TAMPA BAY WATCH

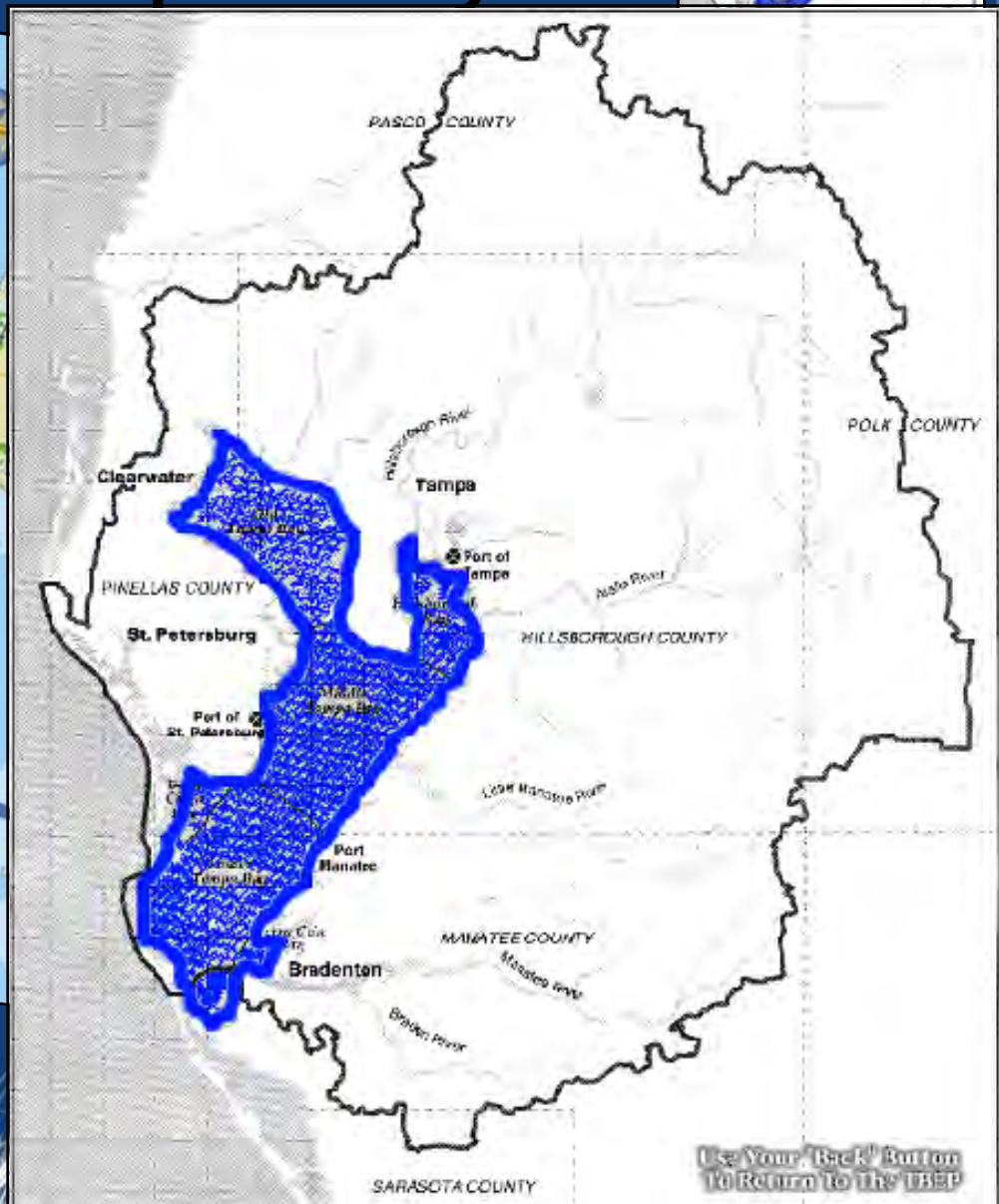
Restoring the Bay Every Day

Community Oyster Reef Enhancement in Tampa Bay: A Restoration Technique Evaluation

Peter Clark, President
Serra Herndon and Kevin Misiewicz
Tampa Bay Watch, Inc.

