

TECHNICAL/AGENCY DRAFT

Florida Manatee Recovery Plan

Third Revision



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U.S. Fish and Wildlife Service
Southeast Region

TECHNICAL/AGENCY DRAFT

FLORIDA MANATEE RECOVERY PLAN

(Trichechus manatus latirostris)

THIRD REVISION

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Southeast Region
U.S. Fish and Wildlife Service
Atlanta, Georgia

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***Appointed Recovery Team members have an asterisk by their name.**

EXECUTIVE SUMMARY

CURRENT SPECIES STATUS

Endangered. The current manatee population, with its present distribution is at a level where it is likely to survive occasional stochastic events. The near and long term threats from humans are the reasons that necessitate the continued protection of the Florida manatee under the Endangered Species Act. The focus is not how many manatees exist, but instead the focus is on monitoring and addressing the effectiveness of conservation measures to ameliorate threats which will lead to a healthy and stable population. Provided that threats can be minimized, and that the population trend is stable or increasing for a sufficient time period, the present number of manatees would be acceptable for reclassification.

HABITAT REQUIREMENTS AND LIMITING FACTORS

The Florida manatee lives in freshwater, brackish and marine habitats. Submerged, emergent, and floating vegetation are their preferred food. During the winter, cold temperatures keep the population concentrated in peninsular Florida and many manatees rely on the warm water from natural springs and power plant outfalls. During the summer they expand their range and on rare occasions are seen as far north as Rhode Island on the Atlantic coast and as far west as Texas on the Gulf coast.

The most significant problem presently faced by manatees in Florida is death or injury from boat strikes. The long-term availability of warm-water refuges for manatees is uncertain if minimum flows and levels are not established for the natural springs on which many manatees depend, and as deregulation of the power industry in Florida occurs. Their survival will depend on maintaining the integrity of ecosystems and habitat sufficient to support a viable manatee population.

RECOVERY GOAL

The goal of this revised recovery plan is to assure the long-term viability of the Florida manatee in the wild, allowing initially for reclassification to threatened status and ultimately removal from the list of endangered and threatened species.

RECOVERY CRITERIA

The FWS believes that the current minimum population estimate is adequate to consider recovery if the population demographics have been achieved and threats have been ameliorated. This plan sets forth criteria, which when met, will ensure a healthy, self-sustaining population of manatees in Florida by reducing or removing threats to the species' existence.

The following criteria must be met prior to **delisting**:

1. Achieve the following population benchmarks in each of the four regions over the most recent 20 years of data:
 - average annual rate of adult survival is 90% or greater;
 - average annual percentage of adult female manatees accompanied by first or second year calves in winter is at least 40%;
 - average annual rate of population growth is equal to or greater than zero.
2. Ameliorate threats to manatee habitat or range, as well as threats from natural and manmade factors by enacting and implementing federal, state or local regulations that:
 - establish and maintain minimum spring flows;
 - protect warm water refuge sites and associated foraging habitat;
 - establish sanctuaries, refuges and/or safe havens to protect other important manatee areas;
 - eliminate or minimize unauthorized human caused “take”;

The following criteria must be met prior to **reclassification** from endangered to threatened:

1. Achieve the population benchmarks listed above in item 1 over the most recent 10 years
2. Demonstrated progress is made toward accomplishing delisting criteria set forth above in item 2.

ACTIONS NEEDED

1. Minimize causes of manatee disturbance, injury and mortality.
2. Determine and monitor the status of the manatee population.
3. Protect, identify, evaluate, and monitor manatee habitats.
4. Facilitate manatee recovery through public awareness and education.

DATE OF RECOVERY

The earliest the Florida manatee could be considered for reclassification to threatened would be 2003 provided the established criteria are met. The time frame for delisting depends not only upon meeting the population benchmarks, but also on the establishment and implementation of management initiatives to ameliorate threats. A time frame for resolving the long-term threats is difficult to predict.

