

**MARINE MAMMAL COMMISSION**  
4340 EAST-WEST HIGHWAY, ROOM 905  
BETHESDA, MD 20814

21 October 2005

Mr. Mark R. Millikin  
Office of Sustainable Fisheries  
National Marine Fisheries Service  
1315 East-West Highway, Room 13357  
Silver Spring, MD 20910

Dear Mr. Millikin:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the proposed revisions to National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act (70 Fed. Reg.:36240). The Commission commends the Service for its efforts to establish quantitative decision rules to implement the National Standards of the Magnuson-Stevens Fishery Conservation and Management Act and assure that all councils apply the National Standards in a consistent manner. National Standards are a critically important aspect of the Act, which guide how fishery management councils develop fishery management plans. We also commend the Service for incorporating measures into National Standard 1 designed to base fishery management decisions on optimum yields that take into account protection of marine ecosystems and components thereof, including marine mammals.

Section 2 of the Marine Mammal Protection Act, which sets forth the policies underlying that Act, specifies that the primary objective of marine mammal management is to maintain the health and stability of the marine ecosystem. It is in furtherance of this goal that the Commission provides these comments on the proposed guidelines. A key aspect of maintaining healthy, stable ecosystems, and achieving optimum sustainable populations of marine mammals, is the maintenance of other key ecosystem components at robust levels, including targeted fish stocks and those stocks taken incidentally in commercial and recreational fisheries. For many marine mammals, maintaining healthy prey stocks is particularly important.

The Commission believes that the revisions to the proposed rule recommended below will help to ensure that National Standard 1 is met and that healthy fish stocks are available not only for the perpetuation of fisheries but also to support marine mammals and other components of marine ecosystems. The Commission is particularly concerned with the manner in which the proposed guidelines address: 1) the level of fishing that would be allowed in fisheries with high levels of uncertainty regarding stock structure of fishes taken purposefully and incidentally in the fishery; 2) potential impacts on more vulnerable stocks (both target and non-target species) that are regularly exploited by fisheries targeting more resilient stocks; and 3) the proposed time frame for adjusting fishing limits on stocks designated as overfished<sup>1</sup>. As a result of our review, the Commission makes

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<sup>1</sup> The existing terminology is “overfished.” The Service proposes changing that to “depleted.” We continue to use overfished in this memo and assume that it will be synonymous with depleted if the Service adopts the guidelines. We agree that “depleted” may be a more appropriate term.

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the following recommendations. The attachment to this letter contains our detailed comments on the proposed rule.

The Marine Mammal Commission recommends:

1. that the Service review its rationale for grouping stocks in assemblages, provide a stronger justification for concluding that the protection of potentially vulnerable stocks will be achieved under the proposed approach, and seek means of collecting the information needed to assess the status of affected stocks so that they are not put at risk by grouping.
2. that the Service's guidelines establish a time at which all fishing on an overfished stock would cease until such time as a rebuilding plan is in place.
3. that the Service require that  $F_{\text{target}}$  be less than  $F_{\text{lim}}$  for all overfished stocks and that rebuilding begin within one year after a stock has been identified as overfished.
4. that, before permitting fishing on a stock for which an estimate of  $B_{\text{lim}}$  or a reasonable proxy cannot be provided, the Service provide explicit, specific guidelines that ensure conservation of that stock, including a description of how status of the stock will be monitored.
5. that the Service require that stocks reach  $B_{\text{MSY}}$  in  $T_{\text{min}}$  times a precise safety factor.
6. that the Service require affirmative evidence of a stock's status before removing protections needed for stock recovery stemming from a designation as overfished.
7. that the Service's first response to an overfished stock that is not recovering as expected be a reduction in fishing rates, and that changes in rebuilding time horizons be considered only as last resort.

We would welcome an opportunity to meet with you and others at the Service regarding our concerns and recommendations. Please contact me if you have any questions about or wish to discuss the above comments and recommendations.

