



SAVE OUR LAGOON PROJECT PLAN LARGE SCALE MUCK REMOVAL, BREVARD COUNTY, FLORIDA

WEDA SUMMIT & EXPO '18

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Mr. Wagner is a senior dredging engineer with nearly 20 years of experience planning, designing, permitting, and implementing various dredging engineering projects, including developing long-range dredged material management plans; designing upland dredged material containment facilities; creating dredging templates, performing economic evaluations, and assessing various alternate dredging technologies.

A Condensed History

From Florida's Treasure Coast to "Black Mayonnaise"

Indian River Lagoon (IRL)



- Occupies slightly more than 35% of Florida's east coast



Indian River Lagoon (IRL)



- Critical part of one of the longest barrier island system in the entire United States



Indian River Lagoon (IRL)



- Spans roughly 156 miles from
 - Ponce de Leon Inlet in the north
 - Jupiter Inlet in the south



Indian River Lagoon (IRL)



➤ Not a river in any real sense of the term



Indian River Lagoon (IRL)



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Indian River Lagoon (IRL)



➤ Within Brevard County, the IRL is a lagoon



Indian River Lagoon (IRL)



- Stormwater runoff is carried by creeks, rivers, canals, and ditches to the IRL



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A History of Impacts



A History of Encroachment



A History of Impairment



Muck Sediments



- Fine-grained nutrient-rich organic sediments with a high water content



Muck Sediments



- A thick layer of muck covers much of the bottom of the IRL



Muck Sediments



- Restoration of the IRL depends on a reduction in the influx of phosphorus, nitrogen, and pollutants



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Long Overdue Legislative Action

The Save our Lagoon Plan

The Save Our Lagoon Plan



Eau Gallie River Restoration





Reducing the generation of new muck sediments

Removing muck sediments from the IRL

Restoring acres of submerged aquatic vegetation and oysters

Reporting the citizen's return on their investment through highly publicized academic efforts



Reducing New Muck Sediments

Poorly treated wastewater treatment facility discharges, leaching septic systems, nitrification from excess fertilizer applications, etc.

Save Our Lagoon Citizen Oversight Committee



MRC's November Brown Bag Seminar
Save Our Lagoon Project Plan!
 Bring your lunch and learn with us about Brevard County's Save Our Lagoon Project Plan, funded by the half-cent sales tax passed in 2016!

Tuesday, November 7th 2017
 12 p.m. to 1 p.m.
 Ted Moorhead Lagoon House



Protect Our Lagoon.

Cocoa Beach Community Beach Trash Pickup
 with Cocoa Beach Commissioner Karalyn Woulas & Friends