About Tampa Bay

- Largest **open-water estuary** in Florida
- Encompasses nearly **400 square miles**
- Watershed covers a land area of about **2,200 square miles**
- More than **100 tributaries** drain into Tampa Bay



TAMPA BAY WATCH
Restoring the Bay Every Day

That's Where We Come In.

TAMPA BAY WATCH

Restoring the Bay Every Day

Restoration in Action

- Salt Marsh Plantings
- CORE- Oyster Shell Bar & Domes
- Fishing Line Recycling
- Coastal & Bird Nesting Island Cleanups
- Stormwater Runoff Awareness
- Derelict Crab Trap Removal
- Seagrass Transplanting & Monitoring
- Bay Scallop Monitoring
- Cockroach Bay Oil Boom Program
- Native Plants & Invasive Plant Removal

TAMPA BAY WATCH

Restoring the Bay Every Day

CORE

Community Oyster Reef Enhancement

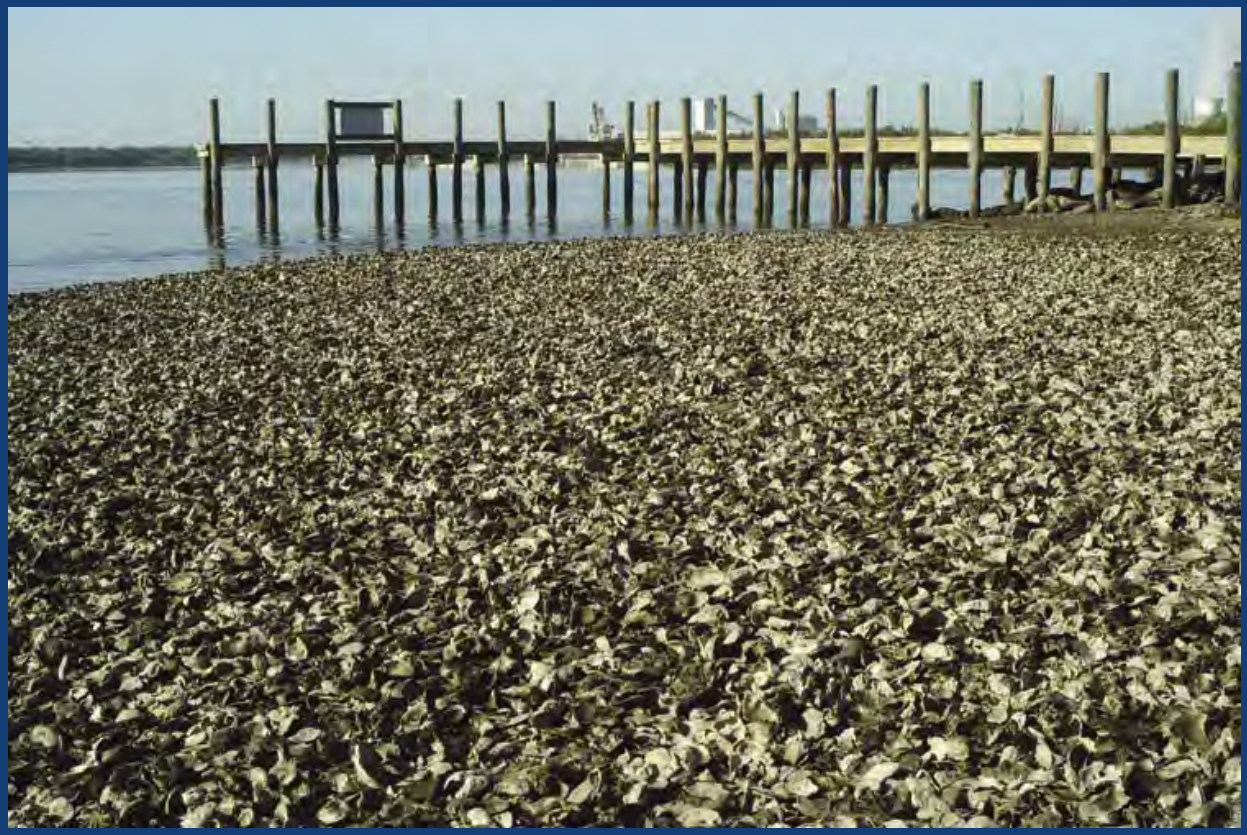
Engaging community members in hands-on habitat restoration

