



ALASKA DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES

MEMORANDUM

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DATE: September 28, 2006

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FROM: Douglas Pengilly
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SUBJECT: St. Matthew, Pribilof
King Crab TACs for
2006/2007

cc: Distribution

This memo summarizes results of the teleconference meeting held at 1 PM on 20 September 2006 to determine the total allowable catch (TAC) for each of the St. Matthew blue king crab fishery and the Pribilof blue and red king crab fishery in the 2006/2007 season. ADF&G staff attending were Jim McCullough, Wayne Donaldson, David Barnard, Douglas Pengilly, Leslie Watson, Skip Gish, Jie Zheng, Shareef Siddeek, Herman Savikko, Forrest Bowers, and Barbi Failor. NOAA Fisheries staff attending were Lou Rugolo, Jack Turnock, and Gretchen Harrington. Diana Stram (NPFMC) was not available. In preparation for the teleconference, I distributed via email on 15 September 2006 review documents for each stock. Those documents reviewed for each stock the Federal minimum stock size threshold (MSST), the State harvest strategy, stock assessment methods, fishery and stock history, results of the 2006 NMFS eastern Bering Sea trawl survey, 2006 stock status relative to the federal overfished definition, and computation of the 2006/2007 TAC according to the harvest strategy in regulation. Those review documents (with corrections made to some minor typographical or formatting errors that were brought to my attention after being distributed on 15 September 2006) are attached.

It was concluded during the teleconference, without any objection from meeting participants, that each of the St. Matthew blue, Pribilof blue, and Pribilof red king crab fisheries will remain closed in the 2006/2007 season; i.e., the TACs for the St. Matthew blue king crab and the Pribilof king crab fisheries were set at 0 pounds.

St. Matthew Blue King Crab

MSST (Federal Minimum Stock Size Threshold for “overfished” status)

- **FMP definition:** 11.0-million pounds of total mature biomass
 - **2006 total mature biomass estimate:** 11.2-million pounds (NOAA Fisheries estimate)
- ⇒ **Stock is slightly above MSST, but remains in “overfished” condition**

State harvest strategy fishery threshold and minimum TAC for fishery opening

- **Fishery threshold definition:** 2.9-million pounds of males ≥ 105 -mm CL
 - **State minimum TAC:** 2.778-million pounds (including portion allocated to CDQ fishery)
 - **2006 estimate for biomass of males ≥ 105 -mm CL:** 5.76-million pounds (ADF&G CSA estimate)
- ⇒ **Stock is above threshold for a fishery opening**
- **TAC computed according to harvest strategy:** 0.90-million pounds (including portion allocated to CDQ fishery)
- ⇒ **Fishery closed:** computed TAC < 2.5-million pound minimum for opening the fishery

Stock status summary

As in previous years, the stock is estimated to be above the threshold for a fishery opening in the State’s harvest strategy, but with the TAC/GHL computed according to the fishery harvest strategy far below the minimum in State regulations for a fishery opening.

This stock remains in a depressed, “overfished” condition for the eighth year in a row since the “overfished declaration” of 1999. The stock will not be considered “rebuilt” under the federal definition until the total mature biomass estimate increases from its current level (11.2-million pounds) to the MSY biomass level as defined for this stock in the federal FMP (22.0-million pounds). Although the fishery has been closed since 1999, the rate of recovery to the MSY biomass level has been extremely slow.

Forecasts of this stock’s future, particularly the future recruitment into the mature size class, should be viewed with some skepticism. Abundance estimates are heavily influenced by the catch in relatively few tows and precision of abundance and biomass estimates is generally poor. Recognizing those limitations, there are some promising indications for the stock in this year’s survey data that should be noted. NOAA Fisheries area-swept estimates of abundance of sublegal-sized mature-sized males (105-119 mm CL) and legal-sized males (≥ 120 -mm CL) in 2006 are both more than twice the estimates for 2005 (but still remain low relative to pre-1999 levels). The current ADF&G catch-survey analysis (CSA) estimate of the mature-sized male abundance shows the first signs of improvement since the marked stock decline observed between the 1998 and 1999 surveys. A mode representing small crab (approximately 65 to 70-mm CL) that appeared in the 2003 survey size-frequency distribution has apparently tracked into 2006, providing recruitment into the mature male size class. Males 80 to 104-mm CL that appeared in this year’s survey may also provide recruitment in the next 2-3 years.

Pribilof Blue King Crab

MSST (Federal Minimum Stock Size Threshold for “overfished” status)

- **FMP definition:** 6.6 million pounds of total mature biomass
 - **2006 total mature biomass estimate:** 1.6-million pounds (NOAA Fisheries estimate)
- ⇒ **Stock remains in “overfished” condition**

State harvest strategy fishery threshold and minimum TAC for fishery opening

- **Fishery threshold definition:** total mature biomass ≥ 13.2 -million pounds for two consecutive years
 - **State minimum TAC:** 0.5-million pounds (including portion allocated to CDQ fishery)
 - **2005 total mature biomass estimate:** 1.6-million pounds (NOAA Fisheries estimate)
 - **2006 total mature biomass estimate:** 1.6-million pounds (NOAA Fisheries estimate)
- ⇒ **Stock is below threshold for a fishery opening**
- ⇒ **Fishery closed**

Stock status summary

This stock is below the threshold established in State regulations for a fishery opening in 2006/2007. A fishery has not been prosecuted on this stock since 1998.

