
FLORIDA MANATEE

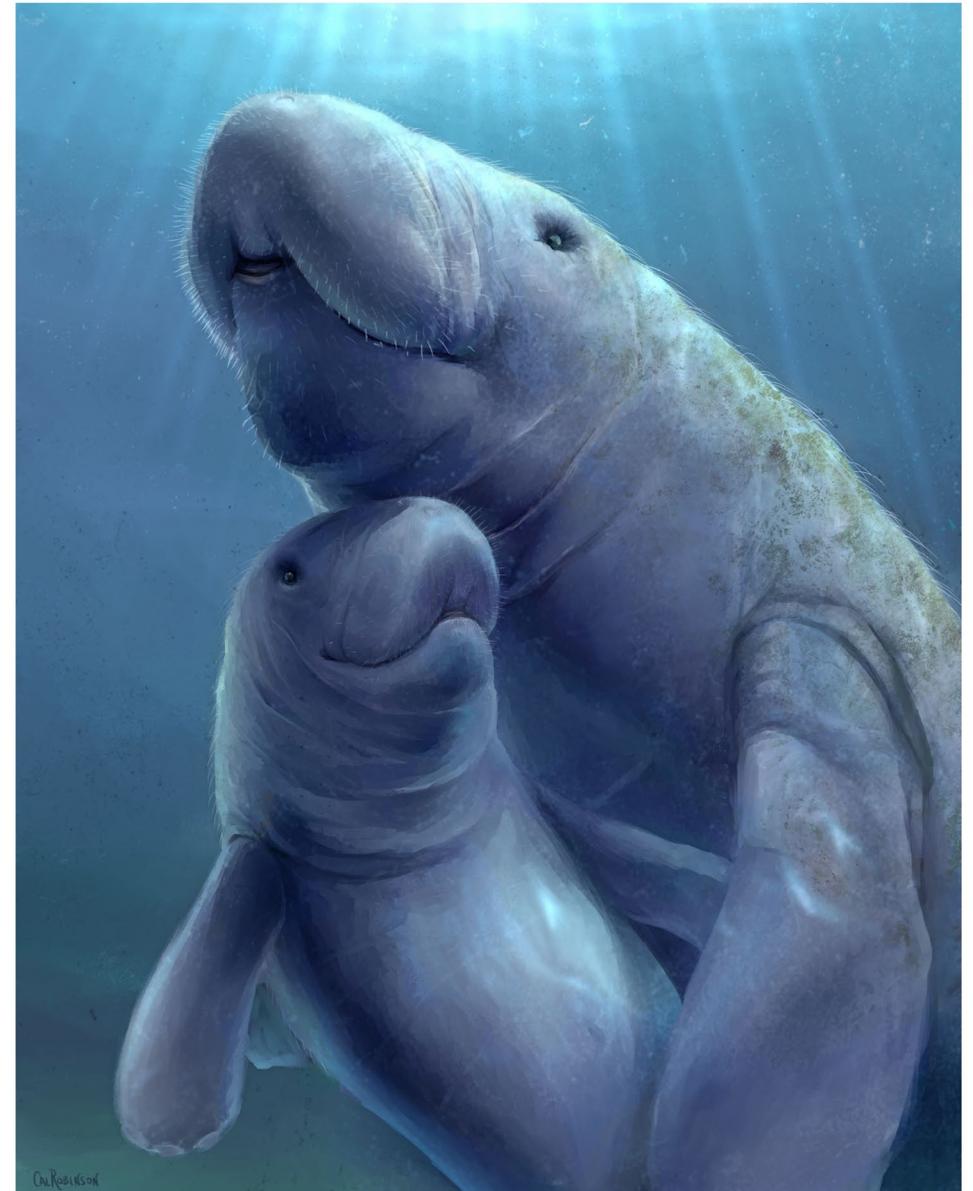
Florida Subspecies

Trichechus manatus latirostris

of the

West Indian Manatee

Enhanced Manatee Population Viability via
Ocklawaha River And Springs Restoration



