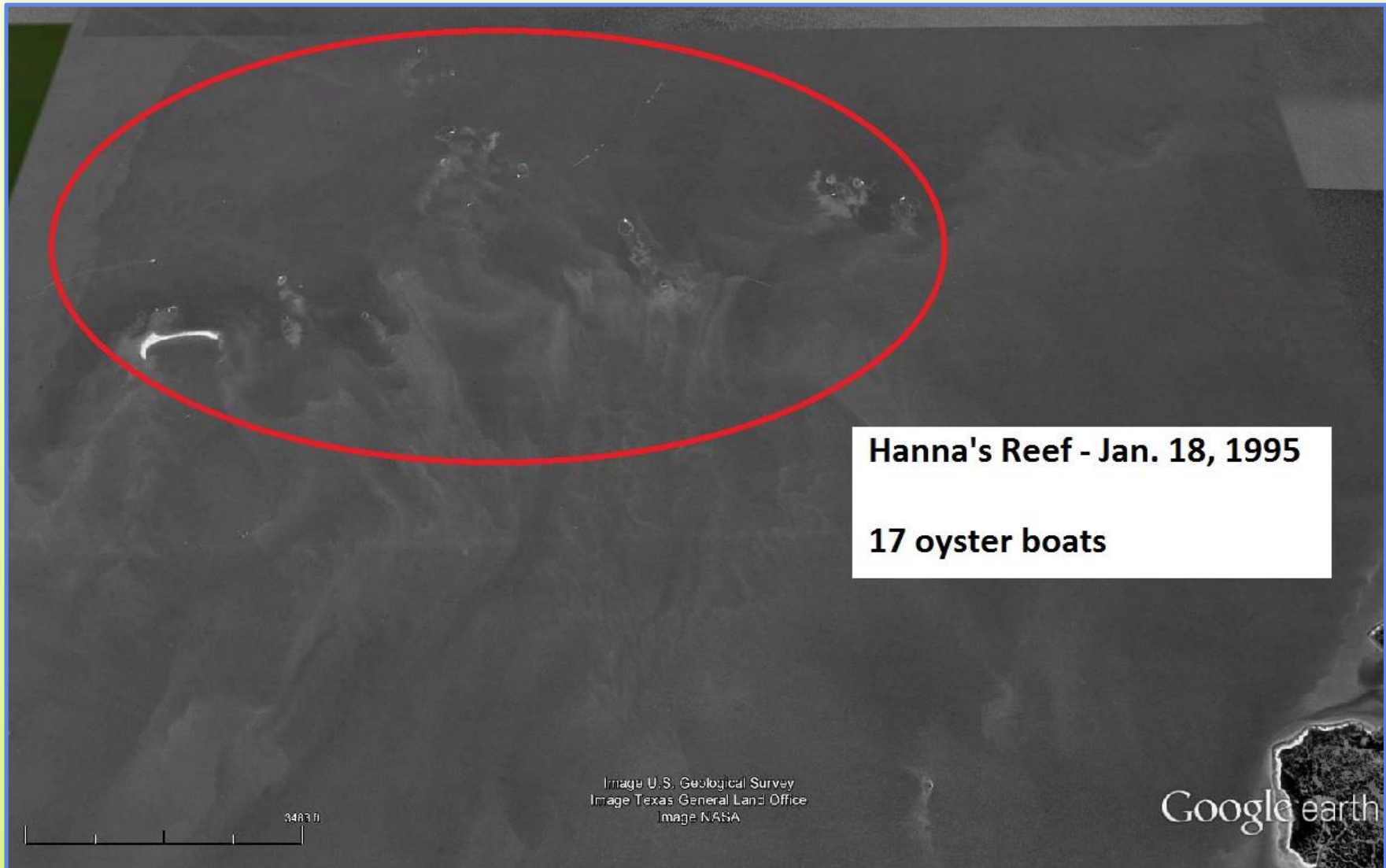




\$14 million dockside/yr



\$2 million/yr – recreational fishing, LA



Freese and Nichols, Inc. photo

\$2.1 million/mile of reef over 50 yrs



Freese and Nichols, Inc. photo

\$1,600/acre – nitrogen removal



Photo from South Carolina Department of Natural Resources Marine Resources Research Institute

