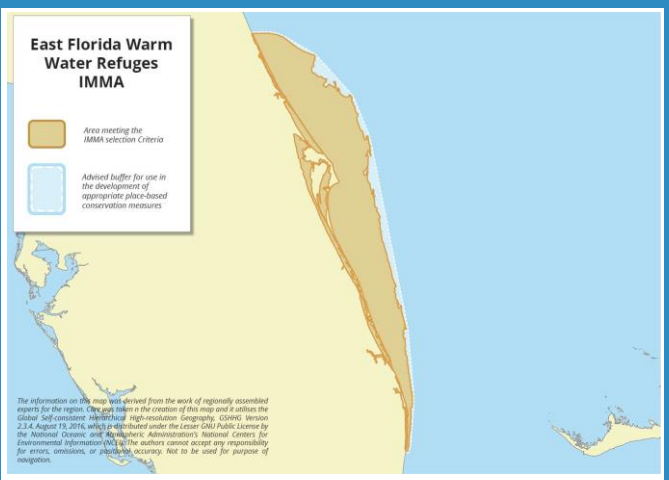

Area Size

9,004 km²

Qualifying Species and Criteria

Florida manatee – *Trichechus manatus latirostris*

Criterion A, B (2)

Common bottlenose dolphin – *Tursiops truncatus*

Criterion B (1)

Other Marine Mammal Species Documented

Tursiops erebennus

Summary

The East Florida Warm Water Refuges IMMA includes numerous discrete areas and the interconnected seagrass beds and shallow inland waterways along the Atlantic coast of Florida in the continental United States. The IMMA includes coastal waters extending to the 25 m isobath line along the coastline. This IMMA also includes inlets and bays, seagrass beds, thermal basins, springs, creeks, dredged canals, and warm-water discharge sites of power plants where waters typically remain above 20°C. These warm water refuges and seagrass beds provide important wintering habitat and feeding grounds for Endangered Florida Manatees (*Trichechus manatus latirostris*). The IMMA also provides habitat that supports resident populations of

East Florida Warm Water Refuges IMMA

Summary, continued.

coastal bottlenose dolphins, which are predominantly common bottlenose dolphins (*Tursiops truncatus*), but may include the newly described Tamanend's bottlenose dolphin (*Tursiops erebennus*). There are a variety of protected areas across the region, some designated specifically for protecting Florida manatees, including Blue Springs State Park, and power plant warm water outfalls.

Description:

The Eastern Florida Warm-Water Refuges IMMA includes multiple discrete areas along the Atlantic coast of Florida in the continental United States. Defined by a 25 m isobath line that traces the coastline, the IMMA includes various aquatic habitats along the coast and inland waterways. This includes thermal basins, springs, creeks, dredged canals, and warm-water discharge sites of power plants where waters typically remain above 20°C and which are visited by large numbers of manatees predictably and consistently (Valade et al., 2020). There are a variety of protected areas across the region, some designated specifically for protecting Florida manatees, including Blue Springs State Park, Manatee Springs State Park, and Fanning Springs State Park.

Criterion A: Species or Population Vulnerability

The American Manatee (*Trichechus manatus*) as a species is listed as Endangered on the IUCN Red List of Threatened Species (Deutsch & Morales-Vela, 2024). The Florida Manatee (*Trichechus manatus*

Figure 1: An aggregations of Florida manatees (*Trichechus manatus latirostris*) on the east coast of Florida. Photo credit: Jamison Smith permit #66527C.

latirostris) is a sub-species of the American manatee that has not yet been assessed for the IUCN Red List.

Criterion B: Distribution and Abundance Sub-criterion B1: Small and Resident Populations

The IMMA includes the Indian River Lagoon, one of the largest stocks of BSE (Bays, Sounds and Estuaries) stocks of common bottlenose dolphins (*Tursiops truncatus*) in the southeastern U.S. The best available population estimate is 1,032 individuals (95% CI 969-1,98; CV=0.03; Durden et al., 2021). Long-term residency has been documented through decades of photo-identification studies in the Indian River Lagoon (Odell & Asper, 1990; Titcomb et al., 2015), although movements outside of the lagoon are frequent (Odell & Asper, 1990). However, it is clear that the population in the lagoon is distinct from neighbouring coastal stocks (Mazzoil et al., 2011). Multiple communities of bottlenose dolphins are present, but more research is needed to understand the movements and fine-scale community structure within the area (Titcomb et al., 2015).

Sub-criterion B2: Aggregations

Aerial surveys to estimate abundance of manatees in Florida conducted in 2021-2022 (https://myfwc.com/research/manatee/research/population-monitoring/synoptic-surveys/) yielded an estimate of 9,790 of which 3,060-4,280 occurred on the east coast of Florida within the waters of the IMMA (Gowan et al., 2023). Manatees are vulnerable to cold stress and death, thus their survival depends on the use of warm-water refuges resulting from discharge of power plants and passive thermal basins, springs, creeks, and dredged canals, particularly in inland freshwater bodies, and on the presence of seagrass meadows (Laist et al., 2013; Valade et al., 2020). Long-term monitoring through aerial surveys indicates the presence of aggregations (50 to more than 500) of Florida manatees at key wintering sites in the IMMA (Laist & Reynolds, 2005;

Laist et al., 2013) including St Johns River, Cape Canaveral, Port Everglades and Blue Springs State Park (Deutsch et al., 2003; Martin et al., 2015; Gowan et al., 2023). These areas serve as winter aggregation sites for more than half of the east coast population and serve as the primary feeding habitats for the east coast population of the subspecies (Laist et al., 2013; Gowan et al., 2023; Valade et al., 2020). Martin et al. (2015) estimated that 70% of the east coast manatee population were in Brevard County during a coast-wide survey in March 2012. Along the coastline, extensive seagrass meadows provide the main feeding grounds for this species. Manatees primarily forage on *Halodule wrightii* and *Syringodium filiforme*, which are concentrated in intracoastal waters around the State, from the Indian River Lagoon to the Florida Keys (east to south), (Zieman & Zieman, 1989; Allen et al., 2022).

Supporting Information

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PDF made available for download at ***https://www.marinemammalhabitat.org/factsheets/east-florida-warm-water-refuges-imma/***