

Muck Removal in the Save Our Indian River Lagoon Project Plan Brevard County

This fact sheet is one in a series of articles addressing components of the Brevard County Save Our Lagoon Project Plan. You can read the plan at Brevard County Natural Resources Management Department website: <http://brevardcounty.us/NaturalResources>

What is muck?

Muck is fine-grained organic rich sediment with a high water content. It is made up primarily of clay, sand and organic matter (decaying plant material). Because of its high water and clay content, muck looks like black ooze. Muck



Muck from the Indian River Lagoon.
Photo: John Trefry

is not the natural bottom of the lagoon. It is found throughout the lagoon though it tends to accumulate in deeper waters, sometimes in layers more than 6 feet thick.

How did the muck get there?

Muck is the result of human impact on the Indian River Lagoon. As human population and development has grown, freshwater runoff into the lagoon has also increased, carrying with it land-based sources of nutrients and pollutants. This runoff includes soil from erosion and organic debris from sod, grass clippings, leaves and other vegetation. Decomposing algae blooms also accumulate in muck. All of these sources over time contribute to muck which now covers an estimated 15,900 acres of the lagoon bottom in Brevard County.

Is muck bad for the Lagoon?

Yes. Muck covers the natural sandy bottom, destroys habitats such as seagrasses by inhibiting growth, and impacts bottom-dwelling organisms by depleting oxygen in the sediments and surrounding waters. Muck also accumulates potential pollutants and stores and releases nutrients into the water, which can then feed algal blooms.

What is being done to remove the muck?

Muck removal is the only project in the Save Our Lagoon Project Plan that is designed to remove many decades of accumulated pollutants from the lagoon. The plan focuses on

dredging large deposits of muck in big, open water sites within the lagoon. There are a few muck removal projects currently underway in areas connected to the lagoon proper (ex. Turkey Creek, Eau Gallie River and Cocoa Beach).



Dredge used to remove muck from the bottom. Photo: Holly Abeels

The goal of removing the muck is to reduce the amount of nitrogen and phosphorus that would be released from the muck if it were to stay in the lagoon. Muck removal is very expensive so projects are prioritized based on the potential for water quality improvement versus estimated removal cost.

What happens to the muck?

Dredged material is temporarily placed in an upland Dredge Material Management Area (DMMA) where the solids are dried out. The final dry sediment material can be used for beneficial purposes, if deemed to be safe and cost effective, or disposed of at a landfill, if contaminated. The organic matter and nutrients in uncontaminated muck sediment may be used to improve soil for agriculture or sod. The fine sand can be used for some construction projects. The ultimate fate of muck sediments depends on grain size, organic content, and the presence of substances such as heavy metals that are seldom at toxic levels in lagoon sediments.

The long-term success of muck removal is dependent on continued reductions in land-based sources of pollutants to prevent the continued build-up of muck in the lagoon. Muck removal is just one part of the entire process to reduce excess nutrients in the Indian River Lagoon and restore ecosystem health.

Questions? Contact

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