Sincerely,



David Cottingham  
Executive Director

Attachment

**Marine Mammal Commission**  
**Detailed Comments on National Standard No. 1**  
**To Implement the Magnuson-Stevens Fishery Conservation and Management Act**  
**21 October 2005**

**Core Stocks and Stock Assemblages**

Commercial and recreational fisheries often catch fish from assemblages of fishes that represent several species or stocks. The specific stocks may be targeted or taken incidentally in fisheries targeting other stocks. One of the most difficult challenges facing fisheries management is to protect vulnerable stocks that are associated with more robust stocks. The problem is to find a way to exploit robust stocks without jeopardizing associated but vulnerable stocks.

The Service has proposed a solution by defining the co-existing stocks as being a single assemblage rather than attempting to find a way to protect the vulnerable stocks. We argue that it is not possible to protect vulnerable or depleted stocks while taking them incidentally in a fishery that targets abundant stocks but exploits the assemblage as a whole.

The Service's proposal suggests that exploiting stocks in the assemblage without regard to managing individual stocks is warranted based on the assertion that individual stocks co-occur geographically, are caught with the same gear, and are asserted to have similar life histories. The latter assertion is very important and often wrong. Not only that, but single species management is based on F values determined for each stock. If fishing limits are set based on the most abundant stocks in an assemblage, then smaller stocks within the assemblage may be driven down to local extinction, irrespective of whether the life histories of the various stocks are similar. This management scheme is almost certain to drive vulnerable stocks into local extinction, likely requiring more draconian management solutions than necessary to develop solutions to the mixed stock problem. For example, we recognize that the Pacific Fisheries Management Council has special management considerations for bocaccio, which is part of the Pacific rockfish complex of 62 species managed under the Pacific groundfish fishery management plan. When the Service declined to list bocaccio as threatened under the Endangered Species Act, one of the reasons for not listing it, in spite of the stock being at less than 5 percent of its pristine biomass, was that the Service was managing it under the Magnuson-Stevens Fisheries Conservation and Management Act. If the National Standards continue to aggregate bocaccio with more plentiful rockfish stocks, such management could lead to its further demise or failure to recover from its greatly reduced population size. Similar examples exist in other fishery management plans, such as the barn door skate in the New England groundfish fishery management plan and Western Pacific reef fish fishery management plan.

The use of "indicator" stocks would not insure the necessary protection for vulnerable stocks unless it can be demonstrated that management measures based on indicator species are sufficient to protect the most vulnerable stocks in an assemblage. Even then, use of indicator species is based on several important assumptions that suggest that the choice of a local "indicator" is likely to be idiosyncratic and probably would not reduce the risk to vulnerable stocks in most cases.

Finally, the *Federal Register* notice indicates that the Service will recommend that fishery management councils group stocks to improve status determinations. It is not clear how such groupings would or could achieve that result. Conversely, this approach may have the opposite effect if disadvantaged stocks are overlooked simply because they are grouped in a stock assemblage. For these reasons, the Marine Mammal Commission recommends that the Service review its rationale for grouping stocks in assemblages, modify the final guidance to assure that protection of potentially vulnerable stocks will be achieved under the proposed approach, and seek means of collecting information needed to assess the status of affected stocks so that they are not put at risk by grouping.

### **Fishing Mortality Thresholds**

This section of the Service's *Federal Register* notice pertains to fishing mortality rates for stocks that are in the process of being rebuilt. The Marine Mammal Commission concurs with the Service's proposal that in any new or amended fishery management plan, target mortality rate ( $F_{\text{target}}$ ) for stocks being rebuilt must be less than the limiting mortality rate ( $F_{\text{lim}}$ ), beginning in the first year and thereafter (with exceptions as described in section 304(e)(4)(A) of the MSFCMA). We are concerned that the Service's interpretation of "first year" means the first year after completion of the rebuilding plan, which may take longer than a year to complete and not the "first year" that the stock was designated "depleted"<sup>1</sup>. Developing rebuilding plans and completing associated administrative analyses for designated stocks could easily take several years. The Service needs to have a way to implement immediate actions to reduce exploitation of overfished stocks to avoid further reducing those stocks.