TAMPA BAY WATCH

Restoring the Bay Every Day

Why Are Oysters So Important?

- Natural filter-feeders that help to improve water quality
- Food source for marine life
- Provide home and habitat for a variety of fish and wildlife

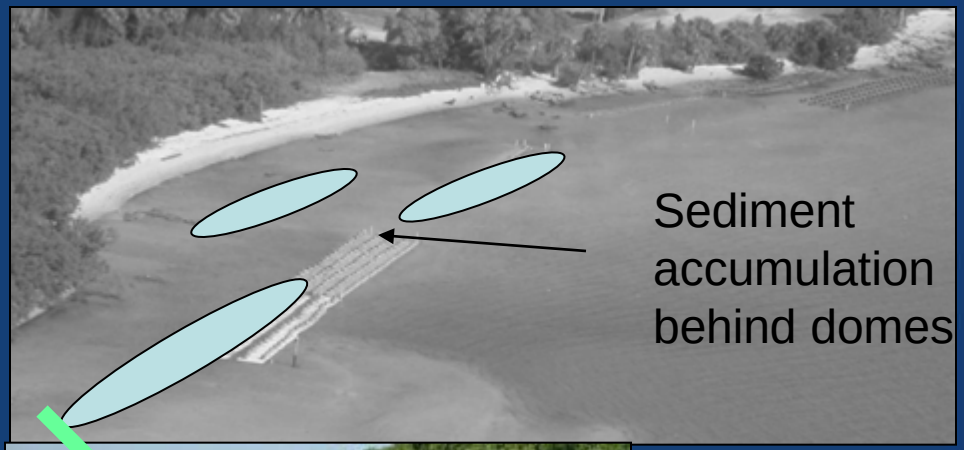


TAMPA BAY WATCH
Restoring the Bay Every Day

Benefits

1) Shoreline Stabilization:

Reduces wave energy
Traps/holds sediment
Encourages marsh grass

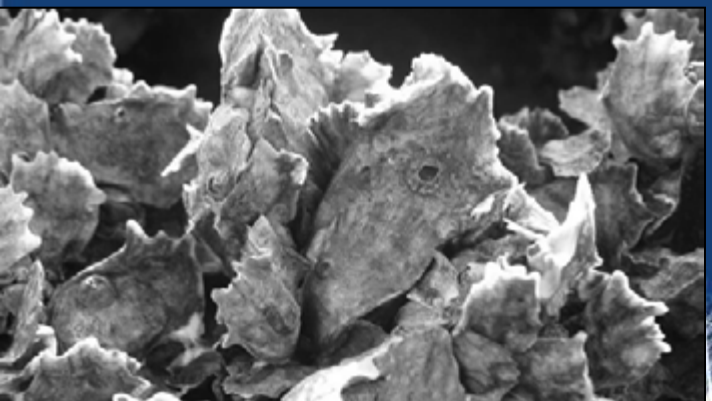


2) *Water Quality:*

Oysters filter water
Stabilize sediments

Then mangroves

3) *Habitat Enhancement:*



Increased habitat diversity
Diverse food sources
Encourages mangrove recruitment

Restoring Oyster Habitat in Tampa Bay

- Problem(s):
  - Loss of oyster habitat
  - Development, dredging
  - Water quality
- How we Help:
  - OYSTER DOMES
  - OYSTER BARS
    - Community members come together to help restore the bay's oyster population

