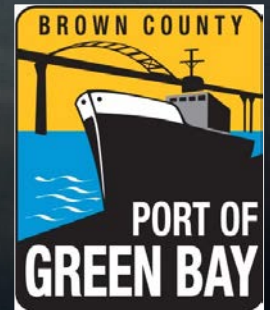


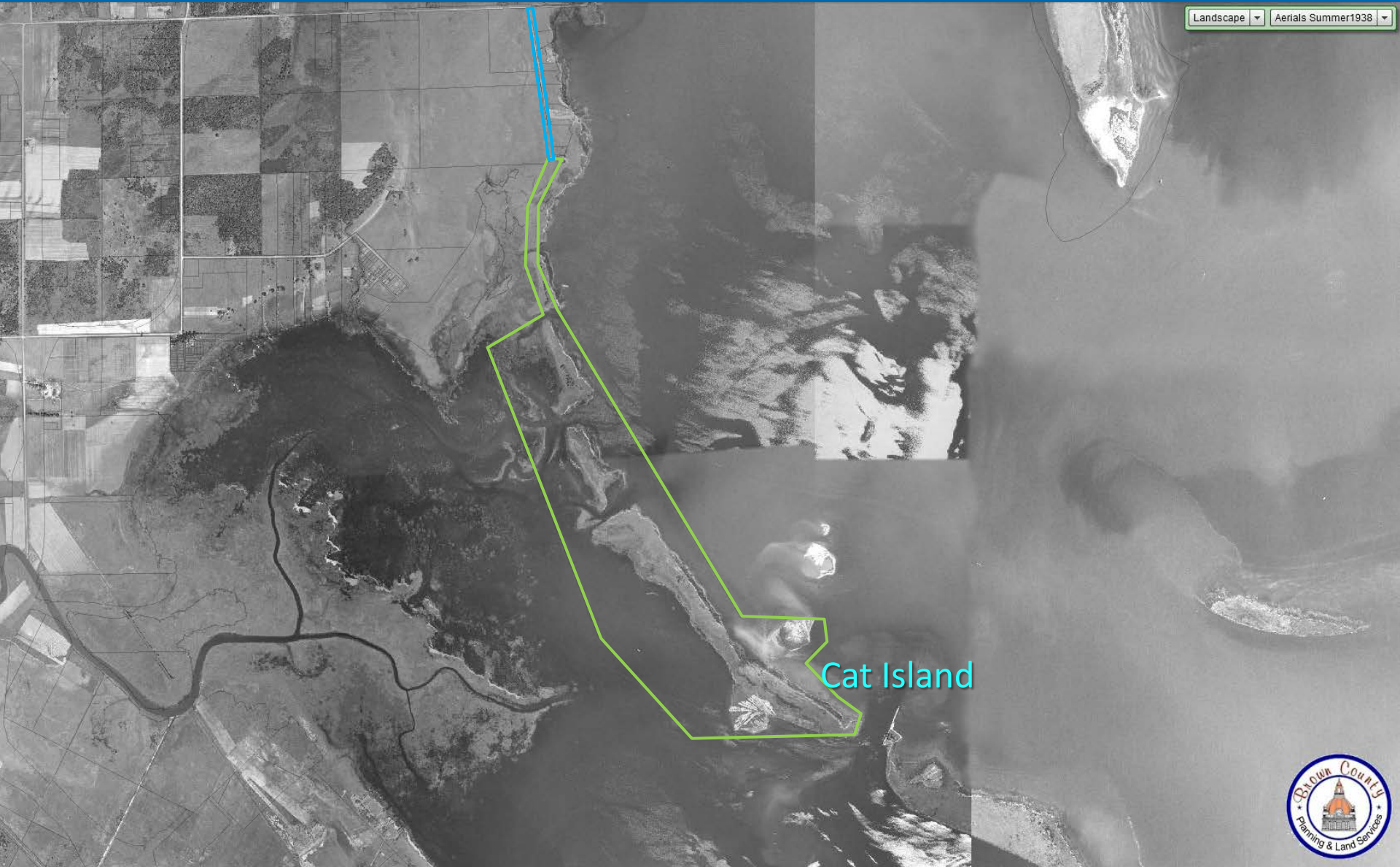
Cat Island Chain Restoration

Brown County Port & Resource
Recovery Department



February 24, 2016

Cat Island Chain - 1938



A historical black and white photograph showing a wide, flat landscape. In the foreground, there are numerous small, irregular islands and mud flats separated by shallow water channels. The middle ground features a large, open area of emergent marshes. In the background, a line of trees and a few small buildings are visible on a slight rise. The overall scene depicts a vast, low-lying coastal or estuarine environment.

