

Oyster Integrated Mapping and Monitoring Program

# Indian River Oyster Reef Mapping 2025



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## Overview

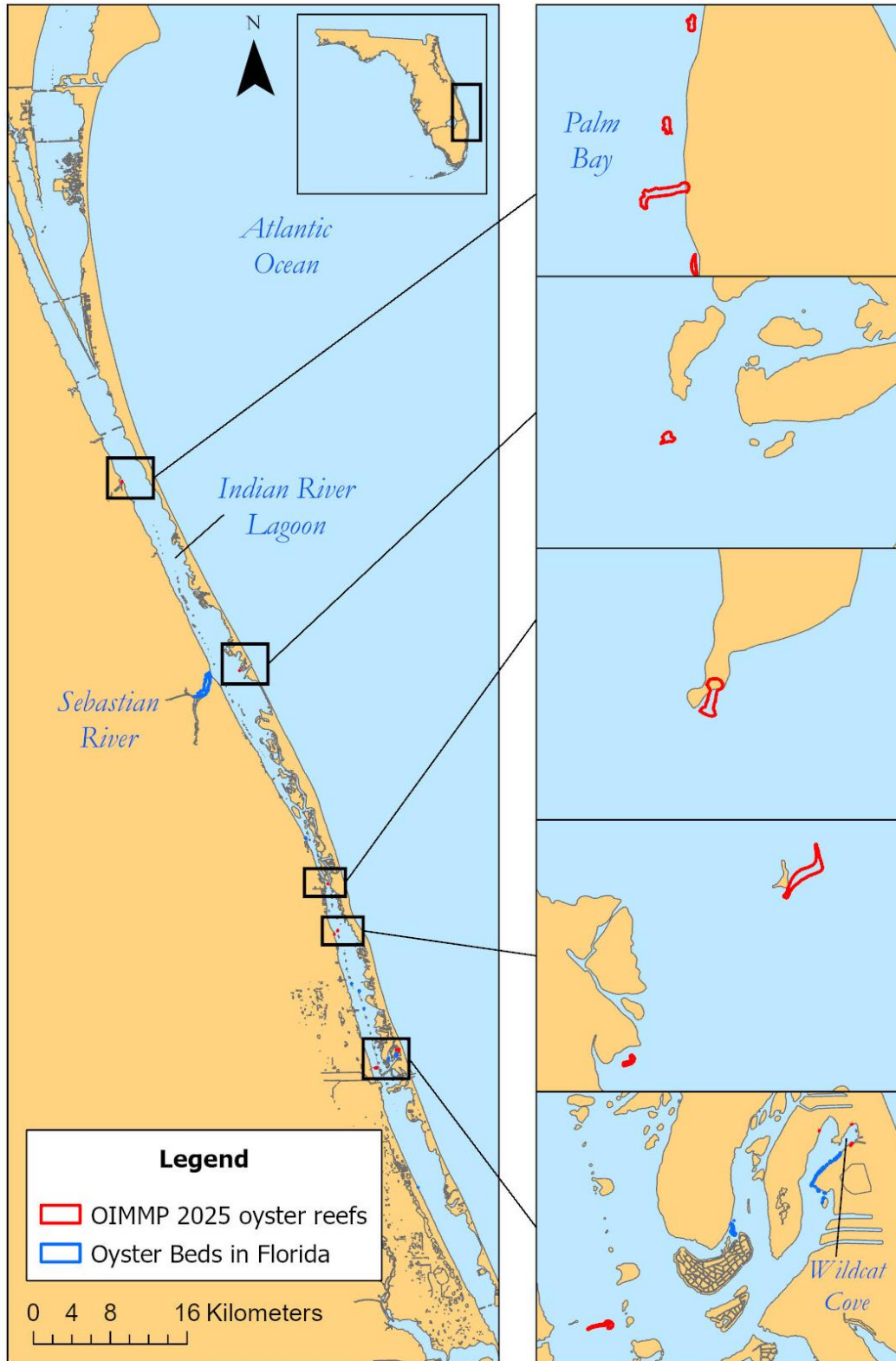
The [Oyster Integrated Mapping and Monitoring Program](#) (OIMMP), based at the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute in St. Petersburg, Florida, compiles oyster mapping and monitoring data across Florida and fills selected mapping and monitoring data gaps. The Indian River, a segment of the Indian River Lagoon (IRL), was identified as a regional data gap in need of oyster reef mapping. Oyster reefs have been mapped in the major tributaries to the Indian River, including the Sebastian River, St. Lucie River, and Loxahatchee River, where oysters occur in larger numbers (see summary of available maps in the [Index of Oyster Maps in Florida](#)). Oyster reefs are found less frequently in minor tributaries (e.g. Turkey Creek, Crane Creek) and in the Indian River itself, though local communications and reports suggest reefs are present (FDEP 2016, FDEP 2020, FWC et al. 2018, Parker et al. 2019). However, the extent of these reefs has not been fully mapped, partly due to poor reef visibility in aerial imagery. These occasional natural reefs represent potentially important seed sources to the Indian River, particularly for locations far from major tributaries. This report describes supplemental intertidal oyster reef mapping in the Indian River.