If the default response following designation of an overfished stock is to continue fishing at unsustainable levels while the council and Service are developing and approving a rebuilding plan, the stock could continue to decline. The Commission therefore recommends that the Service's guidelines establish a time at which all fishing on an overfished stock would cease until such time as a rebuilding plan is in place. Such a provision would provide great incentive to complete a rebuilding plan and assure its implementation in a timely manner.

With regard to fishing mortality rates for stocks being rebuilt, the Service convened a working group that concluded that "Council action must be sufficient to end overfishing as soon as practicable [should be as short a time as possible]." The Commission concurs with this recommendation. It is clearly possible and, we believe, advisable to end overfishing immediately. Continued overfishing of an overfished stock places the stock at increased risk, disadvantages those interested and invested in the long-term health of the fishery, and reinforces the behavior that led to overfishing. Based on these concerns, we do not believe that phase-in periods are necessary or advisable. In most cases, the potential for stocks to become overfished is apparent for a number of years before they reach a depleted status and are designated as overfished. It is during this period that more rigorous management measures should be phased in to prevent stocks from becoming overfished. By the time that stocks are designated as overfished, they may well be only a small fraction of their expected pristine abundance. For example, if the stock biomass producing the

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maximum sustainable yield ( $B_{MSY}$ ) is assumed to occur at 40 percent of that expected in the absence of fishing and the stock is considered overfished when it is less than  $\frac{1}{2} B_{MSY}$ , then – adding in the error associated with stock assessment – the stock could be well below 20 percent of its pristine abundance when it is found to be overfished. At that point, we believe recovery of the stock should be the paramount concern to ensure the long-term health of the fishery and the ecosystem. For these reasons, the Marine Mammal Commission recommends that the Service require that  $F_{target}$  be less than  $F_{lim}$  for all overfished stocks and that rebuilding begin within one year after a stock has been identified as overfished.

### Stock Size Thresholds

The Marine Mammal Commission concurs with the Service's intent to simplify the requirements for specifying and calculating the biomass below which the stock must be rebuilt ( $B_{lim}$ ). Although the concept behind the use of  $\frac{1}{2} B_{MSY}$  as  $B_{lim}$  is straightforward, its use is confounded by a number of important assumptions. The first and foremost assumption is that fishing based on MSY (maximum sustainable yield) is, in fact, sustainable and consistent with the maintenance of healthy marine ecosystems. The second is the assumption that fisheries biologists and managers can estimate  $B_{MSY}$  reliably, which often is not the case. For example, in the North Pacific Ocean, where fisheries management is often considered to be exemplary,  $B_{MSY}$  is unknown for most target stocks. Third, as has been learned in the North Pacific and elsewhere, and as is pointed out in this *Federal Register* notice, factors other than those accounted for in the MSY concept (e.g., pollution, loss of habitat) may contribute to stock depletion. Management based on unrealistic assumptions about stock dynamics (e.g., the absence of such other influences) may place these stocks and their associated ecosystems at greater risk.

The Commission does not concur with the Service's suggestion that  $B_{lim}$  for stocks with high natural fluctuations in biomass can be safely set near the lower end of some appropriate range (e.g., the lower 95-percent confidence interval) of natural fluctuations that would result if the stock or assemblage was not subjected to overfishing. Fishery management based on that approach could simply hold the stock at a very low level when its persistence may depend on periodic replenishment from peaks of recruitment and reproductive biomass. All other things being equal, stocks with highly variable biomass may well be more vulnerable to the consequences of overfishing than less volatile stocks. In addition, it is often not possible to determine if such fluctuations are, in fact, due to natural causes. Although it may be tempting to interpret such vulnerability as an indication that these stocks have a relatively greater capacity to recover from low levels, it is just as likely that these stocks are more vulnerable to additional external influences (e.g., fishing) and the consequences of severe depletion. Furthermore, from an ecosystem perspective the value of some forage species to higher trophic levels such as marine mammals may depend on the fact that forage species are sometimes very abundant in the system. Managing in such a way that such stocks do not reach high biomass levels, or that they do so less frequently, could have serious impacts on dependent species.