TOTAL ESTIMATED COST OF RECOVERY

Based on information provided by our recovery partners, current annual estimated budget expenditures for recovery approaches \$10,000,000.

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LIST OF ACRONYMS AND ABBREVIATIONS

The following standard abbreviations for units of measurements and other scientific/technical acronyms and terms are found throughout this document:

BPSM	Florida Fish and Wildlife Conservation Commission, Bureau of Protected Species Management
CERP	Comprehensive Everglades Restoration Plan
CFR	Code of Federal Regulations
CMC	Center for Marine Conservation
COE	U.S. Army Corps of Engineers
CZS	Chicago Zoological Society
DERM	Miami-Dade Department of Environmental Resources Management
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973, as amended
FDEP	Florida Department of Environmental Protection
FDNR	Florida Department of Natural Resources
FIND	Florida Inland Navigation District
FMRI	Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute
FPL	Florida Power and Light Company
FR	Federal Register
FWC	Florida Fish and Wildlife Conservation Commission
FWC-DLE	Florida Fish and Wildlife Conservation Commission Division of Law Enforcement
FWS	U.S. Fish and Wildlife Service
GDNR	Georgia Department of Natural Resources
GIS	Geographic Information System
GPS	Global Positioning System
HBOI	Harbor Branch Oceanographic Institute