Saving Buried Oysters

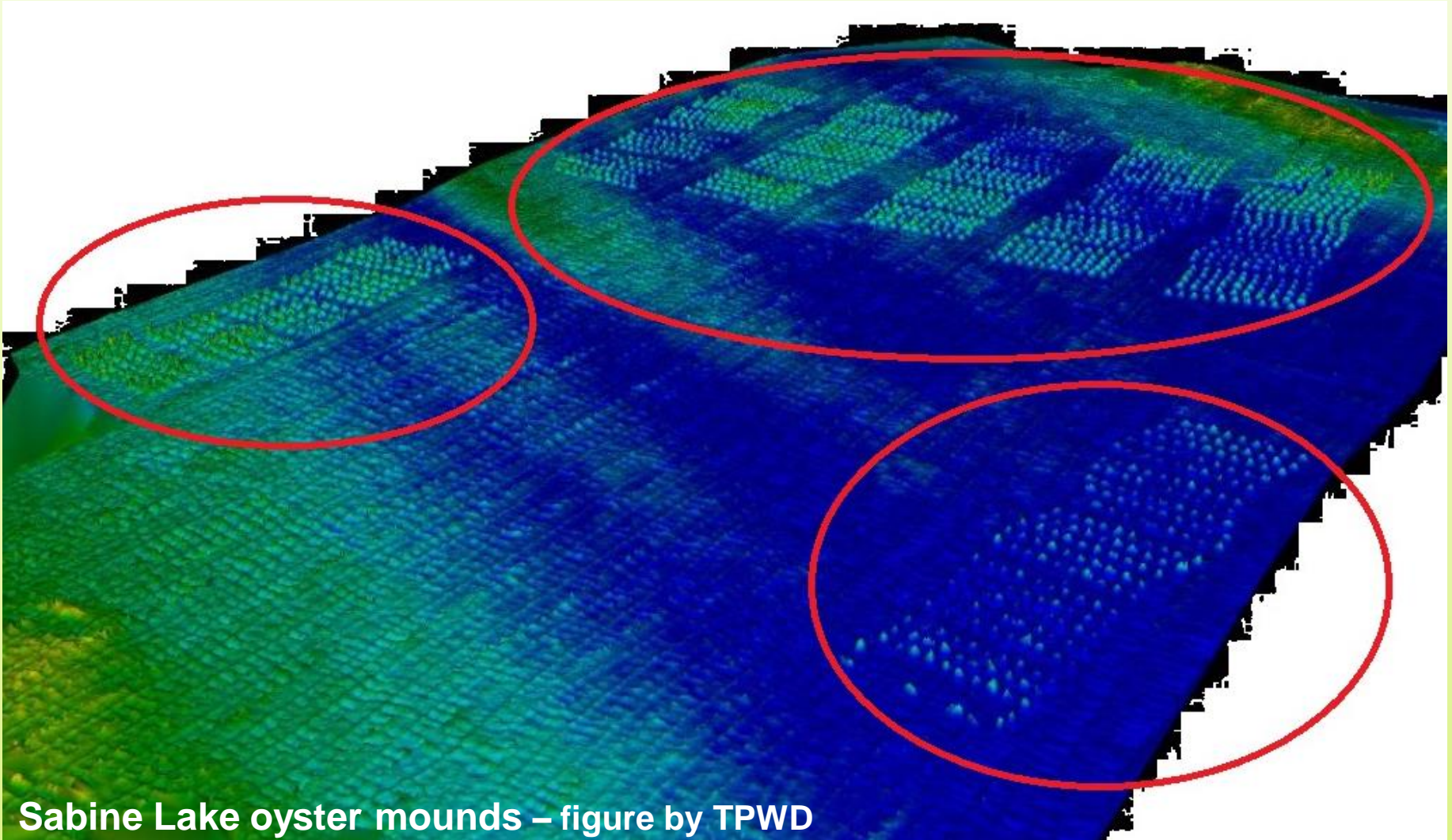
Western Dredging Association
2015 Dredging Summit and Expo

June 23, 2015

David Buzan and Cris Weber, Freese and Nichols, Inc.
Bill Rodney and Bryan Legare, Texas Parks and
Wildlife Department



