



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

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July 21, 2009

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99601

Dear Chairman Olson:

This letter, prepared in conjunction with NOAA General Counsel, provides the clarification requested by the Crab Plan Team and the Scientific and Statistical Committee concerning rebuilding requirements for the Eastern Bering Sea snow crab stock (*Chionoecetes opilio*). Attachment A explains these requirements and the necessary process and steps if information indicates that it remains possible to successfully rebuild the snow crab stock within the rebuilding time period prescribed in the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (FMP). We also provide information on the consequences that would ensue should the snow crab stock fail to successfully rebuild within the rebuilding time period established in the FMP.

The FMP specifies that the stock will be considered 'rebuilt' when the stock size reaches B_{MSY} for two consecutive years. The snow crab stock assessment defines B_{MSY} in terms of the estimate of mature male biomass *at the time of mating*, an estimate that is annually calculated on February 15. Therefore, as discussed in Attachment A, the stock will be considered rebuilt within the 10-year rebuilding period if it achieved B_{MSY} on February 15, 2009 (at the end of the 2008-09 fishing season), and does so again for a second consecutive time on February 15, 2010 (at the end of the 2009-10 fishing season). Attachment A further clarifies that February 15, 2010, also is the effective end of the ten-year rebuilding period established for snow crab under Amendment 14 to the FMP. As a result of this rebuilding schedule and the FMP's definition of rebuilt, we will know whether it is possible to rebuild the stock after we analyze the results of the 2009 summer trawl survey.

Given the unique two consecutive year biomass threshold requirement for stock rebuilding, two different scenarios are possible for the 2009-10 fishing season, and the outcome will depend, to a large extent, on the results of this summer's trawl survey and the subsequent update to the snow crab stock assessment, as discussed in Attachment A. In short, if survey results indicate the mature male biomass in February 2009 was above B_{MSY} , then it remains possible to successfully rebuild the stock by the end of the 2009-10 fishing season and measures, such as a reduced harvest rate, must be taken immediately to accomplish this result.

If, however, the survey indicates that the mature male biomass was below B_{MSY} last February, then it no longer would be possible to successfully rebuild the stock within the ten-year

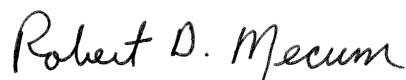


rebuilding period specified in the FMP, i.e., two consecutive years above B_{MSY} . This would trigger the Magnuson-Stevens Fishery Conservation and Management Act requirement that NMFS notify the North Pacific Fishery Management Council (Council) that the rebuilding plan has failed to make “adequate progress” to rebuild the stock and the Council’s obligation to prepare an FMP amendment to rebuild the snow crab stock.

In this situation, we would recommend that a conservative harvest strategy be applied during the interim period prior to the adoption of a new rebuilding plan. The harvest rate for the upcoming fishing season should, at a minimum, be reduced to the default rate of 75 percent of the overfishing level until a revised rebuilding plan is implemented that more fully analyzes this issue. We would encourage ADF&G to consider a more conservative harvest strategy in 2009/10 that would better balance the impacts to the fishing community and the requirement to rebuild the stock as soon as possible.

Following this summer’s trawl survey and the resultant update of the stock assessment, we will inform the Council whether it remains possible to rebuild the snow crab stock within the 10-year rebuilding period. We also will provide additional information relevant to alternative harvest strategies and associated rebuilding periods and work with the Council and State of Alaska to determine the appropriate course of action.

Sincerely,



Robert D. Mecum
Acting Administrator, Alaska Region

cc: Crab Plan Team Members;
Denby Lloyd, Commissioner, ADF&G;
Douglas DeMaster, Director, Alaska Fisheries Science Center

Attachment A: Snow Crab Rebuilding Progress & Implications for Future Management

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Snow Crab Rebuilding Progress & Implications for Future Management

General Rebuilding Requirements for Overfished Stocks

The Magnuson-Stevens Fisheries Conservation and Management Act (“MSA” or “Magnuson-Stevens Act”) includes several provisions that relate to rebuilding overfished stocks. When information indicates that the biomass of a stock has declined sufficiently that it is considered overfished, NMFS must notify the Council that the stock is overfished, and request that conservation and management measures be implemented to rebuild the stock. 16 U.S.C. § 1854(e)(2). The Council must promptly prepare and implement a fishery management plan amendment or regulations “to rebuild affected stocks of fish” (“rebuilding plan”). 16 U.S.C. § 1854(e)(3)(A). This rebuilding plan must “specify a time period for rebuilding the fishery that shall . . . be as short as possible,” taking into account factors specified in the MSA. 16 U.S.C. § 1854(e)(4)(A)(i).