Oyster domes: urban oyster restoration used primarily in areas like dredged canals and seawalls.

imarily along

TAMPA BAY WATCH
Restoring the Bay Every Day

Restoration: Oyster Bars

- Marine-friendly bags of fossilized oyster shells that form a natural “reef”
  - Ideal for coastal islands and eroding shorelines

TAMPA BAY WATCH
Restoring the Bay Every Day

CORE: Oyster Shell Bars

TAMPA BAY WATCH

Restoring the Bay Every Day

TAMPA BAY WATCH

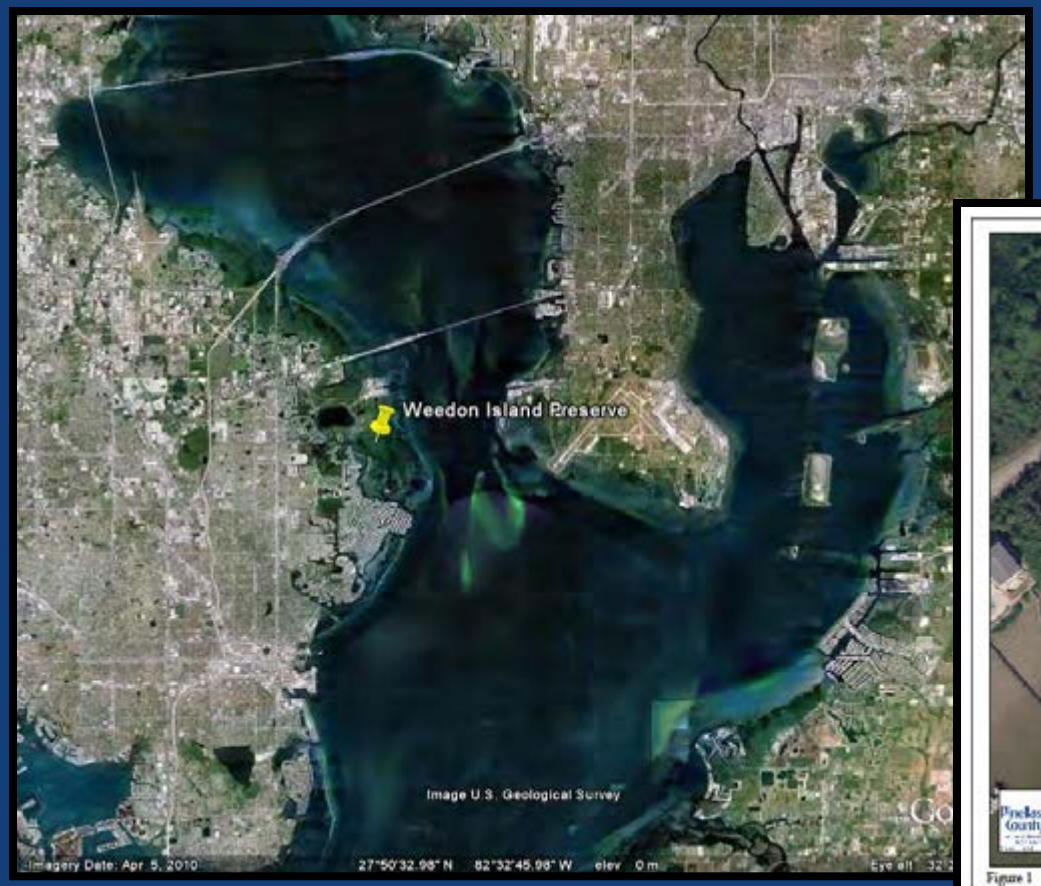
Restoring the Bay Every Day

Monitoring

- Sediment Accretion
- Average oyster size
- Percent coverage
- Percent survival
- Species Present