Texas Parks and Wildlife Department



Sabine Lake oyster mounds – figure by TPWD

We are here



Google earth



USGS photos

Hurricane Ike

Two-thirds of commercial reefs

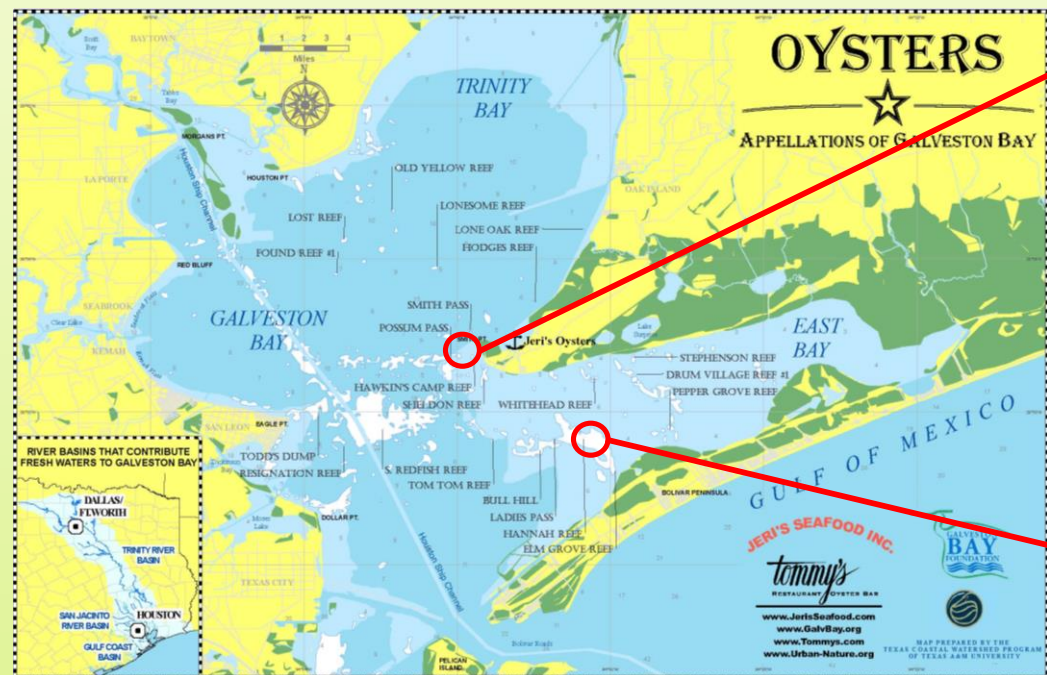
- buried (\$10 million)
- swept away (\$3 million)

Thousands of acres public reefs buried with 3-6 feet sediment

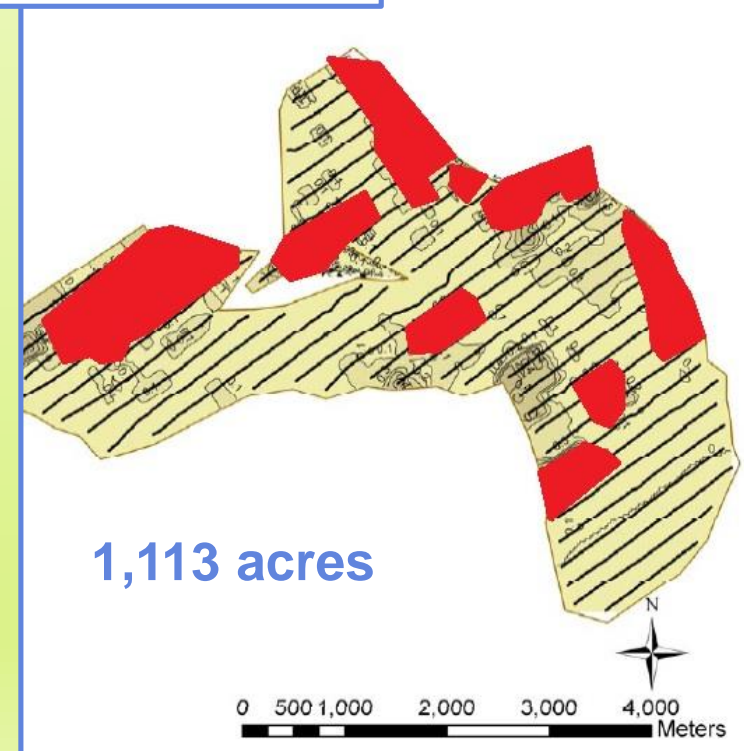
177 acres



Figures modified from Dellapena et al.

