



# MARINE MAMMAL COMMISSION

21 September 2011

Mr. Dan Ashe, Director  
U.S. Fish and Wildlife Service  
Department of the Interior  
1849 C Street, N.W.  
Washington, D.C. 20240

Dear Mr. Ashe:

The Marine Mammal Commission held its 2011 annual meeting on 10-12 May in New Orleans. A portion of the meeting focused on the status of the Florida manatee. Staff from the Fish and Wildlife Service and the Florida Fish and Wildlife Research Institute described the status of the Florida manatee population and identified key issues affecting its conservation. Based on discussions at the meeting, the Commission provides the following recommendations and rationale.

## RECOMMENDATIONS

The Marine Mammal Commission recommends that the Fish and Wildlife Service—

- incorporate into any reclassification proposal an assessment of the effects of the high cold-stress mortality that occurred in 2010 and 2011 and consider the possibility that such mortality may continue to occur at least as often in the foreseeable future;
- proceed with plans for convening structured decision-making workshops to identify specific research and management needs for regional warm-water refuges;
- ensure that contracts to convene and facilitate such workshops allow ample meeting time for participants to identify, discuss, and agree on specific regional research and management actions;
- before convening regional structured decision-making workshops on warm-water refuges, assess for each subpopulation (1) the current number of manatees, (2) the current number that rely on power plant outfalls versus other types of warm-water refuges, and (3) the additional warm-water refuge capacity needed;
- require that, as a condition for maintaining exemptions from thermal discharge requirements, Florida power companies contribute annually to a revolving fund dedicated exclusively to research and management activities to improve and maintain long-term regional networks of warm-water refuges adequate to support optimum sustainable subpopulations of Florida manatees as power plants are closed; and
- consult with the Florida Fish and Wildlife Commission and the Marine Mammal Commission as it develops long-term regulatory measures under the Marine Mammal Protection Act to maintain and manage boat speed zones and to prevent construction of boating facilities in key manatee habitats such as warm-water refuges.

## **RATIONALE**

### **Reclassification and cold-related mortality**

At the Commission's meeting, Mr. David Hankla, Chief of the Fish and Wildlife Service's Endangered Species Field Office in Jacksonville, Florida, described the Service's plans to downlist the Florida manatee population from endangered to threatened under the Endangered Species Act. The Commission recognizes that the subspecies has made significant progress toward recovery in the past three decades and that consideration of such a change may be warranted. However, the Commission believes that a number of key concerns must be addressed as the Service considers the advisability of downlisting.

In past letters to the Service, the Commission has emphasized the importance of warm-water refuges to the long-term conservation of the Florida manatee population. More than half of all Florida manatees now rely on power plant outfalls for winter survival. Some of those plants may be retired within a few years and most could be retired over the next 30 to 50 years. At present, alternative refuges are not adequate to support the number of manatees presently using power plants. As power plants are decommissioned, alternative refuges will be essential or cold spells like those in the past few years will cause high levels of manatee mortality.

The Commission's concerns were reinforced by events that occurred during the winters of 2009–2010 and 2010–2011. During the second week of January 2010, the statewide manatee survey tallied a record high of 5,076 Florida manatees. Since then, however, the Florida Fish and Wildlife Research Institute has recorded more than 1,000 manatee deaths, more than half of which may have resulted from cold winter weather. In 2010, after the survey, perhaps 450 manatees died during the most prolonged period of low temperatures ever recorded in Florida (252 confirmed cold stress deaths and nearly 200 additional deaths also thought to be from cold stress). In early 2011 another cold period killed perhaps 200 or more animals. These numbers far exceed the previous annual record of 56 confirmed deaths from cold-stress.

Although the most recent statewide survey (January 2011) produced a count of 4,834 manatees, the additional mortality from cold-stress undoubtedly affected the population's abundance and, possibly its age and sex distribution. If such cold-related events become more common as a consequence of climate disruption, they could have a strong, adverse effect on the population's status. Therefore, any proposal to downlist Florida manatees must take into account the likelihood and significance of such effects in the foreseeable future.

To prepare for the possibility of downlisting, the U.S. Geological Survey has begun preparation of a review of the population's status. Survival rates for each of four regional subpopulations are key elements of the model used to assess manatee population status and trends. During the last population assessment, survival rate estimates for the four subpopulations were based on data through 2001 (Langtimm et al. 2004 and Runge et al. 2004). The Commission is concerned that the new analysis may use data only through 2008 or 2009. If so, the effects of cold-related die-offs and sharp increases in mortality in 2010 and 2011 would not be reflected in the model's results.