Rebuilding time periods may not exceed ten years, except in certain cases, such as when the biology of the stock of fish or other environmental conditions dictate otherwise. 16 U.S.C. § 1854(e)(4)(A)(ii). The National Standard 1 Guidelines (NS1G) provide guidance on rebuilding time periods at 50 C.F.R. 600.310(j)(3) (2009). If the rebuilding analysis demonstrates that, absent fishing mortality, an overfished stock can likely rebuild within a ten-year time frame, then ten years is the maximum rebuilding period for the stock. Courts have reaffirmed the presumptive cap of ten years on rebuilding and recognized that once included in a fishery management plan, the rebuilding plan must be implemented in accordance with the requirements of the MSA even though it may act as a binding constraint on subsequent management actions for the affected stock. *See Natural Res. Def. Council v. NMFS*, 421 F.3d 872, 880 (9th Cir. 2005); *Conservation Law Foundation v. Evans*, 209 F. Supp. 2d 1, 9 (D.D.C. 2001) (NMFS is bound by and obligated to fully implement the provisions of an FMP); *see also* 16 U.S.C. § 1855(d). Rebuilding plans must have *at least* a fifty percent probability of meeting rebuilt biomass targets within the specified rebuilding time period. *See Coastal Conservation Ass’n v. Gutierrez*, 521 F. Supp. 2d 896, 901 (S.D. Tex. 2007); *Conservation Law Foundation*, 209 F. Supp. 2d at 10; *Cf. Natural Res. Def. Council v. Daley*, 209 F.3d 747, 753 (D.C. Cir. 2000).

NMFS periodically reviews rebuilding plans, and if they have not resulted in adequate progress toward ending overfishing and rebuilding, NMFS must immediately notify the appropriate Council and recommend further conservation and management measures which the Council should consider to achieve adequate progress. Within two years of such notification, the Council must prepare and implement a fishery management plan amendment or regulations to end overfishing immediately and rebuild affected stocks of fish. 16 U.S.C. § 1854(e)(3), (7). If it remains possible to implement measures under an existing rebuilding plan to achieve adequate

progress towards rebuilding the stock, the Council, NMFS, and the State of Alaska should take such steps. In this instance, the rebuilding plan for the snow crab stock, in conjunction with the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (“the FMP”), the MSA and State of Alaska regulations, was specifically designed to provide the flexibility to allow NMFS and the State of Alaska to take the necessary steps to ensure that the stock successfully rebuilds within the ten-year rebuilding period, if possible.

The Rebuilding Plan for Snow Crab and Progress to Date

NMFS declared the snow crab stock overfished on September 24, 1999, after the spawning biomass dropped below the minimum stock size threshold specified in the FMP. The Council developed a rebuilding plan for the stock—Amendment 14 to the FMP—which was approved by NMFS on December 28, 2000. *See* 66 Fed. Reg. 742 (Jan. 4, 2001). The rebuilding plan incorporated the harvest strategy developed by the Alaska Department of Fish and Game (“ADF&G”), adopted by the Alaska Board of Fisheries, and promulgated in state regulations in August 2000, 5 A.A.C. 35.517. This harvest strategy was first implemented during the 2001 fishing season, which opened on January 15, 2001.¹ *See* 2008 Annual Management Report at 96.² NMFS estimated that the rebuilding plan would “allow snow crab to rebuild, with a 50 percent probability, to the B_{MSY} ³ level within 10 years.” 66 Fed. Reg. at 743 (footnote added). Thus, the rebuilding time period for this plan ends on January 15, 2011, which is ten years after the first measures to rebuild the stock were implemented under an approved rebuilding plan. *See* 50 C.F.R. § 600.310(e)(4)(C) (1998) (“A rebuilding program undertaken after May 1, 1998 commences as soon as the first measure to rebuild the stock or stock complex are implemented.”).

Even though the rebuilding period officially ends on January 15, 2011, the snow crab rebuilding plan explicitly provides that, “the stock will be considered ‘rebuilt’ when the stock size reaches B_{MSY} in 2 consecutive years.”⁴ 66 Fed. Reg. at 743. This definition of rebuilt is unique to

¹ In response to the significant stock decline observed in 1999, but well before the Council had taken final action to recommend the rebuilding plan, ADF&G voluntarily reduced the harvest rate for the 2000 fishery from a 58% exploitation rate on 102 mm carapace width and larger male snow crabs to a 22% exploitation rate.