## Methods and Results

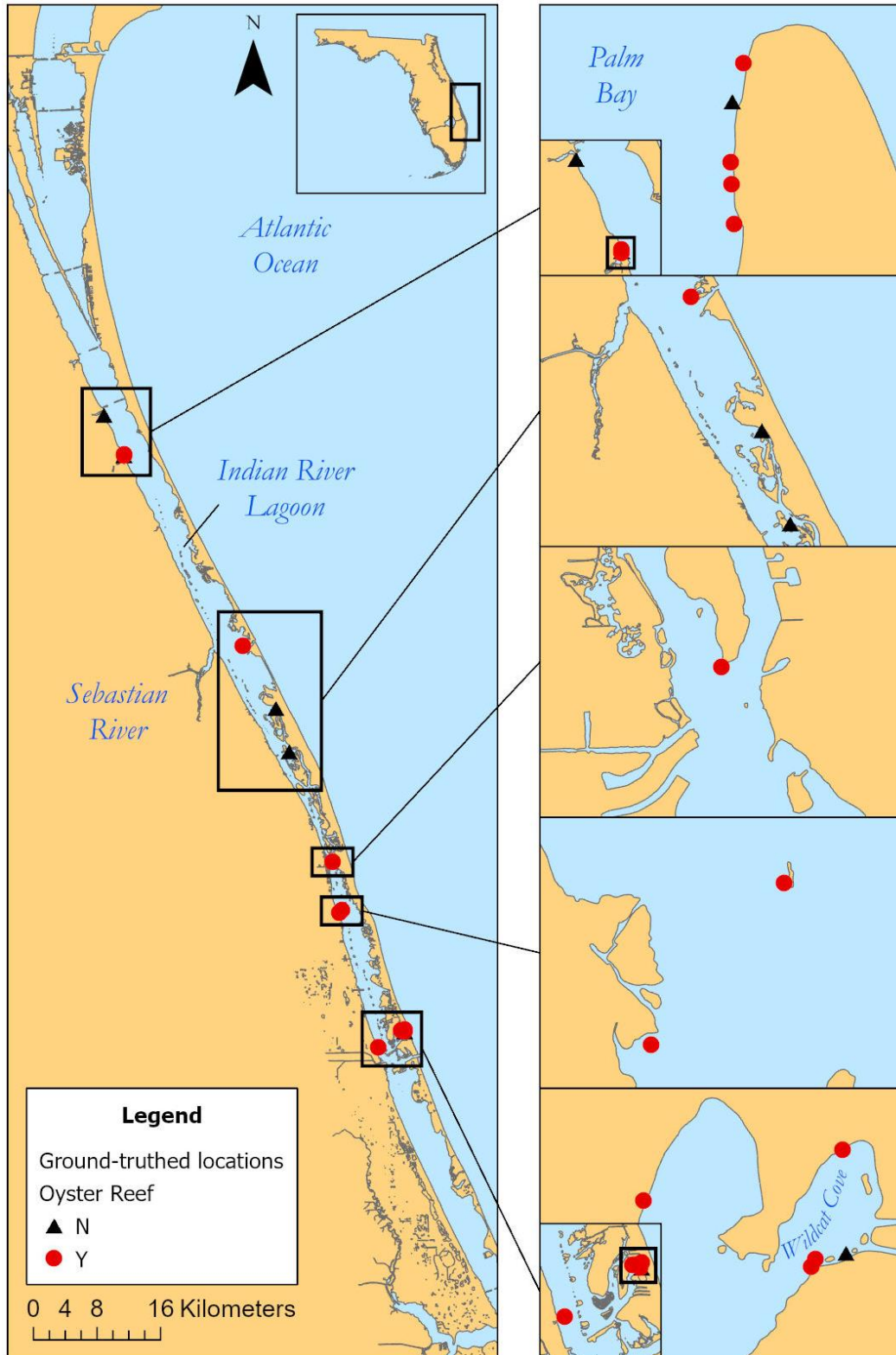
This mapping effort relied on local knowledge and recommendations to identify natural oyster reefs in the IRL. A request for information regarding unmapped oyster reefs was emailed to members of the East Coast Estuarine Restoration Team (ECERT) in November 2024. ECERT members shared coordinates of 18 potential oyster reefs between Crane Creek and the Ft. Pierce Inlet with OIMMP personnel. While many living shorelines and restored oyster reefs are present in the IRL, this mapping effort focused on delineating natural reefs only.

