



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**

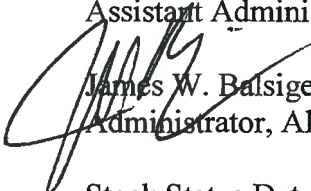
National Marine Fisheries Service

P.O. Box 21668

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January 13, 2012

MEMORANDUM FOR: Eric C. Schwaab  
Assistant Administrator for Fisheries

FROM:  James W. Balsiger, Ph.D.  
Administrator, Alaska Region

SUBJECT: Stock Status Determination for Southern Tanner Crab  
(*Chionoecetes bairdi*) in the Eastern Bering Sea -- DECISION  
MEMORANDUM

I recommend that you concur with the status determination of southern Tanner crab (*Chionoecetes bairdi*) in the eastern Bering Sea as overfished but not subject to overfishing.

**BACKGROUND:**

Southern Tanner crab are distributed on the continental shelf of the north Pacific Ocean and Bering Sea from Kamchatka to Oregon. Off Alaska, they are concentrated immediately north of the Alaska Peninsula and around the Pribilof Islands, and are found in lower abundance in the Gulf of Alaska. The Tanner crab stock of the Aleutian Islands is very small, and populations are found in only a few large bays and inlets. The domestic fishery has been a pot fishery since the late 1960s. Tanner crab in the eastern Bering Sea are managed under the North Pacific Fishery Management Council's (Council's) Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs.

The eastern Bering Sea Tanner crab (*Chionoecetes bairdi*) stock was declared overfished in 2010 due to the survey estimate of total mature male biomass (MMB) being below the minimum stock size threshold (MSST). Overfished status is determined by comparing annual biomass estimates to the established MSST. For stocks where MSSTs (or their proxies) are defined, if the biomass drops below the MSST (or its proxy) then the stock is considered overfished. Tanner crab are currently in Tier 4b using a proxy for MSST of one half of biomass at maximum sustainable yield ( $B_{MSY}$ ) stock size. This stock is surveyed annually by the NMFS eastern Bering Sea trawl survey. Although a stock assessment model has been developed for the eastern portion of the stock, and a model is being developed for the entire stock, no currently approved model exists for the stock. NMFS trawl survey is currently used to estimate the biomass of the stock components: MMB, legal male biomass, and female biomass.

Overfishing is defined as any amount of catch in excess of the overfishing level (OFL). The OFL is calculated by applying the  $F_{OFL}$  control rule annually estimated using the tier system. Tanner crab is harvested in two directed fisheries, one east and one west of 166 degrees W longitude.



Under the Crab Rationalization Program, the Alaska Department of Fish and Game sets separate total allowable catches (TACs) for each directed fishery, and NMFS issues individual fishing quota. However, one OFL is set for eastern Bering Sea Tanner crab because there is no evidence that this crab is not a single stock. Tanner crab also are taken as incidental catch in the groundfish, scallop, and crab fisheries.

The area east of 166 degrees W longitude only was opened to directed fishing during the 2009/2010 season. The TAC was set at 610 metric tons (mt). Retained catch totaled 600 mt, while the total catch, from all sources was estimated to be 1,690 mt. The OFL for the 2009/2010 fishery was 2,270 mt, therefore overfishing did not occur. The Tanner crab fishery did not open in the 2010/2011 season. Retained catch in 2010/2011 was 0 mt, and total catch from all sources was estimated to be 870 mt. The OFL for the 2010/2011 season was 1,610 mt, therefore overfishing did not occur. In order to comply with the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, a rebuilding plan will be developed for 2012/2013 and new minimum size limits adopted by the Alaska Board of Fisheries will be implemented in the 2011/2012 fishing season.

#### CURRENT ISSUES:

The MMB projected for February 2012 (assumed to be the time of mating) at 26,060 mt is less than the MMB projected in February 2011 (26,730 mt) if the total catch for 2011/2012 equals the OFL. The  $B_{MSY\ proxy}$  for the 2011 assessment is 83,330 mt MMB at mating; this is based on the average estimate of MMB at mating between 1974 through 1980. In the 2010 assessment, the average estimate of MMB at mating between 1969 through 1980 was used; but the years 1969 through 1973 were not used in the 2011 assessment due to data quality issues. The 2010/2011 estimate of MMB at mating is 26,730 mt or 32 percent of the  $B_{MSY\ proxy}$ , hence the stock is considered to have been in an overfished condition. Under the OFL Control Rule, the 2010/2011  $F_{OFL}$  is 0.05, equating to total male and female total catch of 870 mt. In the current model based assessment the 2010/2011  $F/F_{MSY}$  is unknown, however, the 2010/2011 total catch mortality/overfishing level is  $870\text{ mt}/1,610\text{ mt} = 0.54$ . The 2010/2011  $B/B_{MSY}$  is  $26,730\text{ mt}/83,330\text{ mt} = 0.32$ , and 2011/2012  $B/B_{limit}$  is  $33,200/41,670\text{ t} = 0.80$ .

The Council's Scientific and Statistical Committee will receive a report in February 2012 from a workshop to be held in January 2012 focusing on the Tanner crab assessment model, projections, and a review of proposed area closures. The Council is scheduled to review progress on the BSAI Tanner Crab Rebuilding Plan in February 2012, make its initial review of the plan in April 2012, and to select its preferred alternative and take final action on the rebuilding in either June or October 2012. When the Council takes final action, the rebuilding measures would be implemented through the TAC setting process.

RECOMMENDATION

I recommend that you concur with the status determination of southern Tanner crab (*Chionoecetes bairdi*) in the eastern Bering Sea as overfished but not subject to overfishing.

1. I concur. \_\_\_\_\_  
Date

2. I do not concur. \_\_\_\_\_  
Date