



# NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

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## Action Memo

**File Number:Crab 15-003**

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**Agenda Date**2/2/2015

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**Dan Hull, Chairman**  
**Chris Oliver, Executive Director**

**SUBJECT:**  
Crab Modeling Report (SSC only)

**ACTION REQUIRED:**  
Review report from the Crab Modeling workshop.

**BACKGROUND:**  
The Council sponsored a crab modeling workshop in Seattle January 13-15, 2015. This meeting was planned to provide a forum for development of the Gmacs modeling framework. In particular, the goal was to evaluate an application to the Bristol Bay red king crab (BBRKC) stock, make comparisons with the established assessment model, and develop an understanding of the differences between the two approaches. Gmacs is a generalized modeling framework for developing size-structured stock assessment models and as such is being considered for BSAI crab stock assessments. Gmacs is an open source program developed using AD Model Builder (ADMB). ADMB is free, open source, and available for Windows, Linux, MacOS, and Sun/SPARC. Gmacs source files will build on any computer that can run ADMB. The report from the workshop is attached as well as an appendix comparing preliminary results between the existing BBRKC stock assessment model with Gmacs formulation for this stock.