Based on that concern, the Marine Mammal Commission recommends that, if it does not already plan to do so, the Fish and Wildlife Service incorporate into any reclassification proposal an assessment of the effects of the high cold-stress mortality that occurred in 2010 and 2011 and consider the possibility that such mortality will continue to occur at least as often in the foreseeable future.

### **Establishing regional networks of warm-water refuges**

Many warm-water refuges once available to manatees are no longer available because of the extensive modification to Florida's natural habitat. As power plants are decommissioned, the alternative refuges likely will not be sufficient to support the large numbers of manatees now using power plants either because many natural refuges such as springs are blocked off by dams or other obstructions or manatees will not be able to find them. Several decades of research, planning, and management action will be necessary given the complexity and extent of work required to improve manatee access to warm-water springs and facilitate their use of new habitat. That being the case, this work should begin as soon as possible.

On this point, Mr. Hankla noted that the Service and the U.S. Geological Survey have been exploring the use of a facilitated and structured decision-making process to reach agreement among scientists and stakeholders on actions needed to establish and protect regional networks of warm-water refuges for manatees after power plants are closed. In September 2010 the Service tested this approach in a five-day workshop in Shepherdstown, West Virginia. A Commission representative participated in that meeting and the participants found the results to be encouraging. In February 2011 the Service met again with stakeholder groups to discuss the process and assess interest in using it to identify long-term warm-water refuge research and management needs. The response was positive and the participants recommended that the Service hold a series of meetings to examine specific needs on a region-by-region basis. The Marine Mammal Commission concurs with this decision and recommends that the Fish and Wildlife Service proceed with plans for convening structured decision-making workshops to identify specific research and management needs for regional warm-water refuges.

The Commission also believes that the success of this approach will depend on the amount of time participants have to devote to reaching general agreements and then identifying specific actions to be taken. The five-day Shepherdstown workshop was sufficient to reach agreement on general types of actions that should be considered, but not to identify specific actions. Reaching agreement on specific actions may spark more debate and require more time, but identifying such actions is the stated objective of the process described by Mr. Hankla. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service ensure that contracts to convene and facilitate such workshops allow ample meeting time for participants to identify, discuss, and agree on specific regional research and management actions.

As a general matter, the Commission assumes the Service's long-term goal after downlisting, and ultimately after delisting, will be to avoid a decline in total manatee abundance. The requirements for achieving this goal will vary by subpopulation. For example, at present about 40 percent of all Florida manatees occur in the Atlantic Coast subpopulation (perhaps as many as 2,000

animals), some 90 percent of which depend on power plant outfalls. The east coast does not have natural springs and the available thermal basins are of questionable effectiveness during exceptionally cold periods. That being the case, the long-term abundance of this subpopulation after power plants close is uncertain. Addressing that uncertainty will require considerable planning and preparation to ensure that alternative warm-water sites are sufficient to support as many manatees as possible in this area, while also attempting to compensate for any losses in the subpopulation by increasing the size of other subpopulations. In this context, nearly all manatees in the upper St. Johns River region (perhaps 400 animals) occur at one warm-water spring (Blue Spring) but several other warm-water springs exist and are little used or unused by manatees due to obstructions, development, or disturbance. Accordingly, it may be possible for this region to maintain a substantially larger number of manatees than it does currently.

To use this structured decision-making process, the Service will have to provide clear goals for maintaining each of the four subpopulations. Those goals will set the framework for considering possible actions to be taken in each region. To that end, the Marine Mammal Commission recommends that, before convening regional workshops, the Fish and Wildlife Service assess for each subpopulation (1) the current number of manatees, (2) the current number that rely on power plant outfalls, and (3) the additional warm-water refuge capacity needed.

Between 2000 and 2007 the Service relied on a Warm-Water Task Force, a subgroup of the former Florida Manatee Recovery Team, to make recommendations regarding warm-water refuge planning and management. That team developed a draft plan and identified many needed research and management projects. Among other things, it urged removing a fence blocking Homosassa Springs, dredging to deepen and improve manatee access to natural springs, purchasing property around key springs, and developing solar- or gas- powered refuges that might be used temporarily to prevent manatee deaths if and when power companies close their plants with little notice. Although some of those actions have been accomplished or are still under consideration, progress has been unacceptably slow because the Service and state agencies lack the necessary funding. To address that problem, the task force recommended that the Florida Fish and Wildlife Commission and the Service jointly approach Florida utilities to secure funding. Unfortunately, the Florida Fish and Wildlife Commission and the Service did not act on this recommendation.