Finally, the Service indicates that if “existing data are grossly inadequate or insufficient for providing a defensible estimate of  $B_{lim}$  or a reasonable proxy thereof, specification of such would not be required.” We believe that estimating  $B_{lim}$  is likely to be difficult given the difficulty of assessing certain stocks and the limited resources expended for stock assessments to date. However, although the Service indicates that an explicit justification must be provided whenever  $B_{lim}$  or a proxy cannot be specified, it is not clear what constitutes adequate justification. Further, allowing fishing for such stocks may not be consistent with responsible fishery management practices, in many cases. For

these reasons, the Marine Mammal Commission recommends that, before permitting fishing on a stock for which an estimate of  $B_{lim}$  or a reasonable proxy cannot be provided, the Service provide explicit guidelines that ensure conservation of that stock, including a description of how status of the stock will be monitored.

### Rebuilding Time Horizons

The Marine Mammal Commission concurs that there is a need to provide explicit rebuilding time horizons to guide management of overfished stocks. We also agree that the current method for specifying the maximum target time ( $T_{max}$ ) results in a discontinuity that should be corrected. The basic question is how much delay in recovery time is tolerable. The Service's and councils' history of managing overfished stocks, e.g., Pacific groundfish, Gulf of Mexico reef fish, and New England groundfish, illustrates why more explicit guidelines are needed.

From an ecological perspective – that is, when considered in the context of ecosystem health – the best strategy is to facilitate stock recovery as quickly as possible. From the standpoint of fishery productivity – the total amount of biomass that can be safely removed to provide food and help sustain healthy fisheries on a long-term basis – the best strategy is again to facilitate recovery as quickly as possible. Over time, more fish can be removed safely when the fished stock is kept in a healthy condition. When viewed from the perspective of maintaining fishery-dependent communities, we suggest that the best strategy is the same – facilitating rebuilding as quickly as possible. In essence, overfishing benefits no one except, possibly, those that are interested in short-term profit at the expense of long-term sustainability. A precautionary approach to fishing that results in fewer overfished stocks provides a strong foundation for successful, sustainable fishing communities and ecosystems. For those reasons, we believe that the tolerance for overfishing and allowing fished stocks to remain in an overfished state should be limited.

The unquestionable statutory goal of the MSFCMA is to restore depleted stocks to  $B_{MSY}$  within ten years or as quickly as possible. The Service's proposal would limit  $T_{max}$  to ten years or  $T_{min}$  plus one generation time, whichever is longer.  $T_{min}$  is the minimum number of years to achieve a 50-percent probability that biomass will equal or exceed  $B_{MSY}$  at least once in the absence of fishing. As indicated by the Service, the recovery goal is  $B_{MSY}$ . The length of time needed to recover to  $B_{MSY}$  will depend on the extent to which the stock is overfished, the stock's inherent reproductive capacity, natural environmental or anthropogenic factors that may affect recovery, and the amount of fishing that is allowed. Once a stock is overfished, fishery managers only have control over the last of these factors – the amount of fishing allowed while the stock is overfished. Ten years is not based on biology as much as it is an expression of political tolerance for maintaining stocks in an overfished state. The period corresponding to a stock's generation time is biologically based, but it is not clear that generation time is a useful indicator of the time needed for a stock to recover from its overfished status to  $B_{MSY}$ . For example, if the stock is overfished to a relatively small degree, then a generation time likely would be more than adequate to bring about recovery. Alternatively, if the stock is severely overfished, a generation time may not be sufficient. We suggest that  $T_{min}$ , or a derivative of it, may be a better indicator of the tolerable rebuilding horizon. If estimated or modeled correctly,  $T_{min}$  should take into account all pertinent stock biology, including recruitment processes and their variability, as well as the degree of depletion. Setting  $T_{max}$  equal to  $T_{min}$  times some safety factor (e.g., 1.5) provides a simple, understandable expression of tolerance for fishing of overfished stocks that is derived from, and expressed in terms of, the fastest possible recovery (i.e.,

