Crab Plan Team meeting
Alaska Fisheries Science Center
Seattle, WA
January 16, 2015

Agenda:
1. Review Norton Sound red king crab assessment
2. Overview of January modeling workshop
3. Discuss items for review at May CPT meeting

Participants:
Seattle: Bob Foy, Diana Stram, Jack Turnock, Buck Stockhausen, Martin Dorn, Bill Bechtol, Shareef Siddeek, Wes Jones, Jim Ianelli, Kaitlynn Allen, Toshide Hamazaki
Web-ex: Jason Gasper, Karla Bush, Doug Pengilly

Norton Sound red king crab assessment:
Toshide Hamazaki presented an overview of the Norton Sound red king crab assessment. The CPT discussed the February 1st date for status determination and setting the OFL, which is different than the February 15 used for other stocks. This is to set the biomass estimate prior to the winter fishery which starts late January to early February. The difference between February 1st and February 15 is not likely consequential in estimating biomass or setting reference points. The major fishery for NSRKC occurs in summer considerably after the status determination date, whereas for most other stocks the fishery is assumed to occur in the winter months prior to the February 15 status determination date. Nevertheless the CPT considered the NSRKC status determination and OFL calculations to be appropriate and consistent with the Crab FMP. To describe the changes in timing for this stock assessment, the author presented an excellent graphic showing the annual timing of events in the assessment model. **The CPT recommends that a similar graphic be included in all crab assessments to highlight the timing of fisheries and surveys as well as identifying periods of natural mortality and growth.**

The author's preferred model was model 6. Relative to last year's assessment, model 6 implements an annual cycle starting Feb 1st, reduces the weighting on the tagging data to 0.5, models the winter pot survey with a descending logistic function with a separate selectivity estimated for the smallest size class. In addition, model 6 uses the same selectivity for the NMFS and the ADFG trawl surveys, and uses a single selectivity pattern for the early and the later periods in the commercial pot fishery. **The team concurred with the author's rationale for the model selection.**

The Team noted that having the document from the survey data available for review would be helpful, and requests that it be sent to the team in conjunction with the assessment review as available. Otherwise a more detailed summary of survey results should be provided to the CPT in the assessment document. The authors should provide an explanation and legend for figures comparing input sample sizes with effective sample. Also, figure captions in the current document are wrong in appendix B1-1 (the author fixed this prior to the final SAFE document provided to the SSC). **In future SAFEs, the documentation on the survey CPUE standardization should be provided as an appendix.**

When the model is allowed to freely estimate trawl survey selectivity, there is a tendency for the selectivity to go to 1.0 for all size classes resulting in the parameters for the selectivity function being

poorly estimated, since many parameter values will result in a selectivity of 1.0. **The CPT recommends fixing parameters so that the trawl survey selectivity is constrained to be one as a potential solution to this problem, however, this may result in loss of the ability to evaluate how selectivity depends on other model assumptions.**

The team discussed the ABC buffer setting and using consistent rationale and justification within and across tier levels based on estimated uncertainty in the OFL. Previously an ABC buffer of 10% had been used for NSRKC, but all other assessment with a 10% buffer are Tier 3 assessments. In September, the CPT flagged NSRKC as a stock whose uncertainty buffer warranted reconsideration given the CPT intent to provide consistent recommendations on uncertainty across tier levels. The CPT notes that for this stock given the timing of the assessment compared to the survey there is additional uncertainty in the OFL as the calculation is further from the survey data availability. For consistency with the uncertainty estimated in the Tier 4 St Matthew BKC assessment for similar reasons a 20% buffer is proposed for NSRKC. There is additional uncertainty associated with a higher CV on the survey in this year as well, understanding that another survey is not expected for 3 years. There was discussion of employing a 15% buffer given stability in the model in recent years, but ultimately the CPT was unable to find a strong justification for treating this stock differently than Tier 4 St Matthew BKC, where a 20% uncertainty buffer is used.

The team therefore recommends a 20% buffer on the retained OFL for the ABC calculation for this stock. This leads to an ABC of 0.577 million lbs and 0.262 t.

The team noted that the assessment model has been substantially improved in recent years, and discussed the potential for moving this stock to Tier 3; however stock-specific maturity information is lacking. **The team recommends that information be brought forward in September to consider moving this stock to Tier 3.The team also requests that the assessment author include a discussion of the relative uncertainty in model parameters and data employed in the model as well as relative weightings in model configuration for use in best approximating the uncertainty in the OFL.**

Overview of the crab modeling workshop
Team members provided a brief overview of the modeling workshop convened earlier in the week. The report from the workshop will be made available to the CPT and presented to the SSC in February by Steve Martell and Diana Stram. Based upon progress achieved during the workshop the CPT will schedule a larger discussion of gmacs application for BBRKC and comparative results in May and a CIE review will be scheduled for June 2015.

Items for the May CPT meeting
The following items and their estimated times will form the basis of the May CPT agenda. Additional items may be added and times adjusted prior to drafting of the agenda. The May CPT meeting will be in Anchorage May 4-7, 2015. Location TBD.

Topic	Time estimate
Gmacs: review, stock specific issues	8.0
AIGKC: final assessment OFL/ABC	1.0
AIGKC: model assessment, additional work for September review as noted	5.0
PIGKC: final assessment OFL/ABC	0.5
WAIRKC: final assessment OFL/ABC	0.5
EBS survey time series	3.0
Research Priorities	2.0
Model scenarios: Snow crab (2) BBRKC (2) Tanner crab (4) SMBKC (1) PIRKC (1)	10.0
EFH	TBD
Crab 10 year review work plan	TBD
BOF proposals and outcomes	TBD
Total time est (hours)	30.0