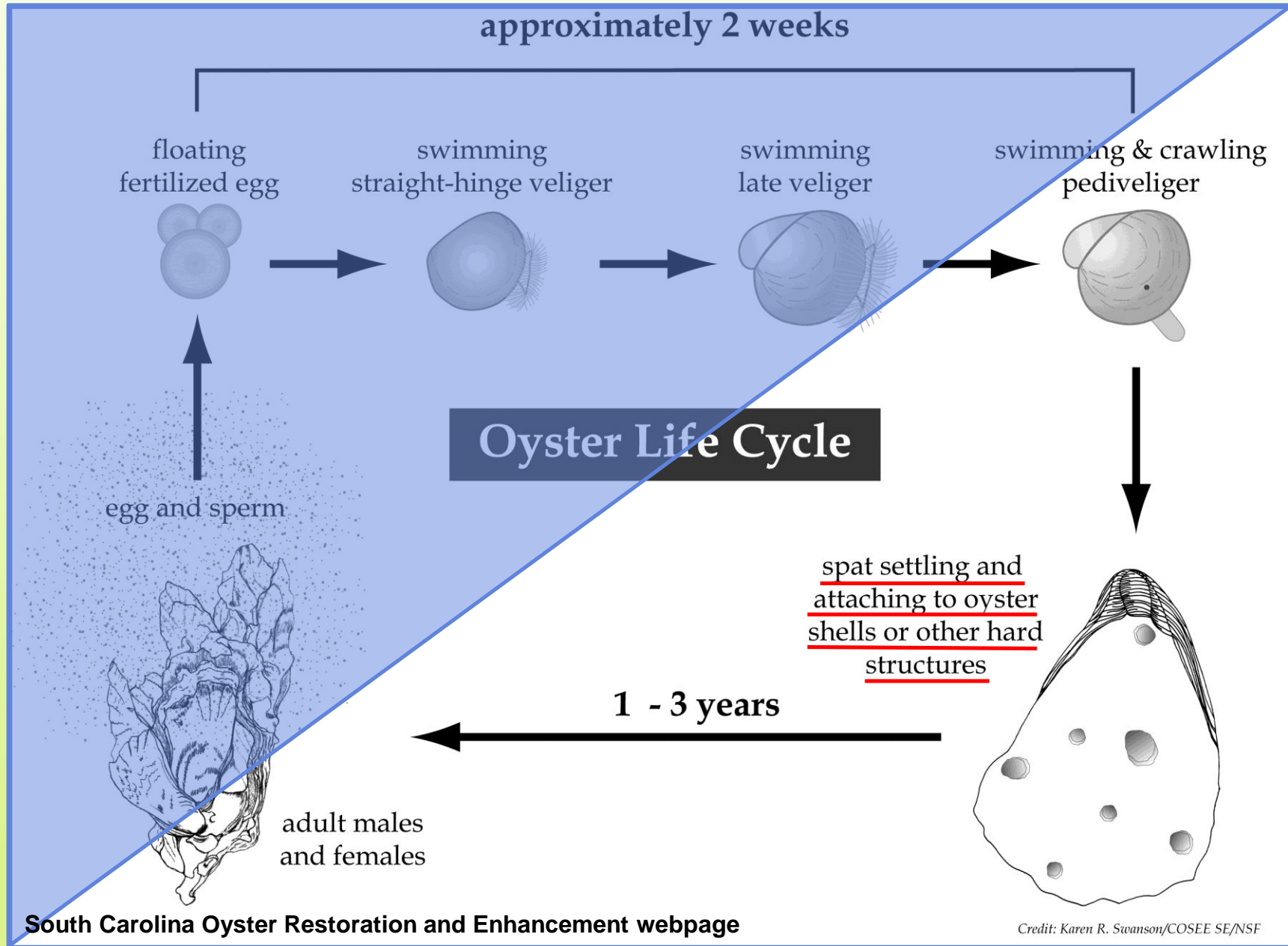


Graphic from Galveston Bay Foundation



1,113 acres

Oyster Life Cycle



South Carolina Oyster Restoration and Enhancement webpage

Credit: Karen R. Swanson/COSEE SE/NSF

Problem –

Oyster reefs buried or destroyed by storms or humans.