The stock remains in “overfished” condition for the fifth year in a row. To be considered rebuilt, the estimated total mature biomass for this stock would need to increase from the current estimate (1.6-million pounds) to 13.2-million pounds. However, this depressed stock continues to show declines with little indications for recovery. Estimated total mature biomass in 2006 is the same as in 2005 and is the second lowest estimate on record. The ADF&G catch-survey analysis (CSA) estimates for abundance of mature males, legal males, and mature females in 2006 are the lowest estimated for the period 1975-2006. From the results of this year’s survey, a continued decline in mature male and female abundance should be expected for at least the next two years. Although relatively high numbers of small crab (< 70 mm-CL) were caught, mainly at one haul, during the 2005 trawl survey, there was very little representation of juvenile crabs in the 2006 survey.

Because estimated total mature biomass in 2006 is <13.2-million pounds, this fishery can not meet the State’s harvest strategy’s criteria for opening the fishery in the 2007/2008 season.

Pribilof Red King Crab

MSST (Federal Minimum Stock Size Threshold for “overfished” status)

- **FMP definition:** 3.3-million pounds of total mature biomass
 - **2006 total mature biomass estimate:** 19.0-million pounds (NOAA Fisheries estimate)
- ⇒ **Stock is above MSST “overfished” level**

State harvest strategy fishery threshold and minimum TAC for fishery opening

- **Harvest strategy fishery threshold definition:** none established
- **State minimum TAC:** none established
- **2006 abundance estimate for males ≥ 120 -mm CL:** 0.86-million (ADF&G CSA estimate)
- **2006 abundance estimate for legal males:** 0.78-million (ADF&G CSA estimate)

Stock status summary

No formal harvest strategy has been developed for this stock. The stock has been closed to fishing since 1999 due to imprecision of abundance estimates and concerns about bycatch of blue king crab. This fishery will continue to remain closed for the 2006/2007 season due to concerns about bycatch effects on blue king crab and the poor precision of red king crab abundance estimates. Concerns about possible effects to the Pribilof District blue king crab stock stem from the depressed condition of that stock; the Pribilof District blue king crab stock was declared overfished in 2002 and stock abundance estimates from this year’s trawl survey data are the lowest on record. Past fishery and trawl survey data have indicated the potential for significant bycatch of blue king crab during a directed fishery on the Pribilof red king crab stock. Pot surveys performed by ADF&G in 2003 and 2005 and an attempt at cost-recovery fishing on Pribilof red king crab by ADF&G in 2003 corroborated the difficulty of establishing a TAC for Pribilof red king crab on the basis of the trawl survey estimates and of prosecuting a fishery on Pribilof red king without risking significant bycatch of Pribilof blue king crab.

Precision in the estimates for mature-sized and legal male red king crab males remains poor in 2006: plus-or-minus approximately 65% for the ADF&G CSA estimates and plus-or-minus 75% for the area-swept estimates provided by NOAA Fisheries. Because of the low precision of abundance estimates for this stock, stock levels and trends are difficult to evaluate. The consistency of trend in data for the previous five survey years had indicated that the total mature biomass was in decline from 2001 through 2005; estimated total mature biomass declined annually from 25.5-million pounds in 2001 to 8.1-million pounds in 2005. However, contrary to the expectations from results of the 2005 survey, total mature biomass estimate for 2006 rose to 19.0-million pounds. In contrast to the estimates of total mature biomass, ADF&G’s catch-survey analysis (CSA) estimates of mature male abundance have shown a declining trend from 2002 to 2006. Mature-sized (≥ 120 -mm CL) males captured in the 2006 trawl survey were largely legal sized and legal males were largely post-recruit-sized crabs ≥ 150 -mm CL. The size-frequency distribution of males captured during the 2006 survey provides no expectation for significant recruitment to mature-sized males in 2006; after 2007, declines in mature-size male abundance for this stock would be expected due to the lack of sublegal-sized males < 100 -mm CL in the 2006 survey.

Distribution:

ADF&G: Wayne Donaldson, Forrest Bowers, Mary Schwenzfeier, Ryan Burt, Jie Zheng,
Shareef Siddeek, Doug Woodby, Earl Krygier, Herman Savikko, Ivan Vining, David Barnard,
Robert Gish, Susie Byersdorfer, Leslie Watson, Jan Rumble
NOAA Fisheries: Lou Rugolo, Gretchen Harrington, Jack Turnock
NPFMC: Diana Stram

Attachments:

Review for 2006/2007 St. Matthew Blue King Crab TAC
Review for 2006/2007 Pribilof King Crab TAC: Blue King Crab
Review for 2006/2007 Pribilof King Crab TAC: Red King Crab