recovery with no fishing). For those reasons, the Marine Mammal Commission recommends that the Service require that stocks reach  $B_{MSY}$  in  $T_{min}$  times a precise safety factor.

### **Rebuilding Targets**

With regard to rebuilding targets, the Service proposes to manage stocks based solely on  $F_{lim}$  when data are inadequate to estimate rebuilding targets in terms of  $B_{MSY}$  or a proxy. The Marine Mammal Commission disagrees with this proposal and believes that it is inconsistent with other information provided in the *Federal Register* notice. Under the subheading **Terminology** the Service explicitly states that “stocks can become depleted for reasons other than, or in addition to, overfishing, such as environmental changes, pollution, and habitat destruction.” Based on this statement, it does not stand to reason that the stock can be designated as no longer overfished based solely on fisheries mortality levels (which likely will be highly uncertain). The Commission believes that the Service should hold itself to a higher standard when removing the designation of “overfished,” even in the absence of evidence that the biomass is still depleted. Removing the overfished designation should not be based solely on a lack of information, but rather should be based on affirmative evidence that the stock is, in fact, no longer overfished and no longer warrants the associated level of protection. For that reason, the Marine Mammal Commission recommends that the Service require affirmative evidence of a stock’s status before removing protections needed for stock recovery stemming from a designation as overfished.

### **Revision of Rebuilding Plans**

In general, the Marine Mammal Commission concurs with the changes proposed to National Standard 1 with regard to the revision of rebuilding plans. One exception is where rebuilding is occurring at a rate substantially slower than initially projected, even though  $F_{targets}$  for that stock has not been exceeded. The Service identifies two options to address this problem: reducing the rebuilding  $F_{targets}$  and lengthening the rebuilding time horizon. The Commission believes that reducing  $F_{targets}$  is the preferred option because the failure of the stock to recover as expected suggests its capacity to recover – and its tolerance for additional fishing – may have been overestimated initially. Lengthening the time horizon for rebuilding also may be necessary (i.e., if recovery is not possible even with no fishing), but should be done only after fishing rates have first been adjusted. The order of these adjustments is essential to avoid incentives to continue overfishing. For these reasons, the Marine Mammal Commission recommends that the Service’s first response to an overfished stock that is not recovering as expected be a reduction in fishing rates, and that changes in rebuilding time horizons be considered only as last resort.

### **OY Control Rules**

The Marine Mammal Commission concurs with the Service in its proposal to require the development of OY control rules. The Commission also supports the Service’s proposal that the OY control rules must be less than MSY control rules, in acknowledgment of the fact that there are social, economic, and ecological factors that must be considered and that preclude a fishing strategy based solely on MSY. The growing emphasis on ecosystem-based fisheries management serves as a reminder of the importance of these other considerations. Determining the ecological tolerance of marine ecosystems to fisheries removal is one of the major challenges facing managers and all who seek to identify truly sustainable levels of fishing that are consistent with healthy ecosystems. The Commission is aware of ongoing efforts by the Service to develop strategies to take these

considerations into account in its fishery management strategies. We believe such efforts are essential for evaluating and resolving many of the controversies that surround present fisheries management approaches, such as development of management strategies that take the foraging needs of marine mammals and other predators into account. The Commission will be pleased to provide any assistance it can to the Service to develop fishery management strategies that are more protective of marine ecosystems and more comprehensively consider the effects of fishing on those ecosystems.