



MARINE MAMMAL COMMISSION

10 September 2009

Mr. David L. Hankla
Field Supervisor, Jacksonville Field Office
U.S. Fish and Wildlife Service
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517

Dear Mr. Hankla:

On 12 June 2009 the Fish and Wildlife Service published a *Federal Register* notice (74 Fed. Reg. 28062) requesting comments on draft stock assessment reports for the Florida and Puerto Rico stocks of West Indian manatees. The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the draft reports and offers the following recommendations and comments.

RECOMMENDATIONS

With respect to the draft stock report on Florida manatees, the Marine Mammal Commission recommends that the Fish and Wildlife Service—

- revise the assessment of population parameters, potential biological removal level, and human-caused mortality and serious injury by presenting information separately for each of the four regional management units identified in the current Florida manatee recovery plan;
- add a table to the section on fishery-related injuries that provides for each animal the date they were rescued; the management unit where they were found; the nature, severity, and treatment of their injuries; and their current condition; and
- provide the information on manatee interactions with fishing gear separately for each of the four management units recognized in the recovery plan.

With respect to the draft stock assessment report for Puerto Rico manatees, the Marine Mammal Commission recommends that the Service clarify the points noted below and either add information to better support the conclusion that the Puerto Rico population has recently increased in size or revise the draft report to indicate that the current population trend is uncertain but, at best, appears to be relatively stable.

RATIONALE

Florida Manatee Stock(s)

As noted in the section entitled “Stock Definition and Geographic Range,” past studies of Florida manatees have identified four relatively discrete regional management units. The basis for those units is geographic separation (e.g., the high degree of site fidelity to regional networks of warm-water refuges that individual manatees exhibit during winter months) and demographic variance (i.e., the distinct differences in population growth rates and documented and assumed

differences in demographic and life history parameters). These management units were originally referred to as “subpopulations” but the terminology was changed because of a small amount of mixing between adjacent populations on either the east or west coasts. Nonetheless, the distinction among the units was retained because they still exhibit a considerable degree of discreteness and they are subject to different threats, and therefore can be managed more efficiently as separate units. As you know, the current edition of the Florida manatee recovery plan (U.S. Fish and Wildlife Service 2001) is based on those four management units. To assess population status and progress toward recovery, that plan establishes population benchmarks that are to be applied independently for each identified management unit.

In contrast to the information in the recovery plan, the draft stock assessment report concludes that “there is no data to support distinguishing these [management] units as stocks...and there is no conservation benefit to managing these units as stocks.” The draft supports these conclusions by noting that Florida manatees may move between management units in non-winter periods and that the Florida manatee population exhibits little genetic variation. The draft further concludes that extensive mixing within the population indicates an apparent absence of barriers to gene flow. However, the draft cites only one reference to support these conclusions: an unpublished doctoral dissertation on manatee genetics by Kellogg (2008). The Commission finds the available genetic data to be interesting and relevant, but questions (1) why other genetic information supporting separation of management units is not cited and (2) whether the available data in this single reference provide a sufficient basis for changing a proven, successful management approach.

To elaborate, Kellogg’s dissertation provides an analysis of genetic data (both mitochondrial DNA and microsatellites) from other studies, including work by K. Pause. Pause’s graduate research and a follow-up manuscript (unpublished) provide evidence of some genetic differentiation among Florida manatees in the different regions of the state. Another unpublished manuscript by Carney and Reynolds indicates a great deal of variability among manatees based on studies of the multi-histocompatibility complex. The Service has access to both of these sources and should explain why it is not considering their results. At the least, basing an important management decision on Kellogg’s unpublished dissertation appears to be premature and further analyses of genes undergoing active selection (e.g., the multi-histocompatibility complex) is warranted.

In addition, manatees have a long generation time, with delayed sexual maturity and long inter-calf intervals, and the Florida manatee is likely recovering from a population bottleneck. Thus, interbreeding groups of manatees around the state may require a considerable period to develop significant variation. Indeed, the fact that some variation currently exists is encouraging.

For all those reasons, the Commission believes the information and analyses in the draft stock assessment report do not provide a compelling rationale for deviating from the approach set forth in the recovery plan, which recognizes four management units.

The Commission also disagrees with the statement that “there is no data to support distinguishing these units as stocks.” In a seminal paper on stock structure, Dizon et al. (1992)

identified four major types of information that can be used to distinguish stocks: genetic, geographic, demographic, and phenotypic. When sufficient research is done, the Service may find that the four units meet the genetic criterion. They also satisfy the geographic and demographic criteria. At geographic extremes, manatees from the Upper St. Johns River do not mix at all with those from the northwestern unit. Furthermore, 30 years of photo identification and tagging work on Florida manatees referenced in the recovery plan have found almost no cases of animals moving between the east and west coasts of Florida. Thus, the manatee population could be partitioned, at least to a degree, on the basis of geography. In addition, the four units exhibit different population growth rates, with the Upper St. Johns unit and northwestern units exhibiting a relatively high rate of growth compared to the slower growth of the Atlantic unit and the apparent slow decline of the southwest unit.

The Commission also disagrees with the statement that “there is no conservation benefit to managing these units as stocks.” Indeed, stock-specific management provides two major conservation benefits. The first is that manatees in a particular unit are not allowed to decline simply because they are pooled with manatees in another unit where growth may be occurring. The second reason is that conservation measures can be tailored to specific units. That is, human activities need not be unnecessarily constrained in one area to address a conservation problem for manatees in another area. For example, each management unit identified in the recovery plan has a unique network of warm-water refuges whose management should be tailored to regional considerations and need not be extended beyond unless data in other areas suggest a need to do so.