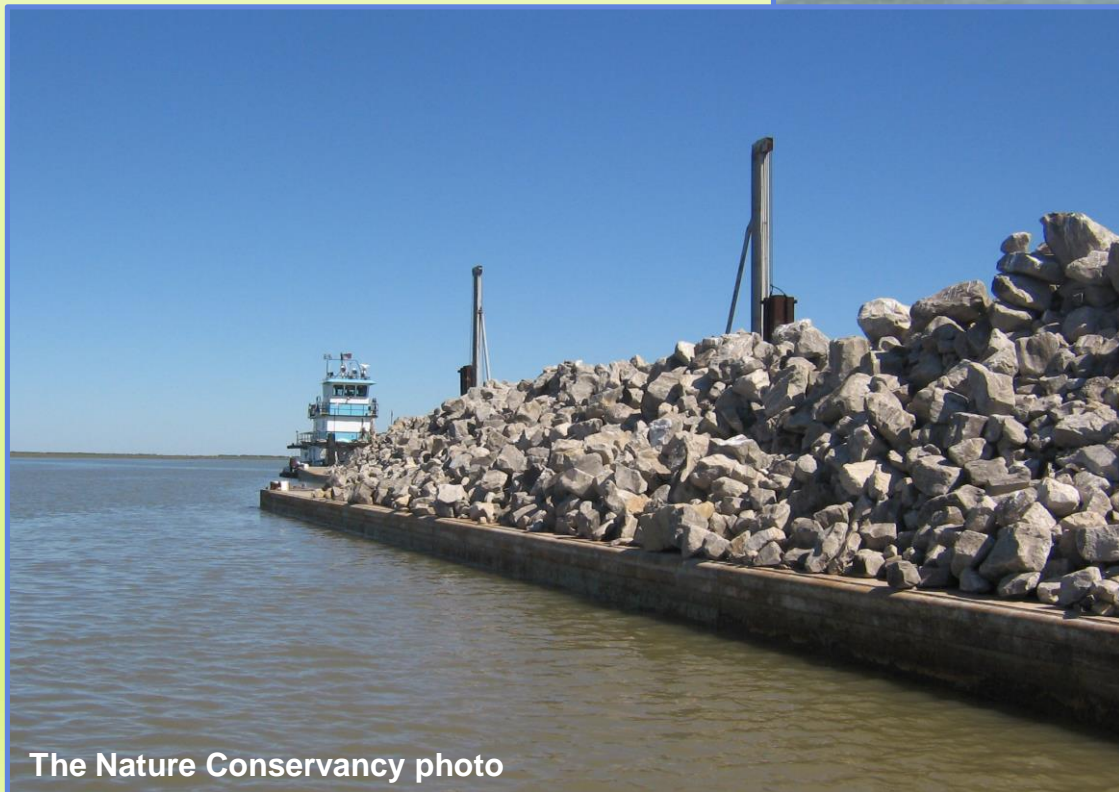
TPWD's Goals

- **Uncover buried reefs**
- **Build reefs quickly and efficiently**

Oyster Reef Decision Tool

- **What do you want?**
- **What you need to know?**
- **Ways to do it.**
- **Check and be sure.**