The Marine Mammal Commission believes that Florida power companies bear considerable responsibility for supporting research and management efforts to ameliorate the effects of power plant closures on manatees. To date this situation has been beneficial for manatees, utility companies, and electricity consumers. Over the past 40 years outfalls from power plants have provided valuable winter habitat for manatees. At the same time electric utilities have saved tens of millions of dollars because they have not been required to install expensive new cooling systems otherwise required by the National Pollution Discharge Elimination System. By the same token, Floridians have benefited by not having to pay the increased costs of those cooling systems that would have been passed along to them.

The Commission believes that power companies should consider contributions to manatee protection to be a normal operating cost. In this regard, most have acted responsibly in many ways. Indeed, some companies, most notably the Florida Power & Light Company, have been outstanding

partners in assuring that power plant outfalls are managed to protect manatees while the plants operate. Still, to date, companies have not contributed financially to efforts to address the long-term risks associated with plant closures. In fact, companies that have closed power plants used by manatees have borne none of the costs and assumed no responsibility for addressing the effect of those closures on manatees. To address this situation, the Marine Mammal Commission recommends that the Fish and Wildlife Service, in consultation with the state of Florida and the Environmental Protection Agency, require that, as a condition for maintaining exemptions from thermal discharge requirements, Florida power companies contribute annually to a revolving fund dedicated exclusively to research and management activities to improve and maintain long-term regional networks of warm-water refuges adequate to support optimum sustainable subpopulations of Florida manatees as power plants are closed. The Service, state of Florida and Environmental Protection Agency also should consult on the scope of activities and the amount of funding required to meet these objectives. In our view, the amount should be sufficient to cover a substantial portion of expected ongoing expenses including, but not necessarily limited to, those related to dredging spring runs, testing the feasibility of opening wells to create or enhance warm-water refuges, assessing characteristics influencing the effectiveness of passive thermal basins for supporting manatees through the winter, purchasing land around key warm-water refuges to assure long-term protection, testing the feasibility of translocating animals to warm-water springs now unused or little used by manatees, and assessing and monitoring manatee use of key warm-water refuges.

### **Long-term strategies to minimize watercraft- related manatee deaths**

Over the past ten years, boat strikes have killed between 75 and 100 manatees per year. The principal means of minimizing such deaths are boat speed regulations and limitations on new docks and marinas near manatee habitats. These measures are implemented by the state of Florida and the Fish and Wildlife Service. Although the number of boat-related deaths is large and has undoubtedly slowed the recovery of Florida manatees, it apparently has not prevented a slow increase in manatee numbers between the 1980s and early 2000s (Langtimm et al. 2004 and Runge et al. 2004). However, that may not remain true in the foreseeable future if protection measures afforded under the Endangered Species Act are removed and cold-related deaths increase as observed in the last two winters. That is, the combination of boat-related and cold-related mortality far exceeds the subspecies' calculated potential biological removal level of 11.8 manatees per year and, therefore, likely would exceed the population's capacity to maintain itself.

To address that concern, any proposal to downlist Florida manatees should include (1) consideration of the combined effects of all pertinent risk factors in the foreseeable future (including, but not limited to, cold stress and boat-related mortality) and (2) maintenance of regulatory measures sufficient to protect the population and prevent its decline. Any reduction in protective measures will expose the population to new levels of risk and raise questions about the wisdom of downlisting.

In his presentation at the Commission's meeting, Mr. Hankla noted that the Service recognizes those concerns and is planning to issue a contract to explore whether and how regulatory measures similar to those now in place under the Endangered Species Act and state law could be established under the Marine Mammal Protection Act. The goal would be to identify a regulatory

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framework for maintaining boat speed zones and consultations on watercraft facilities to assure that watercraft deaths after delisting do not cause the population to decline, thereby necessitating a relisting under the Endangered Species Act. Identifying and developing such a regulatory framework under the Marine Mammal Protection Act will take a number of years and the Marine Mammal Commission commends the Fish and Wildlife Service for its proactive efforts. To ensure that the state of Florida and the Commission have the opportunity to participate in planning for the future, the Marine Mammal Commission recommends that the Fish and Wildlife Service consult with the Florida Fish and Wildlife Commission and the Marine Mammal Commission as it develops long-term regulatory measures under the Marine Mammal Protection Act to maintain and manage boat speed zones and to prevent construction of boating facilities in key manatee habitats such as warm-water refuges.

I hope these recommendations and comments are helpful. Please let me know if you have questions. We look forward to working with you on these important issues and would be pleased to help in any way we can.

Sincerely,



Timothy J. Ragen, Ph.D.  
Executive Director

Cc Michael J. Bean, Esq.  
Mr. David L. Hankla  
Ms. Cynthia K. Dohner

## References

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