

Saving Our Marshes

An aerial photograph of a vast marshland. The foreground is dominated by a large, dark blue body of water, likely a tidal inlet or estuary. The middle ground shows a wide expanse of green and yellowish-brown marsh vegetation, with several narrow, winding water channels cutting through it. In the far distance, a thin line of land is visible, with some buildings and structures, possibly a city or industrial area, under a clear, light blue sky.

Spotlight on Jamaica Bay, NY
and Narrow River Estuary, RI

Long Island Sound Marsh Loss Workshop
October 23, 2014

An aerial photograph of a vast, flat marshy landscape. The foreground is dominated by a large, dark blue body of water. The middle ground consists of a wide expanse of green and yellowish-brown marshland, with several narrow, winding water channels. In the far distance, a city skyline is visible under a clear blue sky.

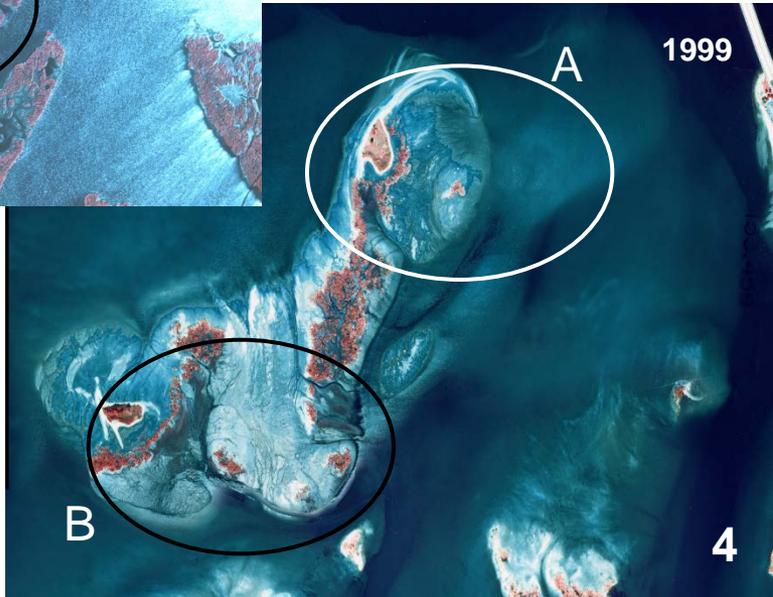
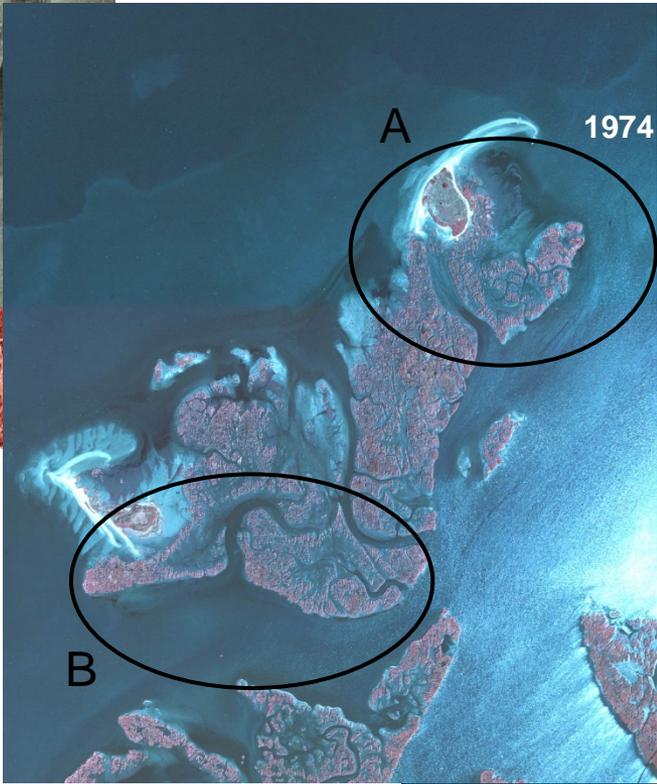
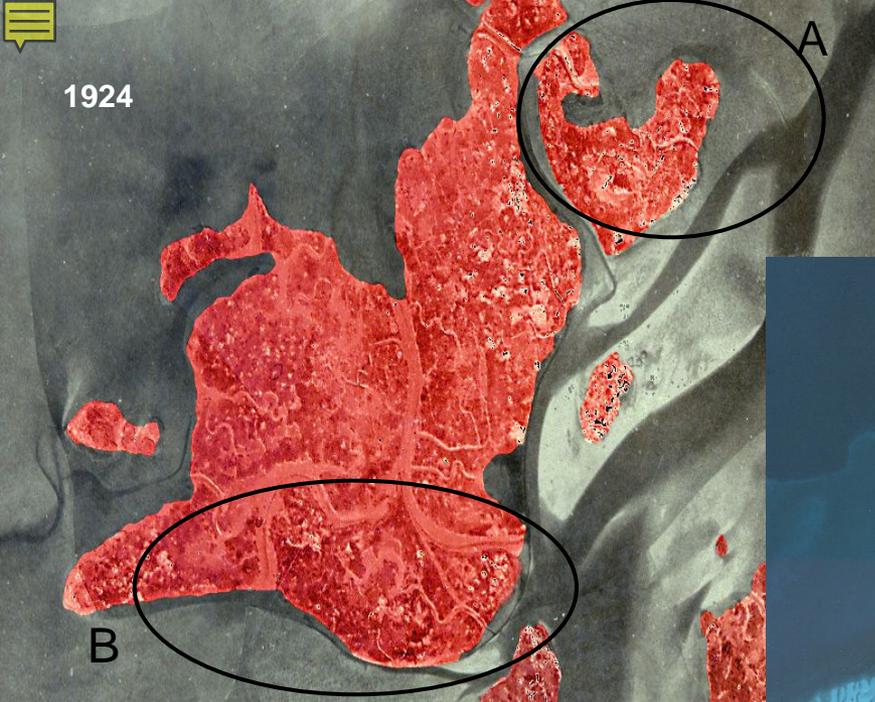
Jamaica Bay, NY

