



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

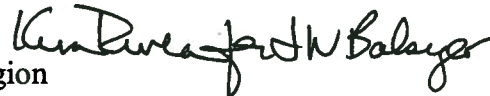
National Marine Fisheries Service

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January 24, 2013

MEMORANDUM FOR: Samuel D. Rauch III
Deputy Assistant Administrator
for Regulatory Programs,
performing the functions and duties of the
Assistant Administrator for Fisheries

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

SUBJECT: Stock Status Determination for Pribilof Islands Blue King Crab
(*Paralithodes platypus*) - DECISION MEMORANDUM

I recommend that you concur in the status determination of the Pribilof Islands Blue King Crab stock, which remains in an overfished condition.

Blue king crab (*Paralithodes platypus*) is in the family Lithodidae, which also includes the red king crab (*Paralithodes camtschaticus*), and golden king crab (*Lithodes aequispinus*) in Alaska. Blue king crabs have patchy populations that range from the Sea of Okhotsk and along the Siberian coast to the Bering Straits, including specific areas within the Bering Sea. The species also ranges throughout the Gulf of Alaska from the Alaska Peninsula east to Kodiak, and the Alexander Archipelago. Blue king crab in the eastern Bering Sea and Aleutian Islands are managed as two separate stocks under the authority of the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (Crab FMP): the Pribilof Islands stock and the Saint Matthew Island stock. This Decision Memorandum is specific to the Pribilof Islands stock of blue king crab (PIBKC).

BACKGROUND

The blue king crab fishery around the Pribilof Islands began in 1973 with a reported catch of 590 t by eight vessels. Landings increased during the 1970s and peaked at a harvest of 5,000 t during the 1980/1981 fishing season. During the mid-1980s, catch declined and the directed fishery was eventually closed between 1988 and 1992. A directed fishery developed in 1993 and lasted until 1998; however, the Alaska Department of Fish and Game closed the fishery in 1999 due to low abundance and high uncertainty regarding stock condition. The fishery has remained closed since 1999. The North Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) also took measures to protect important habitat for PIBKC. In 1995, Amendment 21a to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian



Islands Management Area established the Pribilof Islands Habitat Conservation Area and closed the area to trawl gear (Pribilof Island Habitat Conservation Zone [PIHCZ] in 50 CFR 679.22).

On September 23, 2002, the Secretary of Commerce notified the Council that the PIBKC stock was overfished. The 2001/2002 total mature male biomass (MMB) was estimated at 2,041 t, which was below the minimum stock size threshold (MSST) of 2,994 t. A rebuilding plan was implemented on March 18, 2004, that included a provision to prohibit directed fishing until the stock was rebuilt. However, neither the directed fishery closure nor efforts to minimize PIBKC bycatch were adequate to rebuild the severely depressed stock.

NMFS notified the Council on September 29, 2009, that the rebuilding plan would not rebuild the stock by 2014. The 2008/2009 estimated MMB of 113 t was well below the MSST of 2,109 t. Rebuilding projections showed little progress due to high uncertainty in biomass estimates and the lack of predictable recruitment that would lead to a stock recovery. To comply with section 304(e)(7) of the Magnuson-Stevens Fishery Management and Conservation Act, the Council evaluated alternative amendments to the PIBKC rebuilding plan in an effort to add management measures to minimize bycatch in groundfish fisheries; the primary source of fishing mortality.

Based on the best available science, the Council recommended during its June 2012 meeting that NMFS amend the rebuilding plan to close all waters in the PIHCZ to directed fishing for Pacific cod with pot gear in addition to the current closure to trawl gear. This action would eliminate a source mortality that has historically been the highest in the groundfish fisheries. Regulations supporting the amended rebuilding plan are currently in development, with proposed Crab FMP and regulatory amendments to be submitted for review by the Secretary in early 2013.

CURRENT ISSUES

On an annual basis, the Council, under guidance from its Scientific and Statistical Committee (SSC) and Crab Plan Team, reviews stock assessments as prescribed in the Crab FMP. The 2011/2012 assessment of PIBKC was presented to the SSC in September 2012. During this meeting, the SSC reviewed fishing mortality and associated harvest limits, provided analytical advice, and specified the overfishing limit (OFL) and acceptable biological catch (ABC) for the upcoming year.

Fishing mortality on the PIBKC stock during the 2011/2012 crab season was well below overfishing limits. The total catch of PIBKC was 0.4 t, which is well below the ABC of 1.04 t and OFL of 1.16 t. Thus, overfishing did not occur in 2011/2012.

The Crab FMP prescribes a control rule to specify directed fishing mortality limits based on the ratio of MMB and a proxy for biomass at maximum sustainable yield ($B_{MSY\text{ Proxy}}$). The $B_{MSY\text{ Proxy}}$ stock size is the MMB biomass at mating, which serves as an approximation for egg production. For the 2011/2012 crab fishing year, the $B_{MSY\text{ Proxy}}$ was 3,944 t, derived as the mean MMB from 1980 to 1984 and 1990 to 1997. The MMB for 2012/2013 was estimated to be 496 t. The MMB/ $B_{MSY\text{ Proxy}}$ ratio (496 t/3,944 t) corresponding to the biomass reference is 0.13 and is less than the critical biomass threshold of 0.25. Therefore no directed fishing for PIBKC will occur in 2012/2013.

Methods to quantify a total catch (both sexes) OFL were evaluated in 2008 to adequately reflect conservation needs and consider non-directed catch. The preferred method was a total catch OFL equivalent to the average catch mortalities between the 1999/2000 and 2005/2006 fishing seasons. Using this method, the SSC recommended an OFL for 2012/2013 of 1.16 t. To accommodate scientific uncertainty in the OFL specification, an ABC limit is specified such that it is below the OFL. The SSC recommended a 10% buffer from the OFL, resulting in an ABC of 1.04 t.

Projection models were used to evaluate the impact of bycatch reduction scenarios on the PIBKC stock. The modeled projections were insensitive to reductions in bycatch mortality, indicating the PIBKC stock may have declined below a critical threshold of rebuilding. Environmental conditions resulting in unfavorable recruitment is likely a large factor in the stock's decline. However, model estimates are uncertain and any measures to reduce fishery mortality are precautionary, which should benefit the stock.

RECOMMENDATION

I recommend that you concur in the status determination of the Pribilof Islands blue king crab (*Paralithodes platypus*), which remains in an overfished condition.

1. I concur.

 1/29/13

Date

2. I do not concur.

Date