

growth. The MPSWG believed that this region had likely been growing slowly in the 1980s, but then may have leveled off or even possibly declined. They considered the status of the Atlantic Region to be "too close to call." Such finding was consistent with high levels of human-related and, in some years, cold-related deaths in this region. Regarding the Southwest Region, the MPSWG acknowledged that further data collection and analysis would be necessary to provide an assessment of the manatee's status in this region. Preliminary estimates of adult survival available to the MPSWG at that time indicated that the Southwest Region was similar to the Atlantic Region and "substantially lower than [the adult survival estimates] for the Northwest and Upper St. Johns Regions." The Southwest Region was cited as having had high levels of watercraft-related deaths and injuries and natural mortality events (*i.e.*, red tide and severe cold).

Recent information suggests that the overall manatee population has grown since the species was listed in 1967 (50 CFR 17.11). Based on data provided at the April 2002 Manatee Population Ecology and Management Workshop, we believe that the Northwest and Upper St. Johns River regions are approaching demographic benchmarks established in the Florida Manatee Recovery Plan (Service, 2001) for reclassification from endangered to threatened status. We also believe that the Atlantic Region is close to meeting the downlisting benchmark for adult survival, at a minimum, and is close to meeting or exceeding other demographic criteria. We are less optimistic, however, regarding the Southwest Region. Although data are still insufficient or lacking to compare the Southwest Region's status to the downlisting/delisting criteria, preliminary data for adult survival indicate that this Region is below the benchmarks established in the recovery plan.

Although we are optimistic about the potential for recovery in three out of the four regions, it is important to clarify that in order to downlist or delist the manatee, pursuant to the ESA, all four regions must simultaneously meet the appropriate criteria as described in the Florida Manatee Recovery Plan (Service, 2001). Additionally, either action would necessarily be based on a status assessment for the species throughout its range (including the United States and Caribbean) and would consider the factors, as described in section 4(a)(1) of the ESA, that determine whether any

species is categorized as endangered or threatened.

In order for us to determine that an endangered species has recovered to a point that it warrants removal from the List of Endangered and Threatened Wildlife and Plants, the species must have improved in status to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the ESA. That is, threats to the species must be reduced or eliminated such that the species no longer fits the definitions of threatened or endangered. While suggestions of increasing population size are very encouraging, there has been no confirmation that significant threats to the species, including human-related mortality, injury, and harassment, and habitat alteration, have been reduced or eliminated to the extent that the Florida manatee may be reclassified from endangered to threatened status. Pursuant to our mission, we continue to assess this information with the goal of meeting our manatee recovery objectives.

Threats to the Species

Human activities, and particularly waterborne activities, are resulting in the take of manatees. Take, as defined by the ESA, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm means an act which kills or injures wildlife (50 CFR 17.3). Such an act may include significant habitat modification or degradation that kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass includes intentional or negligent acts or omissions that create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

The MMPA sets a general moratorium, with certain exceptions, on the take and importation of marine mammals and marine mammal products (section 101(a)) and makes it unlawful for any person to take, possess, transport, purchase, sell, export, or offer to purchase, sell, or export, any marine mammal or marine mammal product unless authorized. Take, as defined by section 3(13) of the MMPA means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal. Harassment is defined under the MMPA as any act of pursuit, torment, or annoyance which—(i) has the potential to injure a marine mammal or marine mammal stock in the wild; or

(ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

Human use of the waters of the southeastern United States has increased dramatically as a result of residential growth and increased visitation. This phenomenon is particularly evident in the State of Florida. The human population of Florida has grown by 246 percent since 1970, from 6.8 million to 16.7 million residents (U.S. Census Bureau, 2003), and is expected to exceed 18 million by 2010, and 20 million by the year 2020. According to a report by the Florida Office of Economic and Demographic Research (2000), it is expected that, by the year 2010, 13.7 million people will reside in the 35 coastal counties of Florida. In a parallel fashion to residential growth, visitation to Florida has increased dramatically. It is expected that Florida will have 83 million visitors annually by the year 2020, up from 48.7 million visitors in 1998. In concert with this increase of human population growth and visitation is the increase in the number of watercraft that travel Florida waterways. In 2002, 961,719 vessels were registered in the State of Florida (Division of Highway Safety and Motor Vehicles, 2003). This represents an increase of 59 percent since 1993. The Florida Department of Community Affairs estimates that, in addition to boats belonging to Florida residents, between 300,000 and 400,000 boats registered in other States use Florida waters each year.

Increases in the human population and the concomitant increase in human activities in manatee habitat compound the effect of such activities on manatees. Human activities in manatee habitat include direct and indirect effects. Direct impacts include injuries and deaths from watercraft collisions, deaths from water control structure operations, lethal and sublethal entanglements with recreational and commercial fishing gear, and alterations of behavior due to harassment. Indirect effects include habitat alteration and destruction, which include such activities as the creation of artificial warm water refuges, decreases in the quantity and quality of warm water in natural spring areas, changes in water quality in various parts of the State, the introduction of marine debris, and other, more general disturbances.

Manatee mortality has continued to climb steadily. Average annual total mortality in the 1990s (227.9) was