Marsh Island Loss & Restoration

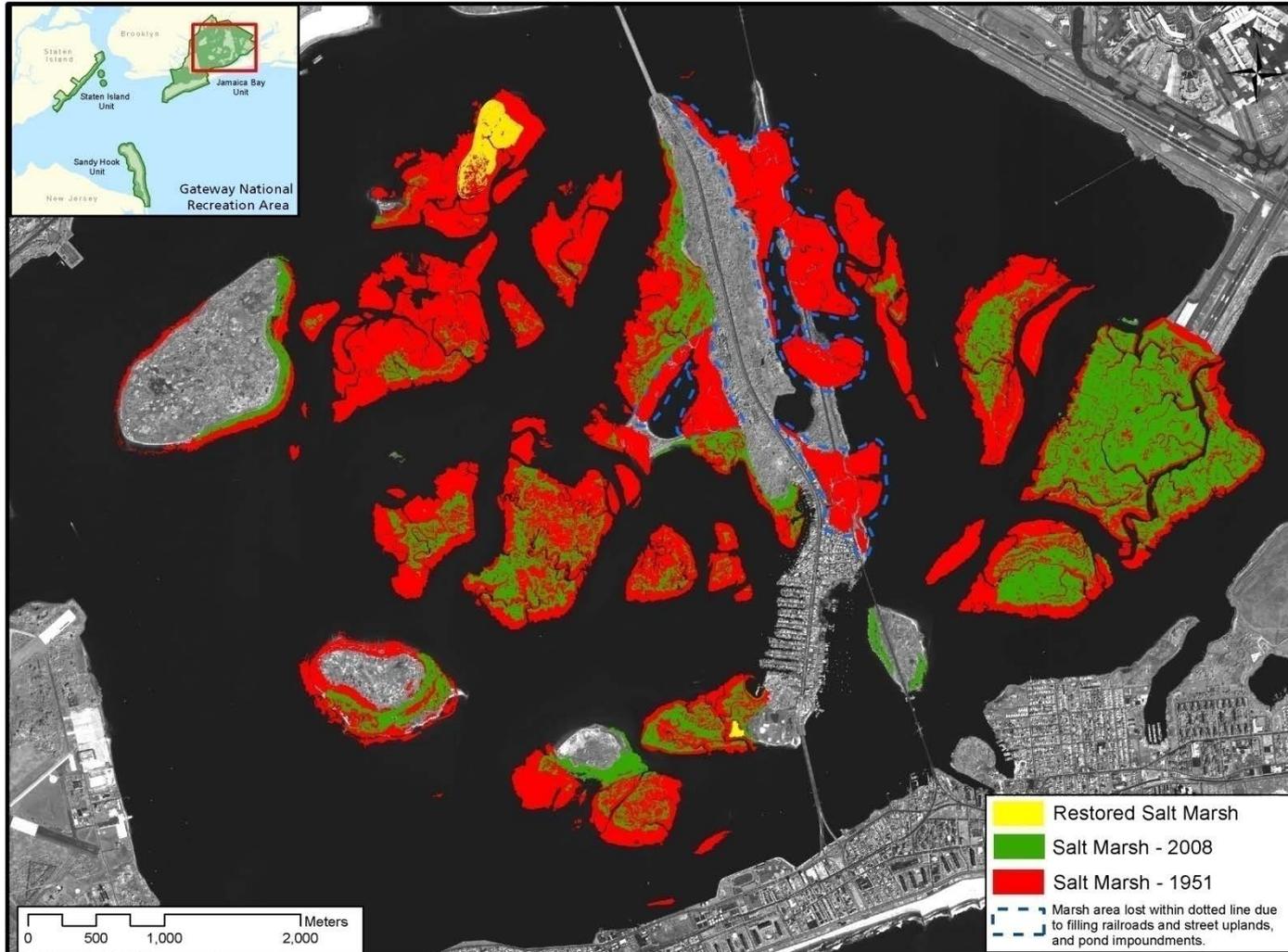
Steve Zahn

NYSDEC

Elders Marsh



Marsh Island Change



1951-2008

Loss analysis by Christiano and Mellander, *GATE*

Figure from Christiano, *GATE*



Potential Causes of Vegetative Loss

Sea Level Rise

Sediment budget disruption

Eutrophication

Marsh Peat Geo-chemistry

Wave and wind erosion

Ice scour

Root knot nematode

Fusarium

Drought

Grazing by geese, snails, crabs and other herbivores



Marsh Island Construction Process





Elders
East
2006



Elders
West
2009



Yellow Bar Hassock 2012



Black Wall &
Rulers Bar
2012



Elders West
302,000 CY/40 acres

Elders East
249,000 CY/40 acres

Yellow Bar
375,000 CY/44 acres

Black Wall
155,000 CY/16 acres

Rulers Bar
92,000 CY/8 acres

Big Egg

Jamaica Bay Marsh Restoration
Harbor Deepening Project Mitigation
Continuing Authorities Program (CAP) Section 204/207
Beneficial Use Sand Placement Sites

Environmental Restoration- Jamaica Bay

| <u>Completed Construction Projects</u> | <u>Total \$ Amount</u> |
|---|----------------------------|
| Elders East Mitigation for Harbor Deepening Port Authority (NY/NJ) Completed 2006 Approximately 40 acres | \$15,000,000 |
| Elders West Marsh Restoration Beneficial Use of dredged material (CAP 204) Completed 2010 Approximately 40 Acres | \$17,200,000 |
| Yellow Bar Hassock Marsh Restoration Beneficial Use of dredged material (CAP 207) Approximately 44 acres of marsh | \$19,643,857 |
| Rulers Bar and Black Wall Beneficial Use of dredged material - 100% Non-Federal Placement of sand only (NYCDEP and NYSDEC to fund) Black Wall: approximately 16 acres Rulers Bar: approximately 8 acres | \$2,100,000 \$1,311,000 |





Source: Don Riepe, ALS