Cultch Placement

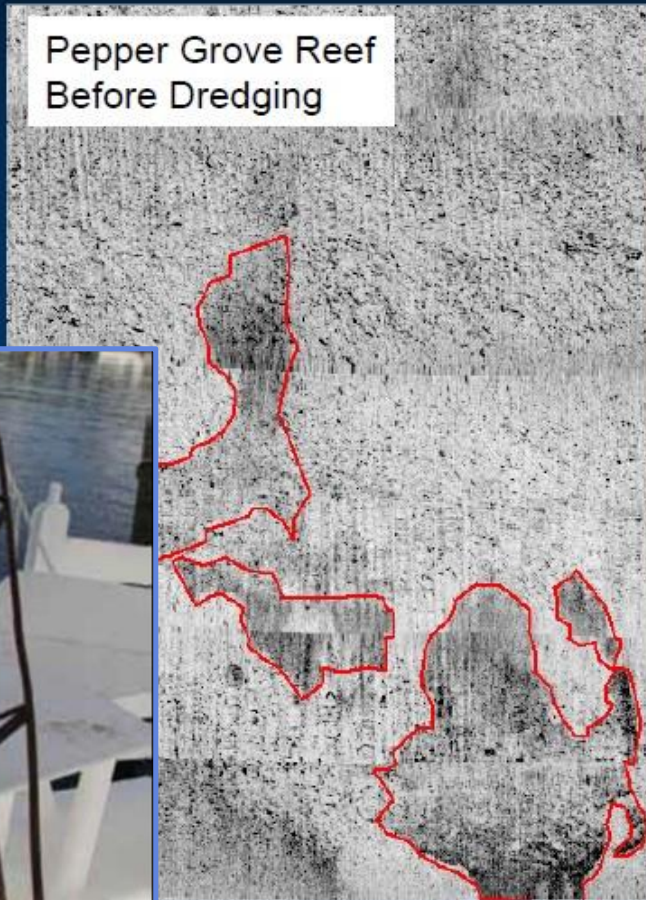


The Nature Conservancy photo

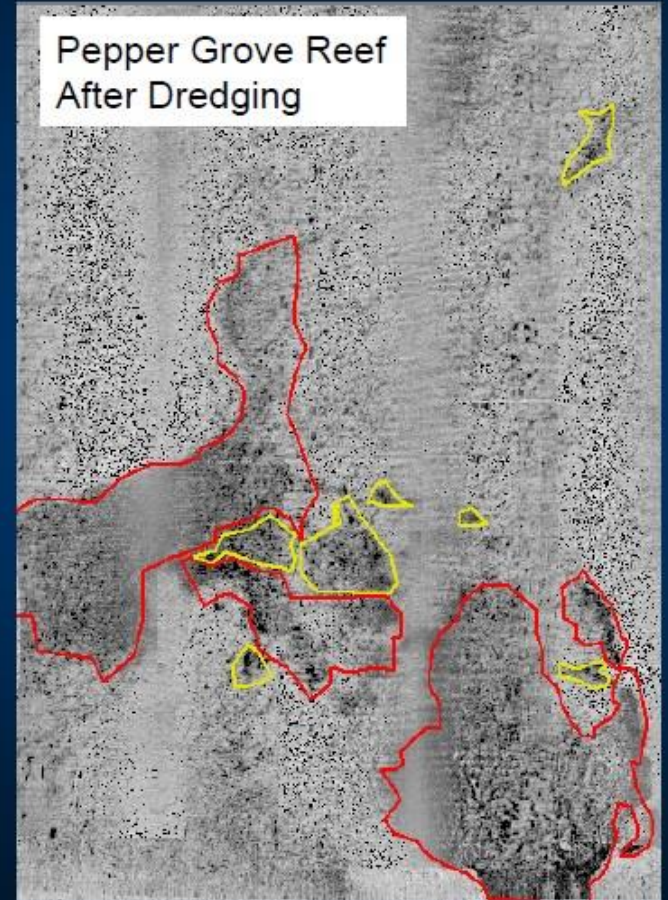
Bagless Dredging

Hurricane Ike Grant – Bagless Dredge Assessment

Pepper Grove Reef
Before Dredging



Pepper Grove Reef
After Dredging



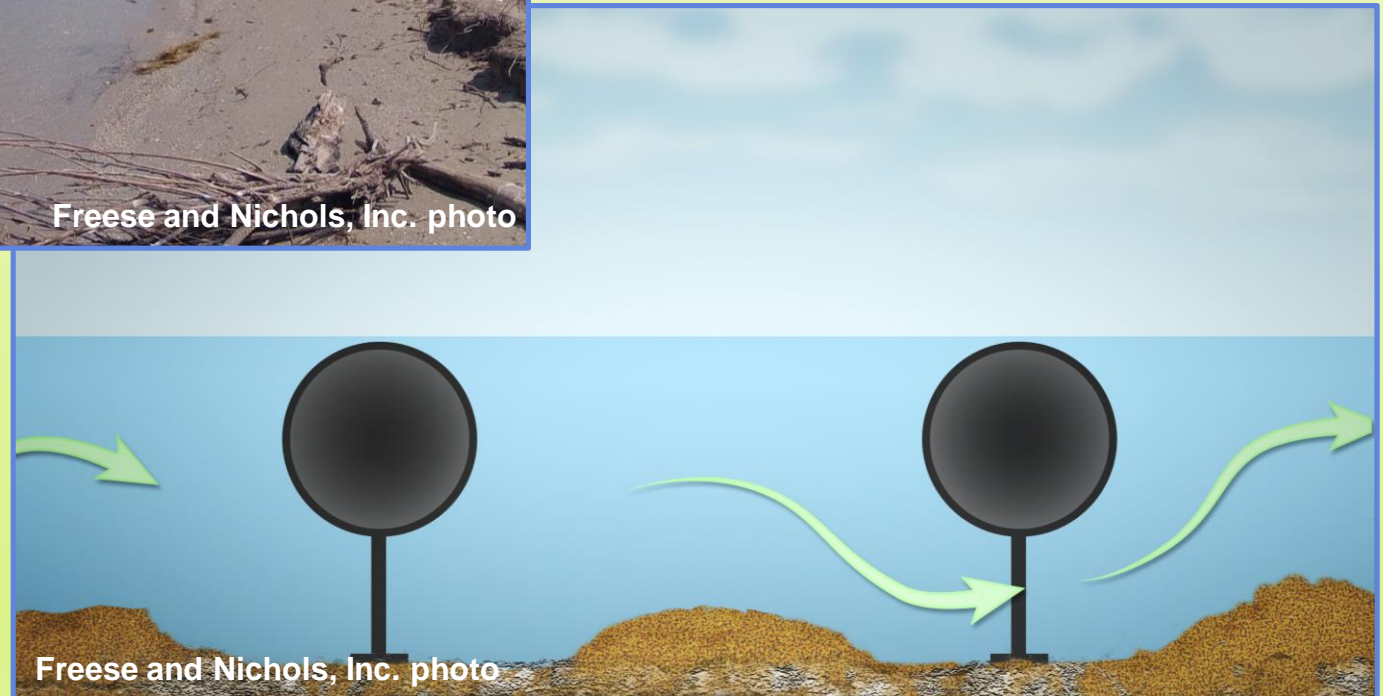
Mississippi Department of
Natural Resources, 2013.