TAMPA BAY WATCH
Restoring the Bay Every Day

Weedon Island



TAMPA BAY WATCH
Restoring the Bay Every Day

Weedon Island 2007/8 & 2011/12

- 1,575 linear feet
- 160 tons of shell
- 400 volunteers
- 12 events

TAMPA BAY WATCH

Restoring the Bay Every Day

Weedon Island 2011/12 Project

TAMPA BAY WATCH
Restoring the Bay Every Day

Canterbury High School Senior Day

Whiskey Stump Key

TAMPA BAY WATCH
Restoring the Bay Every Day

TAMPA BAY WATCH

Restoring the Bay Every Day

Whiskey Stump Key 2009

- 700 linear feet
- 70 tons of shell
- 140 volunteers
- 5 events

TAMPA BAY WATCH

Restoring the Bay Every Day

TAMPA BAY WATCH
Restoring the Bay Every Day

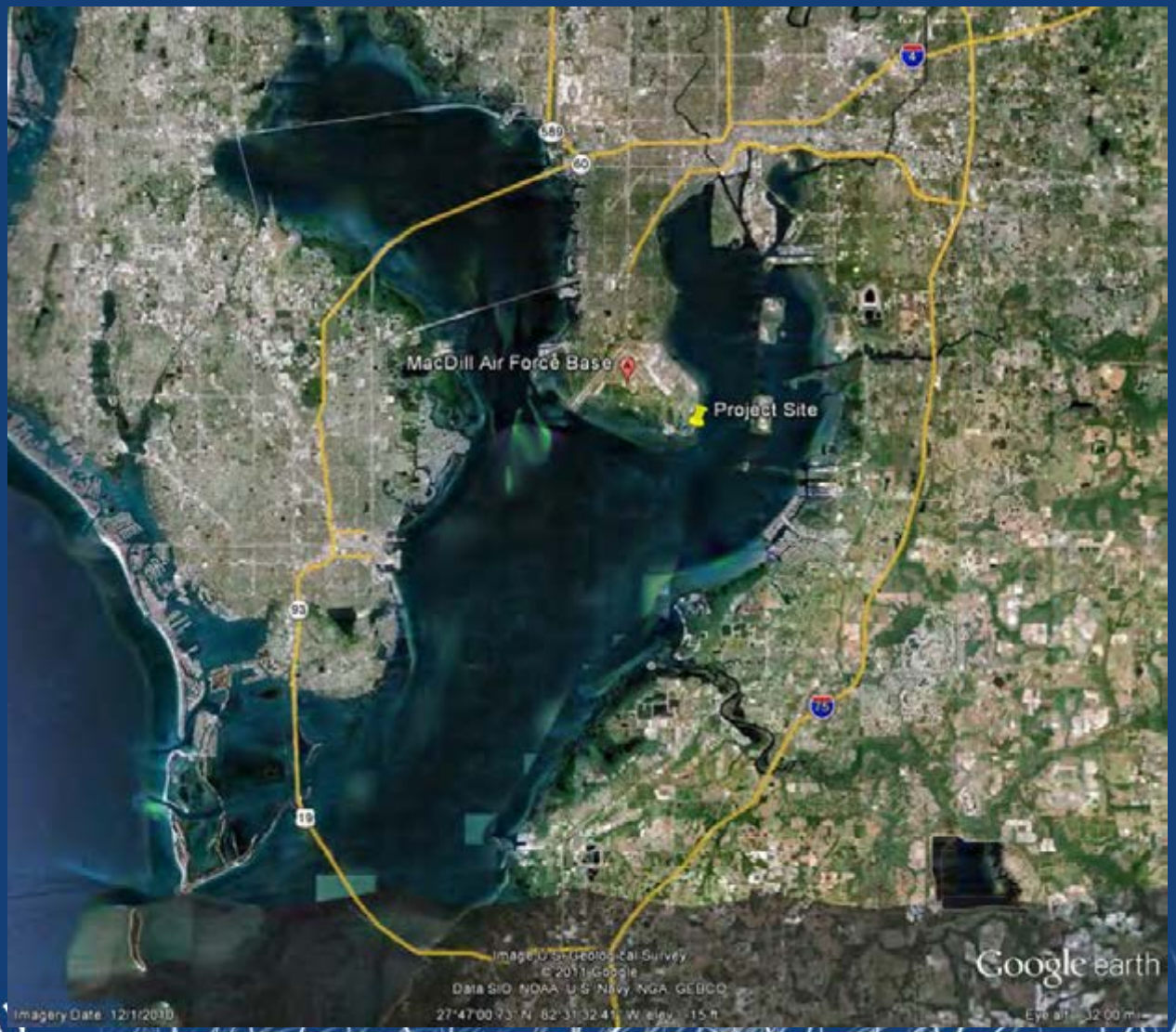
CORE: Oyster Domes

- Marine-friendly concrete domes
- Encourage oyster and spat attachment
- Reduce wave energy and coastal erosion

site.
New dome vs. 10-month-old dome
domes to those placed earlier!)

TAMPA BAY WATCH
Restoring the Bay Every Day

MacDill Air Force Base



TAMPA BAY WATCH
Restoring the Bay Every Day

MacDill Shoreline Stabilization Project

Phase I

Phase I

TAMPA BAY WATCH
Restoring the Bay Every Day

Immediately after planting

12 months after

MacDill	12-month
% coverage	97.9%
Species present	Fiddler crabs, raccoon, juv. night heron