The Commission also questions whether it makes sense to deviate from the current, successful management approach as long as the subspecies is listed under the Endangered Species Act. The current management approach by federal, state, and local agencies is working. Recent unpublished mark-recapture analyses of photo-identification data indicate that even the management unit in southwestern Florida may be in better shape than previously thought. The Service and its partner agencies should be proud of that fact, as the obstacles to successful conservation of the manatee are many and complex. That being the case, it seems prudent to stay the course, at least until the subspecies has been delisted.

Finally, as a general rule, the Commission believes that decisions related to endangered or threatened species should be consistent with approaches set forth in adopted recovery plans. Pending adoption of an updated Florida manatee recovery plan that sets forth a new approach for managing and recovering the Florida manatee, the Marine Mammal Commission recommends that the Service revise the assessment of population parameters, potential biological removal level, and human-caused mortality and serious injury by presenting information separately for each of the four regional management units identified in the current Florida manatee recovery plan.

Manatee Mortality and Serious Injury from Commercial Fisheries

This section of the draft report indicates that commercial fishing did not cause any mortality or serious injury of manatees between 2003 and 2007. However, it also notes that entanglement in

fishing line and associated gear caused six deaths. How the Service determined that those entanglements did not involve actively fishing gear is not clear. If the Service can confirm that all of those entanglements involved derelict fishing gear or recreational fishing gear, the report should state as much.

With regard to serious injuries, the draft report notes that manatees entangled in fishing gear have been known to survive despite the loss of limbs and without human intervention or medical treatment. It therefore concludes that some animals transported to rehabilitation centers with injuries of a serious nature should not be described as being “seriously injured” and that “given...[that] all animals rescued and treated for entanglement-related reasons during the 2003 to 2007 period have not died, it’s reasonable to conclude that there have been no serious injuries for the period on record.” In essence, the Service is conflating “serious injuries” and mortalities, looking to the eventual outcome of an injured animal after treatment. Using the Service’s logic, there is no difference between those animals reported as being seriously injured and those reported as mortalities because only those animals that die as a result of their injuries are considered to have been seriously injured. Such a distinction is inconsistent with the statutory language, which treats serious injuries and mortalities as separate classifications. Although the Fish and Wildlife Service has not promulgated regulations to implement section 117 of the Marine Mammal Protection Act, regulations published by the National Marine Fisheries Service (50 C.F.R. § 229.2) define the term “serious injury” to mean “any injury that likely will result in mortality.” Presumably, that determination is to be made as of the time of the injury, not after treatment has been rendered and the eventual fate of the animal is known. Clearly, veterinary care is able to save the lives of animals that may not have survived without medical attention. Similarly, simply because some animals survive injuries such as the loss of limbs without treatment does not mean that those injuries should not be considered serious. Therefore, to better elucidate the nature of injuries incurred, the Marine Mammal Commission recommends that the Service add a table to the section on fishery-related injuries that provides for each animal; the date it was rescued; the management unit where it was found; the nature, severity, and treatment of its injuries; and its current condition. In addition, the information on human-caused mortality and serious injury should be updated to include data for the most recent five-year period (i.e., 2004–2008 rather than 2003–2007).

Finally, consistent with our previous recommendations, the Marine Mammal Commission recommends that the Service provide the information on manatee interactions with fishing gear separately for each of the four management units recognized in the recovery plan.

Puerto Rico Manatee Stock

The draft stock assessment report for Puerto Rico manatees recognizes them as a single stock, consistent with the approach set forth in the Puerto Rico manatee recovery plan (Rathbun and Possert 1986). However, the fourth paragraph in this section states the following:

Recent research indicates that haplotype distribution is further geographically divided in Puerto Rico with A haplotype (found in Florida) only found in the north and

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haplotype B found in the south of the island. East and western ends represent a mixing of the two, clearly suggesting a distinction between the Florida manatee and Antillean manatee. Until this research is completed, we will follow Domning and Hayek (1986) in the subspeciation....

The source of this information should be cited. If the source is the dissertation by Kellogg, which is now complete, then the Service has information that conflicts with the hypothesis of Rathbun and Possert (1986), and should explain why it does not believe the new information is sufficient to recognize different stocks.

Regarding the minimum population size, the second paragraph in this section cites the results of several aerial population surveys. It notes that surveys in 1991 and 1992 sighted an average of 67 adult manatees and that 64 adults were sighted in 2009. It then states that “these findings indicate that the population may have increased over the seven year period...” The information provided suggests that, at best, the population has been stable rather than increasing. Therefore, the Marine Mammal Commission recommends that the Service either add information to better support the conclusion that the Puerto Rico population has recently increased in size or revise the draft report to indicate that the current population trend is uncertain but, at best, appears to be relatively stable.

The section on population trends provides a graph of aerial survey results from 1978 through 2009. A regression line fitted to all 32 years of data indicates an increasing trend. However, only one survey has been conducted since 2002 and counts shown on the graph since the mid-1990s do not indicate an increasing trend since that time. Given that this section of the stock assessment report is intended to provide information on “current” trends, it should be revised, as noted in the previous comment, either to add information supporting the conclusion that the population is currently increasing or to note that the current population trend is uncertain but, at best, appears to be relatively stable.

Finally, regarding the estimation of human-related mortality, the draft report states that “because of this [reporting] system, the number of strandings currently reported to DNER may represent a true value of mortality.” The Commission considers this statement to be a hypothesis rather than a conclusion and, since it can be tested, believes that the Service should consider conducting a study to either verify or refute it. Otherwise, the Service has no real basis for forming such an important, but potentially misleading, conclusion.

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I hope these comments and recommendations are helpful. Please contact me if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy J. Ragen" followed by a flourish and the word "for".

Timothy J. Ragen, Ph.D.
Executive Director

Literature Cited

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