TPWD graphic

Increasing Water Velocity - Barriers

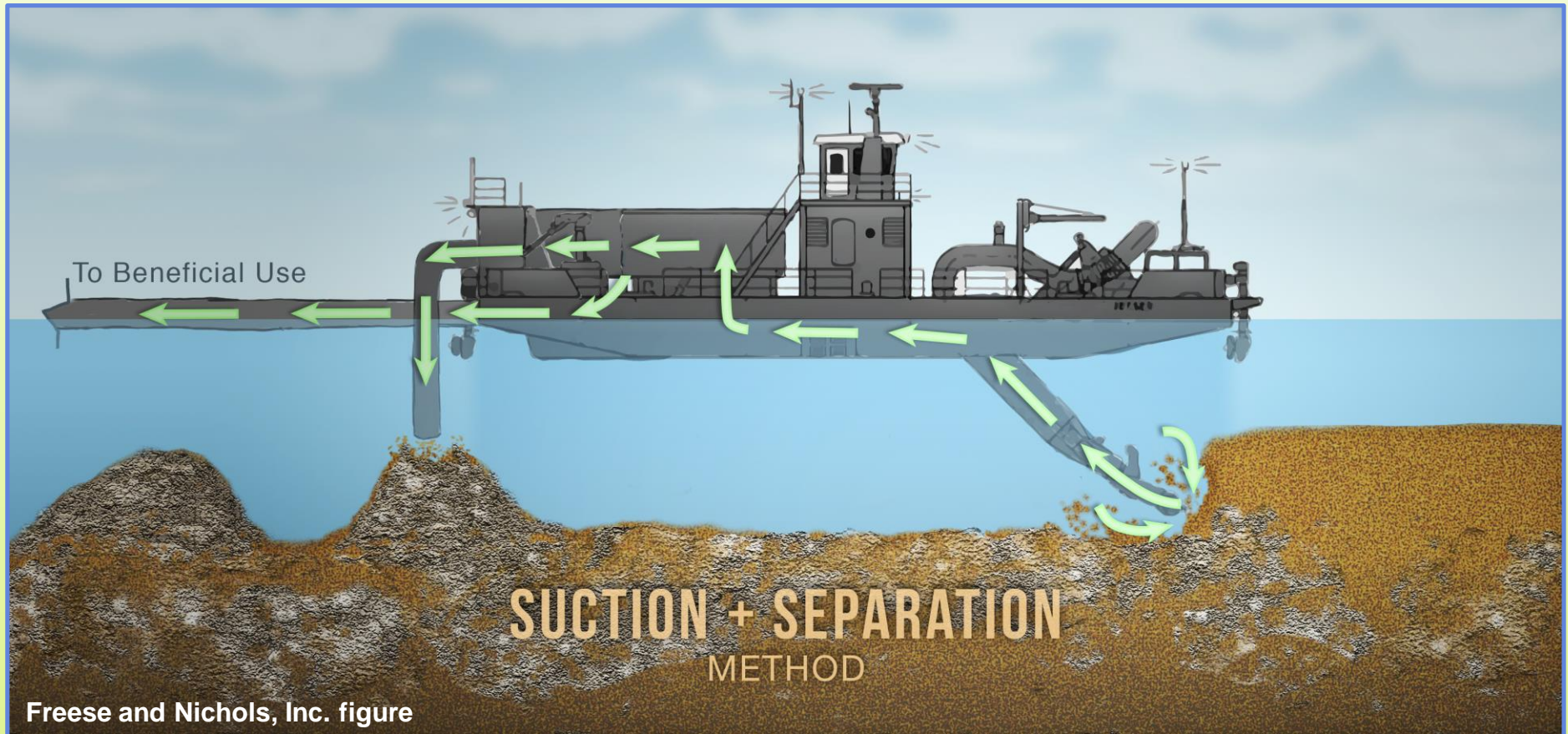


Freese and Nichols, Inc. photo



Freese and Nichols, Inc. photo

Increasing Water Velocity - Mounds



Dredging – Beneficial Use



Dredging - Escalator

Photo from Jim Wesson, Virginia
Marine Resources Commission

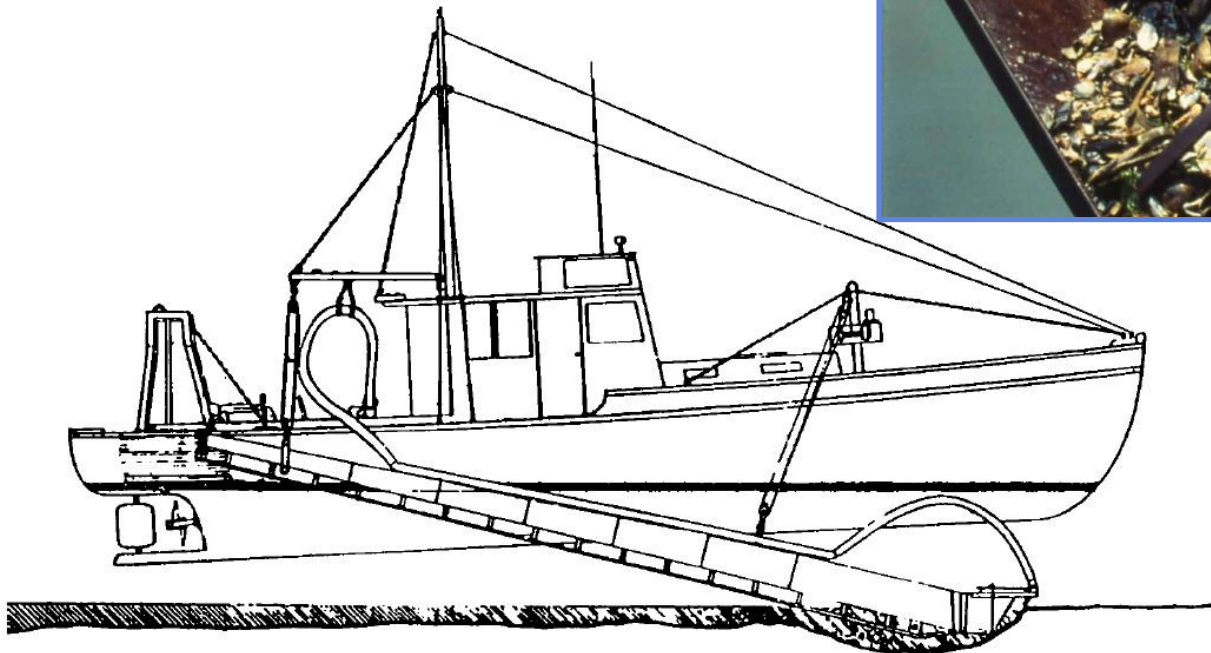
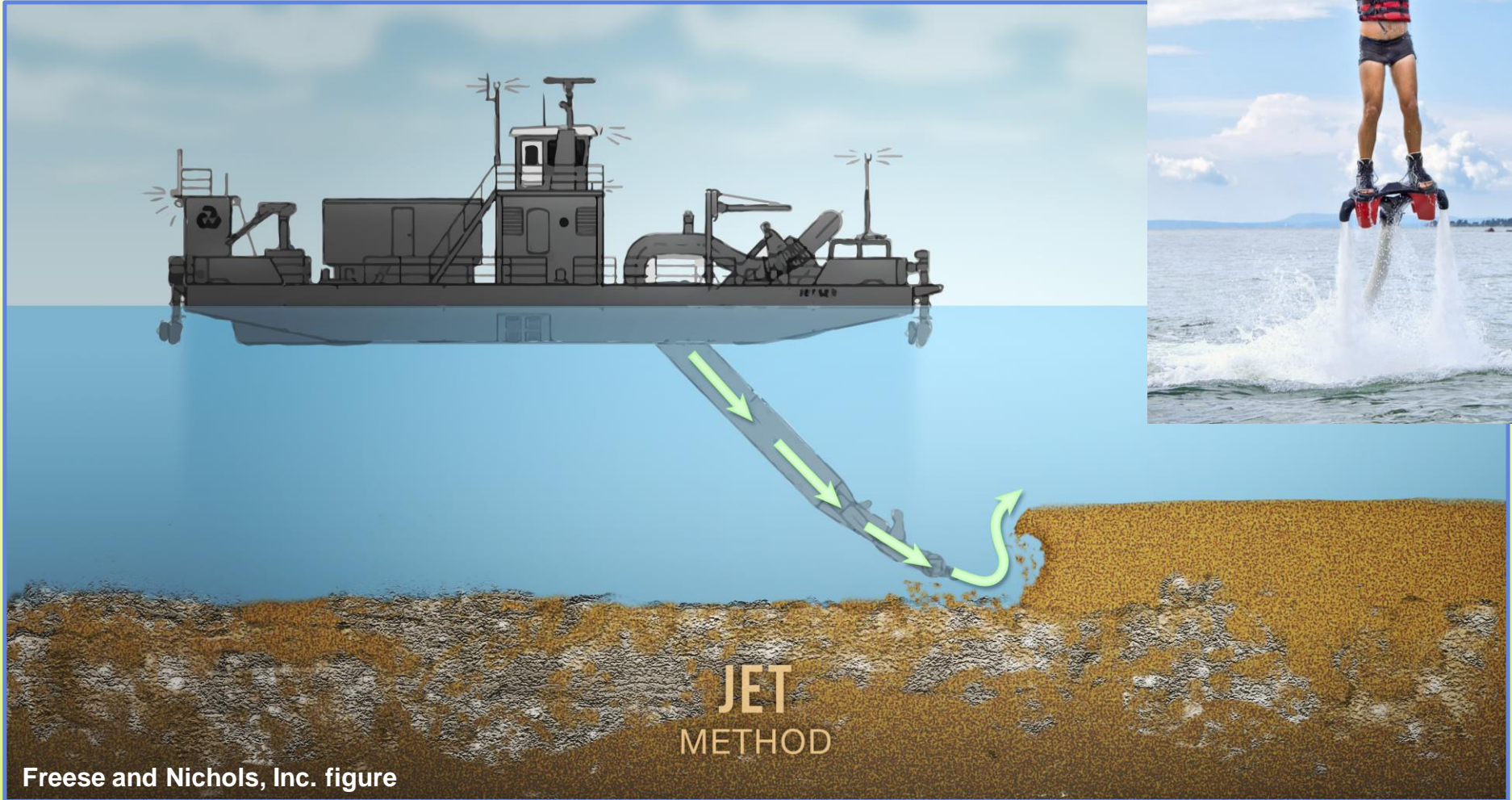


Figure 1a. The schematic details of the hydraulic escalator dredge mounted on a Maine Department of Marine Resources research vessel (from Mathieson and DeRocher, 1974).

From Coen, 1995

Sediment Washing



Recommendations

- **Get agencies' support before needed**
- **Practice first**
- **Respond quickly**
 - **While oyster larvae are present**
 - **Before sediment compacts**
 - **Before ecosystem recovers**

Questions

- **Who could/would do this?**
- **How much does it cost?**
- **How feasible is it?**

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