² Bowers, F. R., M. Schwenzfeier, K. Milani, K. Herring, M. Salmon, E. Russ, J. Shaishnikoff, R. Burt, and H. Barnhart. 2008. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region’s Shellfish Observer Program, 2007/08. Alaska Department of Fish and Game, Fishery Management Report No. 08-73, Anchorage. URL: <http://www.sf.adfg.state.ak.us/FedAidPDFs/FMR08-73.pdf>

³ B_{MSY} represents the productive capacity of the stock at the level that will produce maximum sustainable yield, and for snow crab B_{MSY} is a measure of mature male biomass at the time of mating. B_{MSY} for snow crab is based on the estimate of $B_{35\%}$ (the B_{MSY} proxy for Tier three stocks under Amendment 24 to the FMP), and was most recently estimated at 317.7 million pounds of mature male biomass at the time of mating. *See* Stock Assessment of eastern Bering Sea snow crab, J. B. Turnock and L. J. Rugolo, NMFS, September 18, 2008; Memo from Douglas DeMaster to Robert D. Mecum Re: 2008/2009 Overfishing Levels for Eight Bering Sea Aleutian Island Crab Stocks (Sept. 23, 2008).

⁴ Neither the MSA nor the NSIG directly define what must be accomplished in order for a stock to be considered rebuilt. The NSIG generally provides that the “goal” of a rebuilding plan for an overfished stock is to “rebuild the stock . . . to the MSY level within an appropriate time frame.” 50 C.F.R. § 600.310(e)(3)(ii) (1998). For snow crab,

rebuilding plans for crab stocks under this FMP and was implemented as a precautionary measure to account for the inherent and potentially dramatic variability in crab stock abundance combined with the fact that, at the time when the rebuilding plans were developed, there were no stock assessment models for the overfished crab stocks. Further, B_{MSY} is defined in terms of the estimate of mature male biomass *at the time of mating* on a specific date: February 15. *See* Amendment 24 EA at 41. Thus, the stock will be rebuilt within the rebuilding time period only if it achieves B_{MSY} on February 15, 2009 (at the end of the 2008-09 fishing season), and does so again for a second consecutive time on February 15, 2010 (at the end of the 2009-10 fishing season).

The rebuilding plan for the snow crab stock was designed to be flexible enough to enable managers to implement measures to rebuild the stock within ten years. In fact, the FMP states that “[m]echanisms are in place for NMFS and the Council to monitor the effectiveness of the rebuilding plan to *ensure* that actions taken by the State of Alaska and the Council under the rebuilding plan rebuild the stock to the B_{MSY} level within 10 years.” FMP at 24 (emphasis added). The current rebuilding plan was designed to enable the State of Alaska to change the harvest strategy, if necessary to successfully rebuild the stock, without revising the rebuilding plan. *See* FMP at 24 (“The Council or the State of Alaska may modify the components of the rebuilding plan according to new scientific information.”); 66 Fed. Reg. at 745 (“The framework structure of the rebuilding plan is designed so that changes can be made to the plan based on analyses conducted by NMFS, the Council, and State scientists. If the results of these analyses indicate that the harvest strategy should be modified, then it will be modified through the Board process and reviewed by NMFS and the Council, as specified in the FMP.”).

The harvest strategy codified in regulations of the State of Alaska and implemented by ADF&G is a principal component of the rebuilding plan. This harvest strategy is itself quite flexible and could accommodate a reduction in harvest without the need for action by the Board of Fisheries. While the regulations include a prescriptive harvest rate, calculated on the basis of the biomass of the snow crab stock, they also include a provision that allows ADF&G to respond to new scientific information by temporarily reducing harvest to rebuild the stock and thereby achieve maximum sustained yield over the long-term. *See* 5 A.A.C. 35.517(c) (“direct[ing]” ADF&G to use the best scientific information available and consider any “factors the department considers necessary to be consistent with the sustained yield principles” in implementing the harvest strategy). As does the MSA, the FMP prohibits ADF&G from implementing a harvest strategy that is not expected, with at least fifty percent probability, to rebuild the stock by February 15, 2010, if it remains possible to successfully rebuild the stock in this time frame. *See above*; FMP at 31 (“All management measures must, further, be consistent with the Magnuson-Stevens Act”).

the more specific definition of what must occur for the stock to be considered rebuilt (i.e., achieving B_{MSY} in two consecutive years) is set forth in the FMP and is the legally effective rebuilding target. Note that not all rebuilding plans are as specific as the snow crab plan regarding what must be done in order to consider a stock rebuilt.