Jan 15th - 9am
 9th St S, Cocoa Beach, FL 32931

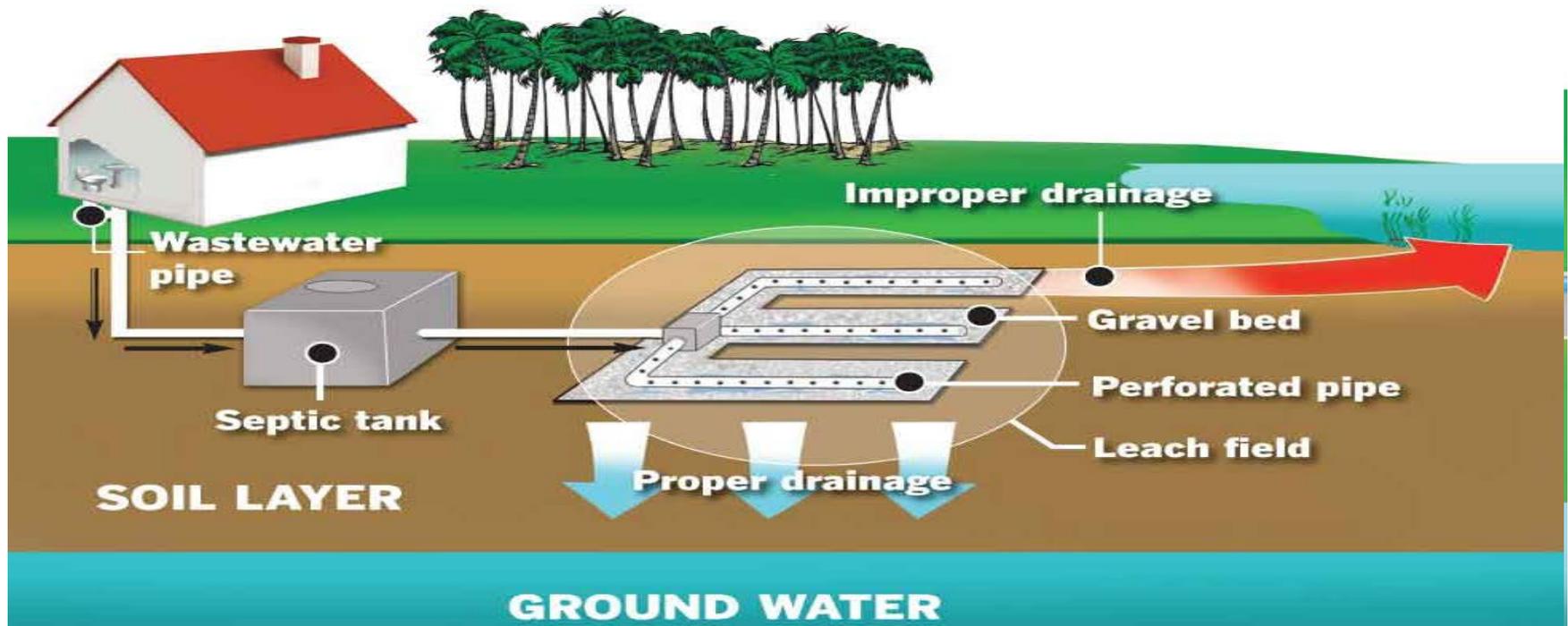



Reducing New Muck Sediments

SEPTIC TANKS

Without enough distance between the drain field and the water table or nearby waterways, an array of chemicals and nutrients in human waste — from ammonia and nitrogen to birth control hormones and fecal coliform — can seep into and contaminate groundwater, which can flow into the Indian River Lagoon.

State health officials estimate there are at least 33,947 septic tanks along the Central and Northern Indian River Lagoon. They've identified at least 1,367 southeast Volusia County properties as high priority for connection to sewer.



Restoring Natural Resources

Restoring acres of submerged aquatic vegetation and oysters

Restoring Natural Resources



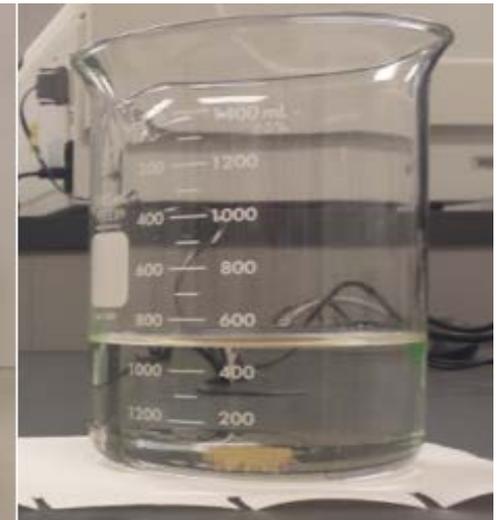
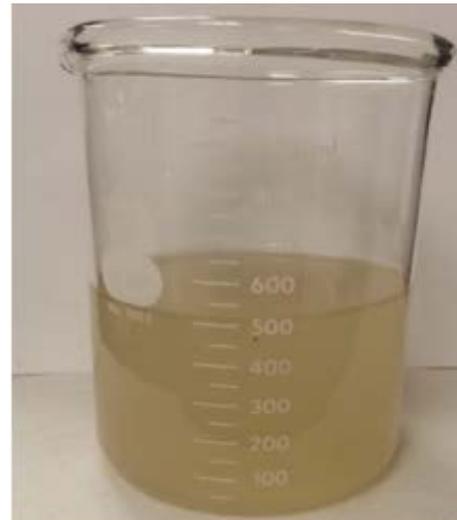
Reporting the results

Documenting the citizen's return on their investment through highly publicized academic efforts

Florida Institute of Technology Research Program



- Florida Institute of Technology developed a prototype inline dredging and dredge-water treatment system
- Variable area suction head coupled with a mobile ferrate treatment system



Removing Muck Sediments

Dredging, dredging, and more dredging

Muck Dredging

- Before November 2016 various agencies, municipalities, Brevard County itself had removed 3,400,000 cubic yards (CY) of muck sediments from the IRL
- 100,000 CY from Melbourne's Crane Creek in 1998
- 380,000 CY were removed from Turkey Creek from 2001 and 2015
- 2 million CY were removed from the St. Sebastian River by 2009
- Currently, Brevard County is removing 710,000 CY from:
 - Mims Boat Ramp
 - Cocoa Beach
 - Grand Canal
 - Turkey Creek
- Currently, Brevard County and the St. Johns River Water Management District is removing roughly 632,000 CY from the Eau Gallie River
- Brevard County Board of Commissioners is plans to re-advertise a request for proposals for the dredging of the Sykes Creek Environmental Restoration of about 640,000 CY as part of the Save Our Lagoon Project Plan



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