WEST INDIAN MANATEE
Trichechus manatus
Threatened



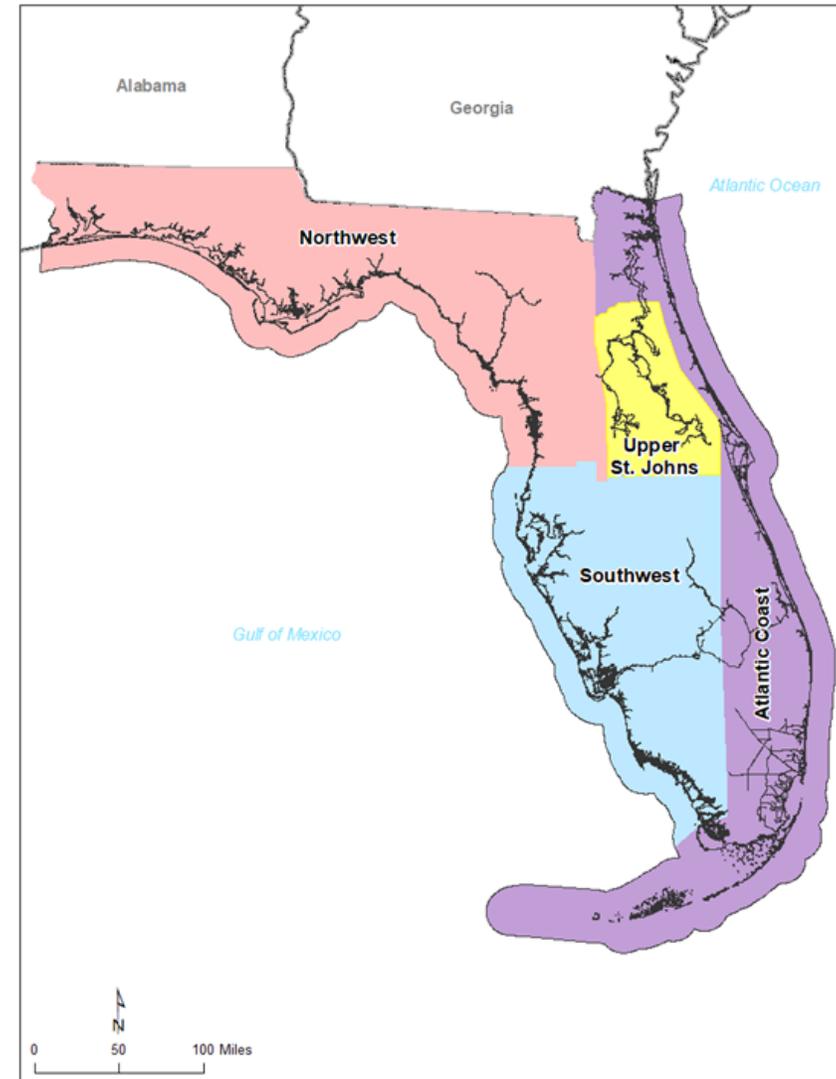
Florida Manatee Traits

- Florida northern extreme of winter range
- Seasonal migration for thermoregulation
- Warm-water sites sought in winter
- Aquatic herbivores
- Marine and freshwater distribution
 - coastal grass beds and rivers
- Population size of 8,350 – 11,730
- Threatened under ESA