Potential oyster reefs were ground truthed in January 2025. The substrate of each ground-truthed reef was visually inspected or probed with a pole and classified as high-density reef, low-density reef, scattered oysters, or sand/mud. Reefs with 10 – 25% live oyster coverage (classified via rapid visual assessment) were labeled as low-density while those with over 25% live oyster coverage were considered high-density (as adapted from Baggett et al. 2014). Areas with <10% live oyster coverage were classified as scattered oysters and sand/mud areas did not contain oysters. Locations with disarticulated oyster shell or oysters growing on mangrove roots were not mapped as reefs in this effort.

Ground truthing revealed 13 out of 18 of the reported sites were classified as oyster reefs (Figures 1 and 2, Table 1). All reefs were intertidal. A positive ground-truthing confirmation was mandatory for potential reefs to be included in the final map. Six of the sites designated for ground truthing were inaccessible by boat due to shallow water; these were not included in the final map as their substrate could not be confirmed. A combination of GPS coordinates, ground-truthing photographs, and aerial imagery (e.g., Figure 3) were used to digitize reef outlines in ArcGIS Pro version 3.1 (ESRI, Redlands CA). Of the 13 newly identified oyster reefs, most were fringe reefs located under overhanging vegetation or private boat docks (Figure 4), highlighting the importance of in-situ ground truthing as these reefs are not visible in aerial imagery. Mapped oyster reefs were added to the statewide oyster reef map, [Oyster Beds in Florida](#).



**Figure 1.** Map of confirmed oyster reef locations in the Indian River Lagoon. Reefs mapped in this effort are shown in red; reefs already mapped in the statewide Oyster Beds in Florida layer are shown in blue.