2010, if it remains possible to successfully rebuild the stock in this time frame. *See above*; FMP at 31 (“All management measures must, further, be consistent with the Magnuson-Stevens Act”).

Although the latest snow crab stock assessment projects that mature male biomass of the stock at the end of the 2008-09 fishing season will be less than B_{MSY} , a final estimate of the mature male biomass at the time of mating cannot be made until the 2009 summer trawl survey is completed and the stock assessment has been updated. Therefore, at present, NMFS is unable to determine whether it remains possible to rebuild the stock within the original ten-year rebuilding time period. Such a determination must await the results of the 2009 summer trawl survey and the resultant calculation of mature male biomass at the time of mating in 2009. The harvest strategy for the fishery in the 2009-10 fishing season will follow one of two courses, depending on whether it remains possible to rebuild the stock within the original ten-year rebuilding period.

Possible Scenarios for Snow Crab Harvest in Upcoming Fishing Seasons

If, as anticipated by the most recent projection, the population data obtained during the 2009 summer trawl survey indicates that the snow crab stock did not achieve B_{MSY} at the time of mating in 2009, then it would no longer be possible, even with no directed fishing, to rebuild the stock within the original ten-year time frame. Even if the stock achieves B_{MSY} at the time of mating in 2010, it would not have done so for two consecutive years and, therefore, would not be considered rebuilt. In this scenario, NMFS would immediately notify the Council that the rebuilding plan has failed to make adequate progress towards rebuilding the stock within the ten year rebuilding period. This notification would trigger the Council’s obligation to prepare and, together with NMFS, implement a revised rebuilding plan to rebuild the fishery in a time that is “as short as possible,” taking into account factors specified in the MSA. 16 U.S.C. §§ 1854(e)(3) & (e)(4).

For the 2009-10 fishing season and subsequently, pending completion and implementation of the revised rebuilding plan, the annual TAC must be set at a level sufficient to rebuild the stock in a time that is “as short as possible,” taking into account the needs of fishing communities and other factors specified in the MSA. Most likely, this would result in a lower harvest level than would be calculated by applying the ADF&G harvest strategy. State regulations provide ADF&G the flexibility to set the total allowable catch (TAC) below the level calculated applying the harvest strategy. *See* 5 A.A.C. 35.517(c) (instructing ADF&G, in implementing the harvest strategy, to consider factors necessary “to be consistent with the principles of sustained yield.”).

The NSIG indicate that when a rebuilding plan fails to achieve its goal of rebuilding the stock within the permissible rebuilding period, a default harvest strategy should come into place. Under this default strategy, the total fishing mortality for the snow crab fishery, including bycatch, could be no greater than 75 percent of the overfishing level, as determined in accordance with the FMP. *See* 50 C.F.R. § 600.310(j)(3)(ii) (“If the stock or stock complex has not rebuilt by T_{max} , then the fishing mortality rate should be maintained at $F_{rebuild}$ or 75 percent of

the MFMT [maximum fishing mortality threshold], whichever is less.”). In addition, taking into account factors specified in the MSA, ADF&G should consider an even lower harvest rate that will further accelerate progress towards successfully rebuilding, recognizing that such success could alleviate future constraints on harvest levels that may otherwise arise and remain in effect until the stock does rebuild. *See* 74 Fed. Reg. at 3200 (“Councils should consider a lower mortality rate to meet the requirement to rebuild stocks in as short a time as possible.”).

If, on the other hand, the population data obtained during the 2009 summer trawl survey indicates that the snow crab stock achieved B_{MSY} at the time of mating in 2009, then it would remain possible to successfully rebuild the stock within the original ten-year time frame provided the stock again achieves B_{MSY} at the time of mating in 2010. In this scenario, management measures that are necessary to accomplish this result, and which are consistent with the framework established by the rebuilding plan and other aspects of the FMP, must be taken. To comply with the requirements of the MSA and the FMP, ADF&G would be required to adopt a harvest rate and set TAC for the 2009-10 fishing season at a level that would provide *at least* a fifty percent probability that the stock will achieve B_{MSY} at the time of mating in 2010 (i.e., at the end of the 2009-10 fishing season).