Florida Seagrass Integrated Mapping and Monitoring Program

Summary Report for Western Pinellas County

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General Assessment: In 2008, 25,880 acres of seagrass were mapped in Boca Ciega Bay, Clearwater Sound, and St. Joseph’s Sound, with St. Joseph’s Sound accounting for almost 50% of the mapped acreage. Between 2006 and 2008, seagrass acreage increased 8.1% for the entire region, but seagrass area in Boca Ciega Bay decreased 504 acres, or 5.6%. Many seagrass beds in this urban county are greatly affected by storm runoff. In addition, propeller scarring affects seagrass beds in some areas. Water quality is affected by storm runoff and large-scale events such as El Niño.

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<th>Seagrass Status Indicators</th>
<th>Status</th>
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<td>Seagrass cover</td>
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<td>Increasing</td>
<td>All areas except Boca Ciega Bay</td>
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<td>Water clarity</td>
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<td>Propeller scarring</td>
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Geographic Extent: This region includes the shallow waters of Boca Ciega Bay, Clearwater Harbor, Shell Key, and St. Joseph’s Sound along the Gulf coast of Pinellas County.

Mapping and Monitoring Recommendations

- Continue annual monitoring formerly conducted by the Pinellas County Department of Environmental Management.
- Continue biennial imagery acquisition and interpretation.

Management and Restoration Recommendations

- Reduce storm runoff into Boca Ciega Bay.
• Decrease propeller scarring in areas of greatest boat use.

Summary Assessment: Seagrass beds in western Pinellas County are increasing in size in all areas except Boca Ciega Bay based on mapping data from 2006 and 2008. Acreage increased in St. Joseph’s Sound by 20% during this two-year period. All coastal waters receive storm runoff from the highly urban Pinellas peninsula, and this poses a threat to water clarity and quality. Propeller scarring, especially in areas of greatest boat use near the Intracoastal Waterway, continues to fragment seagrass beds.

Seagrass Mapping Assessment: In the coastal waters of western Pinellas County, almost half the seagrass beds are found in St. Joseph’s Sound in the northwestern portion of this region (Figure 1). Seagrass acreage increased 20%, or 2,093 acres, in St. Joseph’s Sound between 2006 and 2008 (Table 1). Seagrass beds also increased in size in Clearwater Sound during the same period, by about 8%. However, Boca Ciega Bay lost 504 acres between 2006 and 2008, a 5.6% decline.

Figure 1. Seagrass cover in Western Pinellas County, 2008.
Seagrass Status Indicators | Status | Trend | Assessment, Causes
--- | --- | --- | ---
Seagrass cover | Increasing | All areas except Boca Ciega Bay
Seagrass meadow texture | Stable | 
Seagrass species composition | Stable | 
Overall seagrass trends | Stable | Urban runoff is a concern

Seagrass Stressors | Intensity | Impact | Explanation
--- | --- | --- | ---
Water clarity | Locally poor | Boca Ciega Bay
Nutrients | Increasing | Storm runoff
Phytoplankton | Variable | Low levels
Natural events | Low | El Niño
Propeller scarring | Regional | Near high-use areas

Monitoring Assessment: Seagrass assessment and monitoring suggest that seagrass beds are stable in Boca Ciega Bay, Clearwater Harbor, and St. Joseph's Sound. Seagrass species include shoal grass (*Halodule wrightii*), manatee grass (*Syringodium filiforme*), and turtle grass (*Thalassia testudinum*). Some transects showed a temporary decrease in density from 2004 to 2005, most likely an effect of tropical storms (Meyer and Hammer Levy 2008).

| TABLE 1. WESTERN PINELLAS COUNTY SEAGRASS ACREAGE IN 2006 AND 2008 |
| --- | --- | --- | --- |
| Bay Segment | 2006 | 2008 | Change |
| Clearwater North | 3,522 | 3,784 | 262 |
| Clearwater South | 914 | 1,000 | 86 |
| St. Joseph's Sound | 10,546 | 12,639 | 2,093 |
| Boca Ciega Bay | 8,961 | 8,457 | −504 |
| Total | 23,943 | 25,880 | 1,937 |

Mapping Data and Imagery: The Southwest Florida Water Management District (SWFWMD) has acquired aerial imagery of submerged aquatic vegetation in the Tampa Bay region every two years since 1988. The most recent set of photographs was acquired in 2010. In 2006 and 2008, seagrass imagery was photointerpreted from 1:24,000 scale natural color aerial photography and classified using the SWFWMD modified Florida Land Use Cover Classification System. The minimum mapping unit for classification was 0.5 acre.
**Monitoring Data:** Seagrass beds are monitored as part of a regional program administered by the Tampa Bay Estuary Program. Seagrass cover is evaluated by the Braun-Blanquet method using quadrats located along fixed transects. There are 11 fixed transects in Boca Ciega Bay and 14 in Clearwater Harbor and St. Joseph Sound. Staff of the Pinellas County Department of Environmental Management have been responsible for field assessment each fall, and their data are reported to the Tampa Bay Estuary Program.

**Pertinent Reports and Scientific Publications**


**General References and Additional Information**


**Contacts**

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