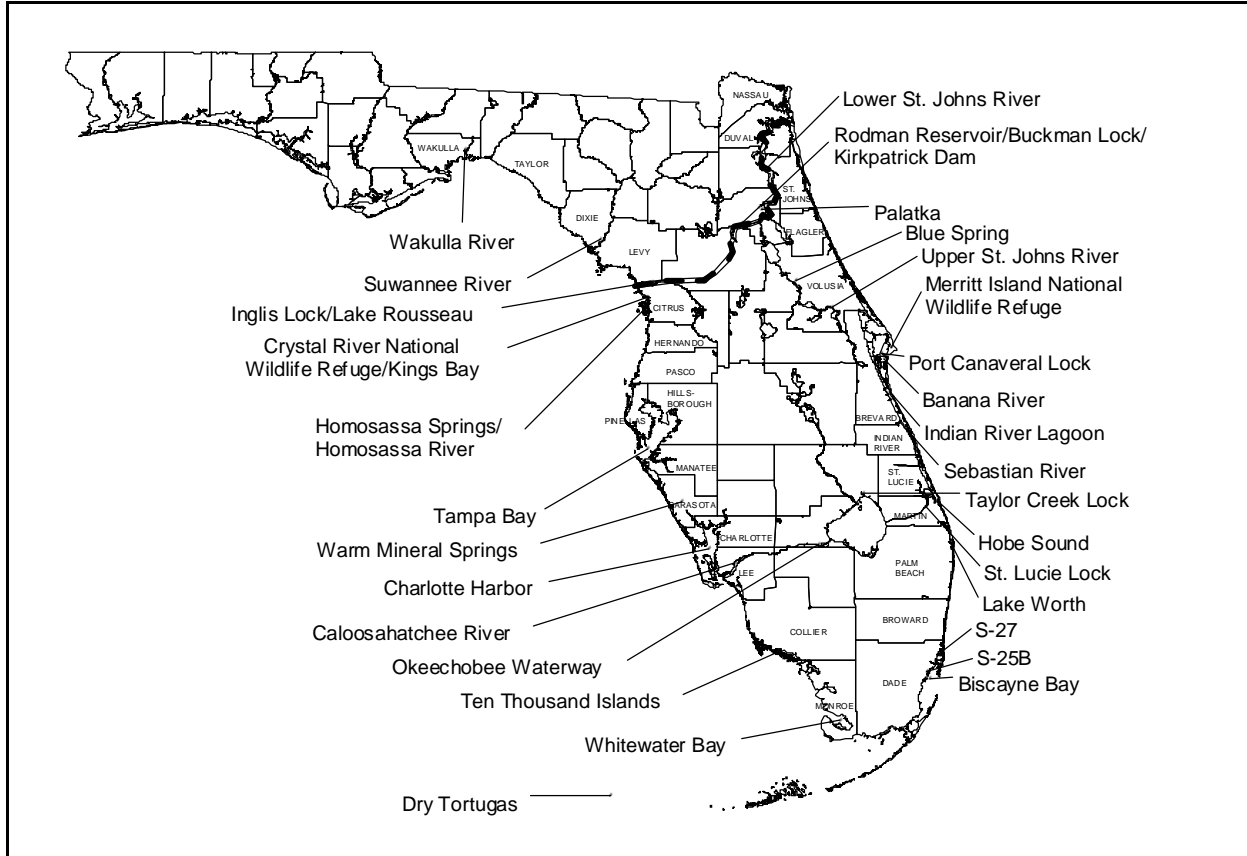
LIST OF ACRONYMS AND ABBREVIATIONS

HWG	Habitat Working Group
IOWG	Interagency Oceanaria Working Group
LOA	Letter of Authorization
LE	Law Enforcement
MIPS	Manatee Individual Photo-Identification System
MML	Mote Marine Laboratory
MMPA	Marine Mammal Protection Act of 1972, as amended
MMPL	Marine Mammal Pathology Lab
MNPL	Maximum net productivity level
MPP	Manatee Protection Plan
MPS	Manatee protection system
MPSWG	Manatee Population Status Working Group
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NSAV	Native submerged aquatic vegetation
NWR	National Wildlife Refuge
OSP	Optimum Sustainable Population
PIT	Passive Integrated Transponder
SAV	Submerged aquatic vegetation
SMC	Save the Manatee Club
USCG	U.S. Coast Guard
USGS-Sirenia	U.S. Geological Survey, Sirenia Project
USN	U.S. Navy
VHF	Very high frequency
WMD's	Water Management Districts
Local Gov'ts	Local Governments
M Industry	Marine Industries
Oceanaria	Cincinnati Zoo, Columbus Zoo, Homosassa Springs State Wildlife Park, Living Seas, Lowry Park Zoo, Miami Seaquarium, Mote Marine Laboratory, Sea World Florida and California, South Florida Museum
Photo-ID	Photo-identification
P Industry	Power Industries

LIST OF ACRONYMS AND ABBREVIATIONS

C	Centigrade
cm	centimeters
ft	feet
hrs	hours
K	carrying capacity
kg	kilograms
km	kilometers
lbs	pounds
m	meters
mi	miles
min	minutes
ppm	parts per million
%	percent
≤	less than or equal to
°	degrees

Florida Coastal Counties and Other Sites Referenced in the Florida Manatee Recovery Plan



PREFACE

This Florida Manatee Recovery Plan revision adds new and refines existing recovery program activities for the next five years. The Recovery Plan is composed of four major sections:

1. **Introduction:** This section acquaints the reader with the Florida manatee, its status, the threats it faces, and past and ongoing conservation efforts. It also serves as a review of the biological literature for this subspecies.
2. **Recovery:** This section describes the purpose of the plan; presents delisting and reclassification criteria based upon population benchmarks and the five listing/recovery factors to assist in evaluating the status; when/how a status review will be conducted by FWS, types of recommendations that may follow the review; and objectives and strategy and actions or tasks needed to achieve recovery. These recovery tasks are presented in step-down outline format for quick reference and in a narrative outline, organized by four major objectives: (1) minimize causes of manatee disturbance, injury and mortality; (2) determine and monitor the status of the manatee population; (3) protect, identify, evaluate, and monitor manatee habitats; and (4) facilitate manatee recovery through public awareness and education.
3. **Implementation Schedule:** This section presents the recovery tasks from the step down outline in table format; assigns priorities to the tasks; estimates the time necessary to complete the tasks; identifies parties with authority, responsibility, or expressed interest in implementation of the tasks; and estimates the cost of the tasks and recovery program.
4. **Appendices:** This section presents additional information utilized by the FWS and Recovery Team to draft this revision.