TAMPA BAY WATCH

Restoring the Bay Every Day

Oyster Technique Comparison

Oyster Shell Bars

- Natural shoreline areas
- Lower profile
- Uses natural shell material
- Appears and functions very similar to a natural shoreline oyster reef when they mature
- Easy project for most community and youth groups
- Still have permitting obstacles

Oyster Domes

- Work best in urbanized areas, especially sea walled areas
- Higher 3D profile in the water column for wave attenuation
- Marine friendly concrete but still concrete reef structure
- Need to consider boating impacts
- Heavy domes, adult project
- Still have permitting obstacles

TAMPA BAY WATCH
Restoring the Bay Every Day

VOGs: Vertical Oyster Gardens

TAMPA BAY WATCH
Restoring the Bay Every Day

Hangs from docks below MHW

TAMPA BAY WATCH
Restoring the Bay Every Day

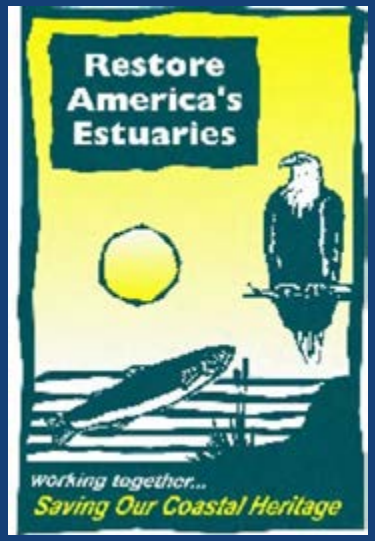
Three months vs. two years of growth

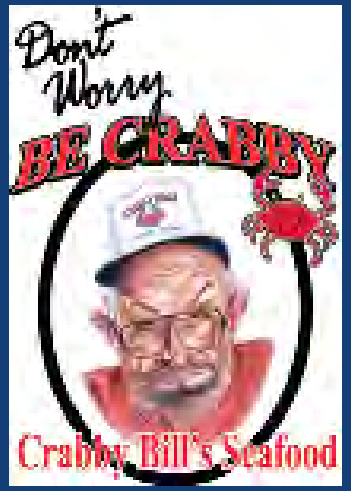
TAMPA BAY WATCH
Restoring the Bay Every Day

Vertical Oyster Gardens as an Educational tool

TAMPA BAY WATCH
Restoring the Bay Every Day

Thank You to our sponsors & partners!





TAMPA BAY WATCH
Restoring the Bay Every Day

Restoring The Bay Everyday!

TAMPA BAY WATCH
Restoring the Bay Every Day