



*Florida Department of
Environmental Protection*

“Florida Muddy Water Blues” Erosion and Sediment Control Field Day

In support of the Indian River Lagoon Basin Management Action Plans

Palm Bay Community Center

February 25, 2013



*Florida Department of
Environmental Protection*

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Indian River Lagoon BMAPS

- Total Maximum Daily Loads were adopted in 2009. Set total nitrogen and total phosphorus limits for the Indian River Lagoon and Banana River Lagoon.
- Basin Management Action Plan (BMAP) adopted February 7, 2013.
- Goal is to restore seagrasses in deeper water.
- Large reductions in loading have been accomplished, but there is still more to do.





Problem

MUCK





Extent of Problem

Muck is mostly eroded upland soils (fines)!

- 1989: 3 to 5 million cubic yards in the Lagoon proper
- Rate of deposition: 0.2 to 1 cm/yr in Lagoon; up to 2 cm/yr in creeks
- 2006: closer to high value in the range (→ 5 million cubic yards)





MAJOR Problems with MUCK

- Re-suspends, augments turbidity.
- High O₂ demand, reduces oxygen in water column.
- Lowers benthic diversity. Poor habitat.
- Creeks are full, water column depth physically diminished.
- A source of N and P loading.

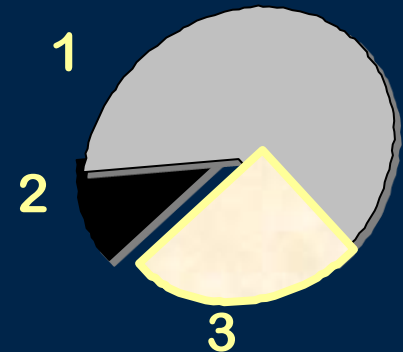




What is Muck?

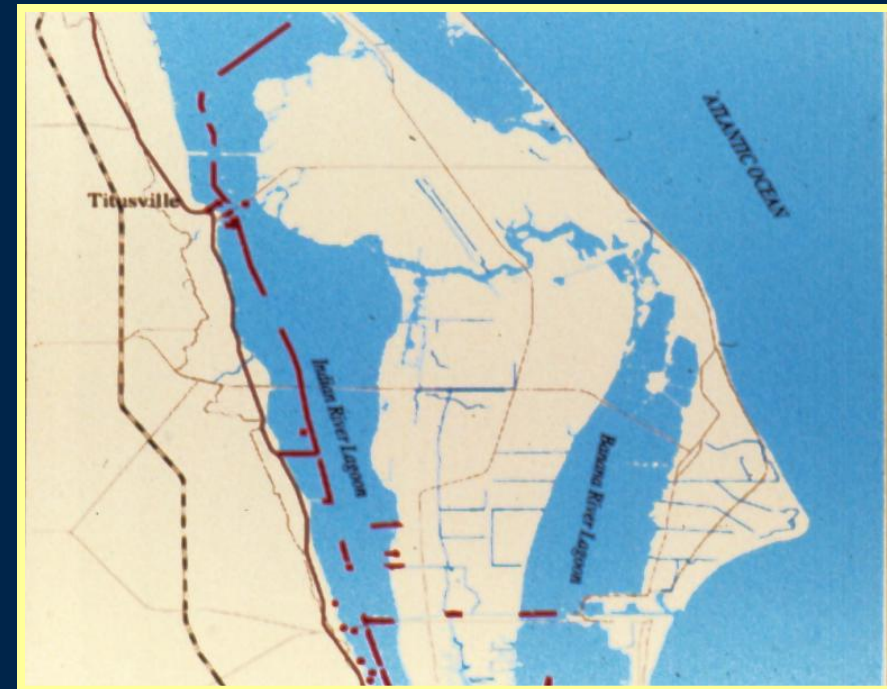
Definition: black, fine-grained...high water content, composed of partly decomposed organic matter and a considerable amount of admixed silt and clay material." Trefry et al., 1987