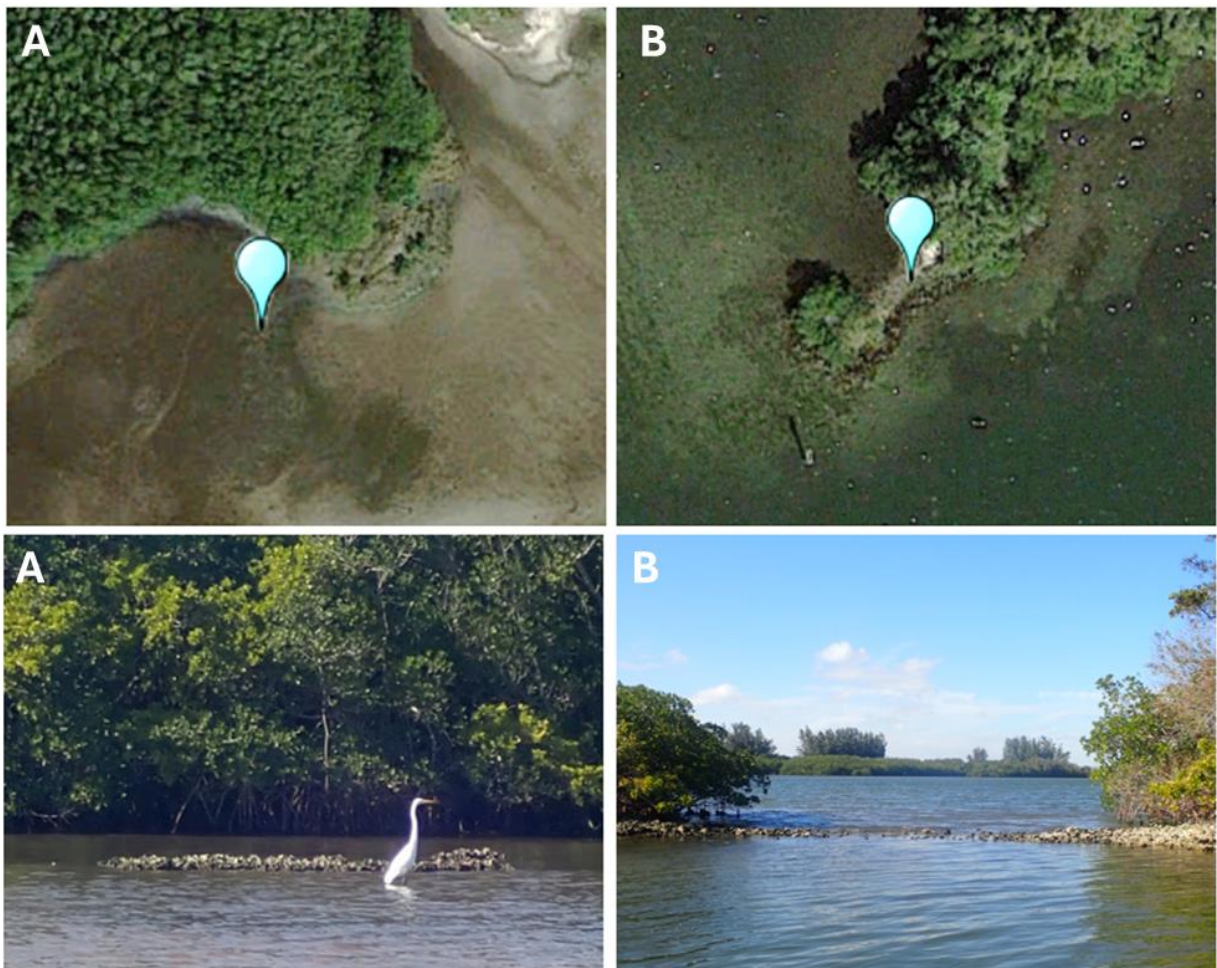


**Figure 2.** Ground-truthing locations visited during this mapping effort. Locations that were confirmed as high- or low-density oyster reefs are shown in red. Locations that were found to be scattered oysters or sand/mud are shown in black.



**Table 1.** Ground-truthed substrate type and accuracy of reported potential oyster reefs in the Indian River (reefs already present in the Oyster Beds in Florida GIS layer before this mapping effort are not included below).

Ground-truthed substrate	Potential reefs
High-density reef	12
Low-density reef	1
Scattered oysters	2
Sand/mud	3
Total classified correctly	13
Total sites	18
Accuracy	72%



**Figure 3.** Examples of two Indian River Lagoon oyster reefs (A and B) mapped in this effort as seen in aerial imagery (top) and as photographed during ground-truthing (bottom).



**Figure 4.** Two examples of oyster reefs not visible in aerial imagery as they are located under an upland tree fringe (A) and a private dock (B).

### **Acknowledgements**

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## References

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