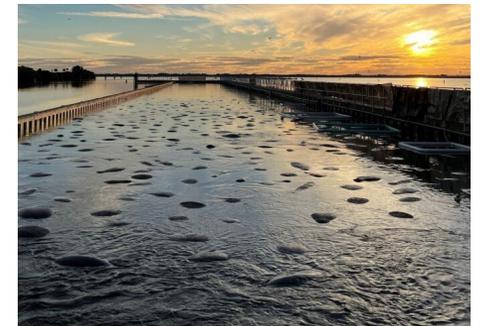
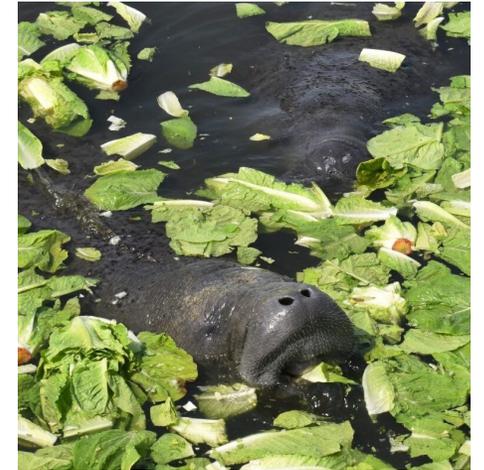
Management Units in Florida

- 3,940 - 6,980 estimated on Atlantic Coast
- Little exchange between Atlantic Coast and Gulf Coast
- Nearly 1,000 manatees in Blue Spring during cold snap this winter
- Primary management challenges (aside from watercraft collisions)
 - improve foraging habitat
 - maintain network of sustainable warm water refugia



Foraging habitat

- 47,000 acres of seagrass lost in the Indian River Lagoon
- Unusual Mortality Event Dec 2020-present
 - ~900 manatee deaths due to starvation
 - unprecedented supplemental feeding the winters of 2021-22, 2022-23
- Solution: accelerate and sustain water quality and seagrass restoration
 - where possible, facilitate manatee access to underutilized habitats



Warm-Water Refuge

- Historic reliance on springs and passive thermal basins to shelter from cold winter temperatures
- 20th century human activities including dam construction blocked access to some of these sites and seriously degraded others
- At same time, new power plants and industrial complexes discharged heated effluent in manatee accessible waterways
- Most of the Florida manatee population now seeks refuge during cold weather at industrial sites throughout much of peninsula



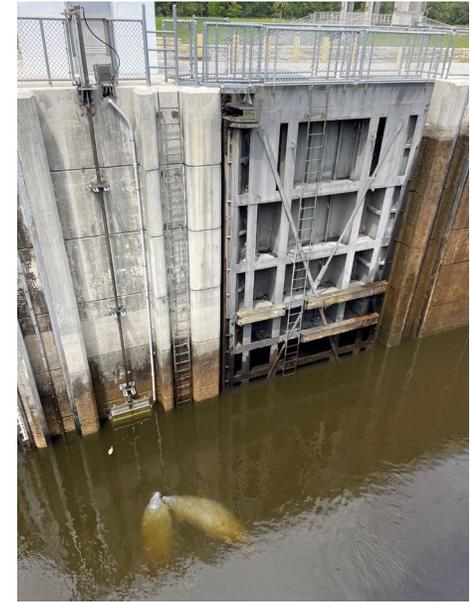
Warm-Water Refuge (continued)

- Identify and maintain a network of sustainable warm water refugia
 - Minimal dependence on technology
 - Sufficient to ensure persistence into foreseeable future
- Conserve, restore, enhance springs and other non-industrial warm-water habitats
 - Remove barriers that restrict access to springs such as dams on the Ocklawaha and Rainbow rivers
- Develop non-industry dependent warm water habitats



Manatees above Kirkpatrick Dam

- Access feasible through Buckman Lock; not ideal for manatee conveyance
- Data from Monica Ross and colleagues at the Clearwater Marine Aquarium Research Institute reveal that since 2016:
 - Manatee #s in Silver River are increasing (5 to 53)
 - 98 uniquely identifiable manatees have used Silver River; 185 individuals in middle and upper Ocklawaha and Harris Chain
 - Hypothesize key factors for increased use of Ocklawaha and Silver rivers are reduction of forage in Lower St. Johns and recent loss of seagrass in the IRL
- Habitats above the dam could sustain hundreds or more manatees, enhancing the resilience and viability of manatees on the east coast of Florida
- USFWS supports creating a free-flowing river that allows for the unobstructed movement of manatees and fish between the Ocklawaha River system and the St. Johns River



Monica Ross