1. Silt + clay >60% dry wt.
2. Organic matter >10% dry wt.
3. Sand + shell is the remainder



Trefry et al., 1990



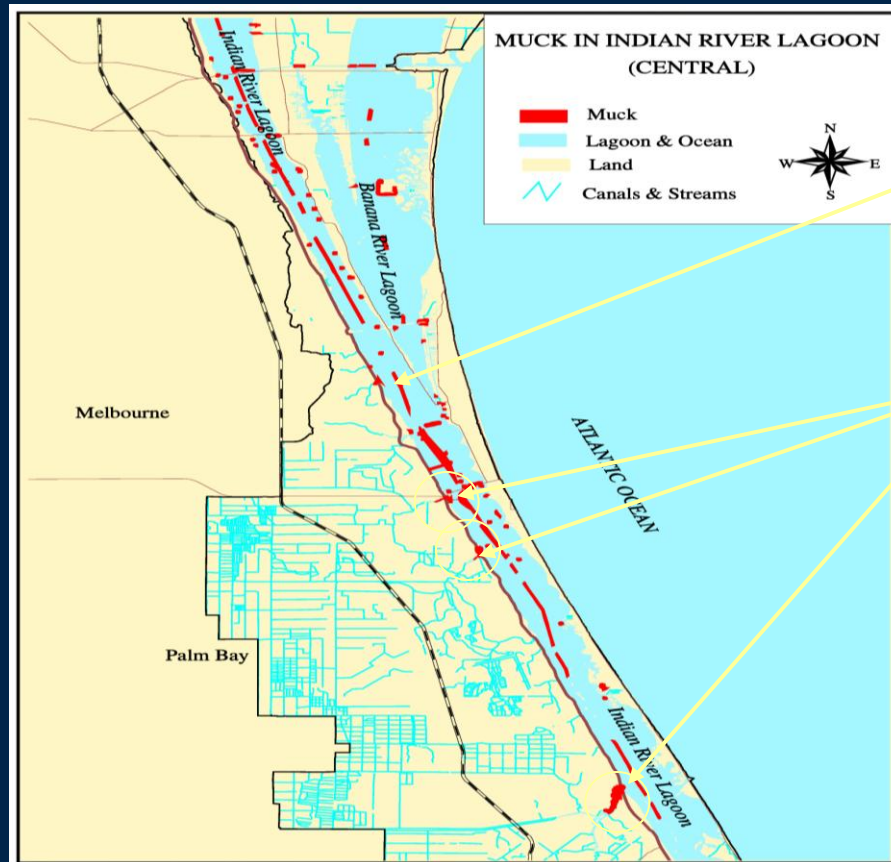


█ **Muck**





Major Muck Depositional Areas



ICW channel

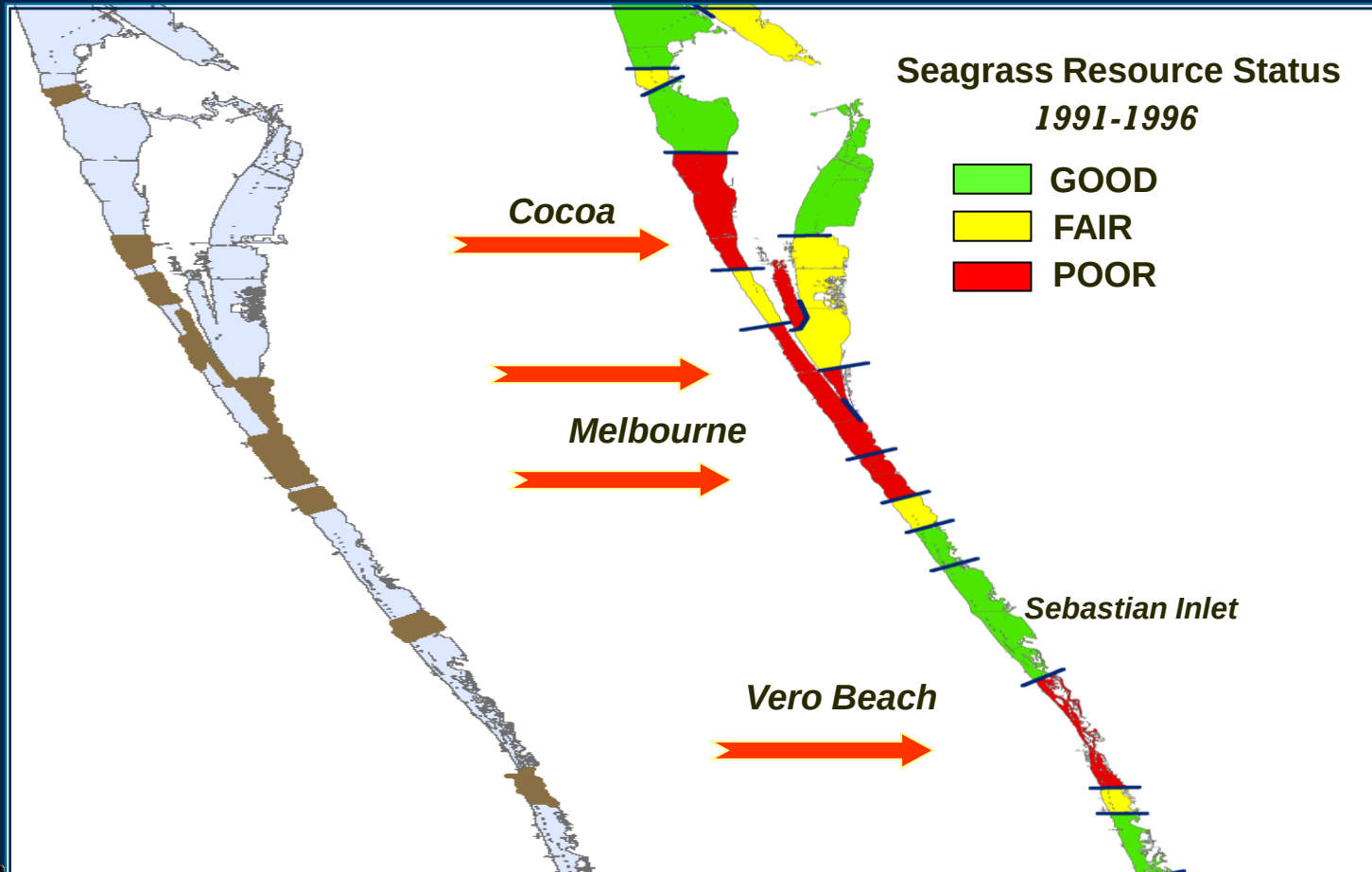
Creek mouths

Other deep bottom features (causeway borrow holes, finger canals, boat channels)





MUCK vs. Seagrass Resource Status



Information on seagrass status from 2003 IRL SWIM Plan



Reason for the Workshop

- Provide training needed to manage sediment.
- **GOAL:** Reduce erosion and transport of sediment in the watershed.

