June 22-23 and will focus on pot limits and a proposal on allowing coops to share gear.

Of interest to timing of CPT meetings in the future, it was noted that at the last workgroup meeting that after rationalization ADF&G plans to announce the TACs for BS surveyed stocks on 1 October to allow for NMFS to release IFQs by 15 October. Hence the effective opening dates for those stocks would be 15 October. For the unsurveyed Aleutian Islands king crab stocks the TACS would be announced 1 August so that IFQs could be released by NMFS on 15 August. It was noted by the CPT that those dates may allow more time for the CPT to have a more thorough review of the status of stocks prior to the issuance of annual TACs.

Arni Thompson commented that rationalization plans have assumed issuance of only one TAC for all EBS bairdi, whereas the state harvest strategy sets separate GHGs for bairdi east and west of 168 degrees W. longitude. He noted that the issue came up at the last task force meeting as well as the recent PNAC meeting in Seattle and requested that as this issue moves forward that the CPT look into these changes for bairdi management. Donaldson noted an issue paper on this topic will be presented to the Council at the June 2004 meeting.

### **Wrap up**

#### **Scheduling issues for fall 2004**

The team discussed the utility of having a CPT meeting in the fall scheduled prior to GHG announcements for most stocks. It was determined that while this will be attempted it provides a scheduling conflict for this coming year given the timing of GHG announcements and the availability of survey data. However, as discussed under the Crab Rationalization agenda item, the following year the timing of IFQs and TACs will allow for a more timely review of the status of stocks by the plan team. It was also noted however that the current timing as planned under implementation of Crab Rationalization for TACs may impact the timing of the Crab SAFE Report to the Council as it would be extremely difficult to have this report available for the October Council meeting. Beginning in 2005, the Crab SAFE report and the update to the Council on Crab status of stocks may need to be moved to the December Council meeting. For fall of 2004 the CPT will plan to meet as usual in September with a report to the Council in October.

#### **CPT commentary on utility of spring meeting:**

The consensus amongst plan team members was that the spring meeting was very useful and critical given the myriad of issues and changes in the fishery. Discussion at this meeting allowed for plan team members to better understand the fisheries, to better interpret summaries of fishery data, and what some of the problems were with summer research issues. The team felt that May was an appropriate time period for the spring plan team meeting. Logistical issues that were raised include suggestions to have handouts prepared

and distributed prior to the meeting for review, and that the meeting should be longer, around 2 ½ to 3 days given the issues to discuss as well as the fact that there was more public input at this meeting than at ones in past. In as much as is possible meeting materials will be posted for dissemination on the Council website. The team will try to have teleconferencing available at its meetings and will announce this in the FR notice for the meeting.

*Plan Team participation:*

The Plan Team is still seeking increased economic input and will examine the possibility of greater degree of participation by the Team's current economist. If it appears that scheduling conflicts will preclude the economist from regular participation at future meetings, the Team will seek guidance from the Council on the possible addition of a new economist to the Team. It was acknowledged that economic issues are becoming more and more prevalent and utility of economic input more important now than previously.

The meeting adjourned at 5pm on May 19<sup>th</sup>.