Historic Western view of lower Green Bay

- Expansive emergent marshes (e.g. Duck Creek delta, Peats Lake)
- Numerous small islands
- Beaches and mud flats
- Submerged aquatic plant beds



Bass Islands

Willow Island

Cat Island

Lone Tree Island

Navigation Channel

Grassy Island

1966 during low water levels
Islands extend 2.5 miles into Green Bay

Photo Courtesy of Tom Erdman, 1966

Long Tail Point

Cat Island

Bass Islands

Duck Creek Delta Marsh

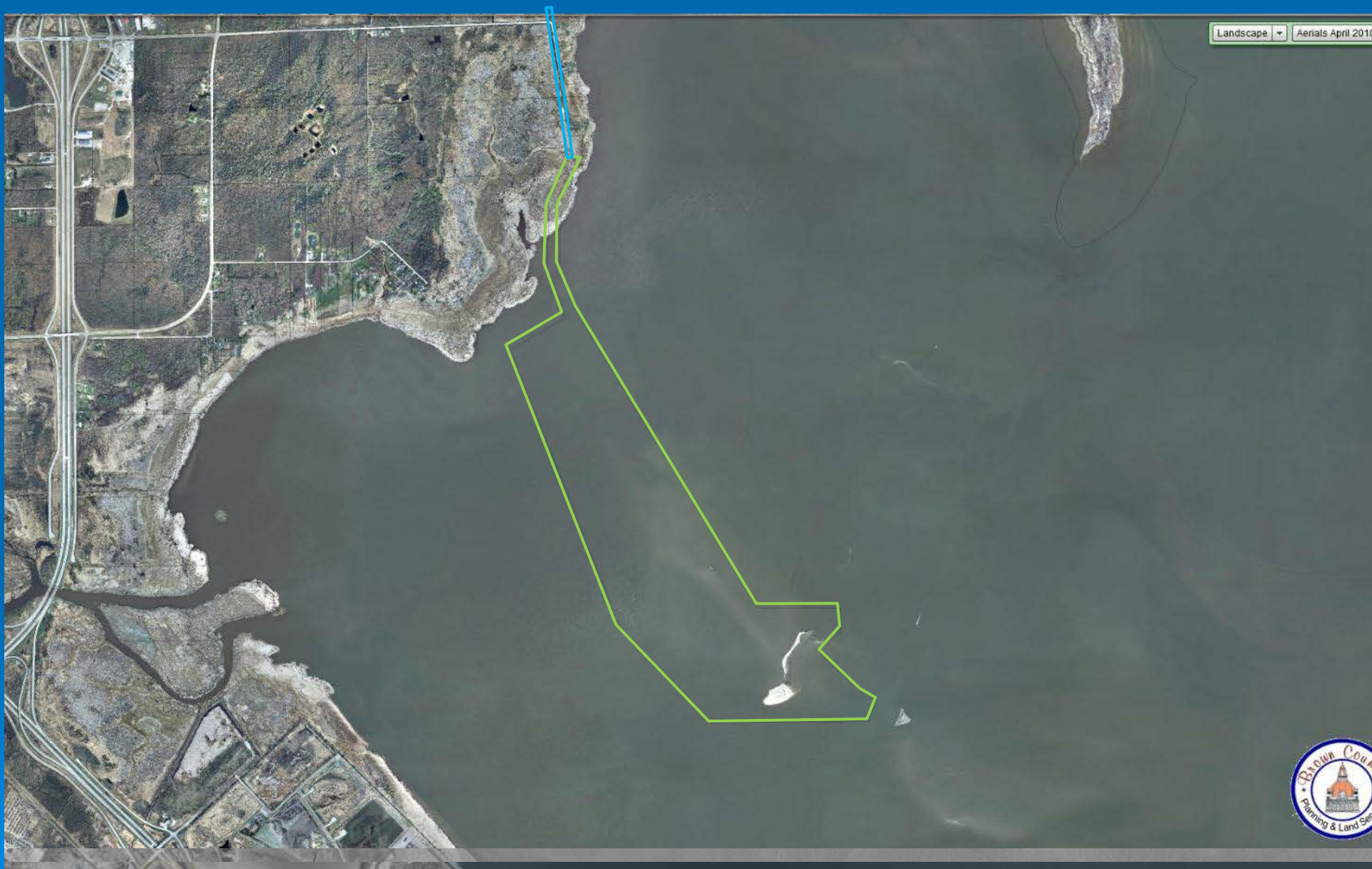
Landfill

I-43 Construction

90% of Coastal Wetlands
Lost from Southern
Green Bay

Agriculture

Cat Island Chain – 1960-2010



Project Beginning

- The Cat Island Chain project developed out of the 1988 Lower Green Bay Remedial Action Plan (RAP) and was the top priority project for habitat restoration.

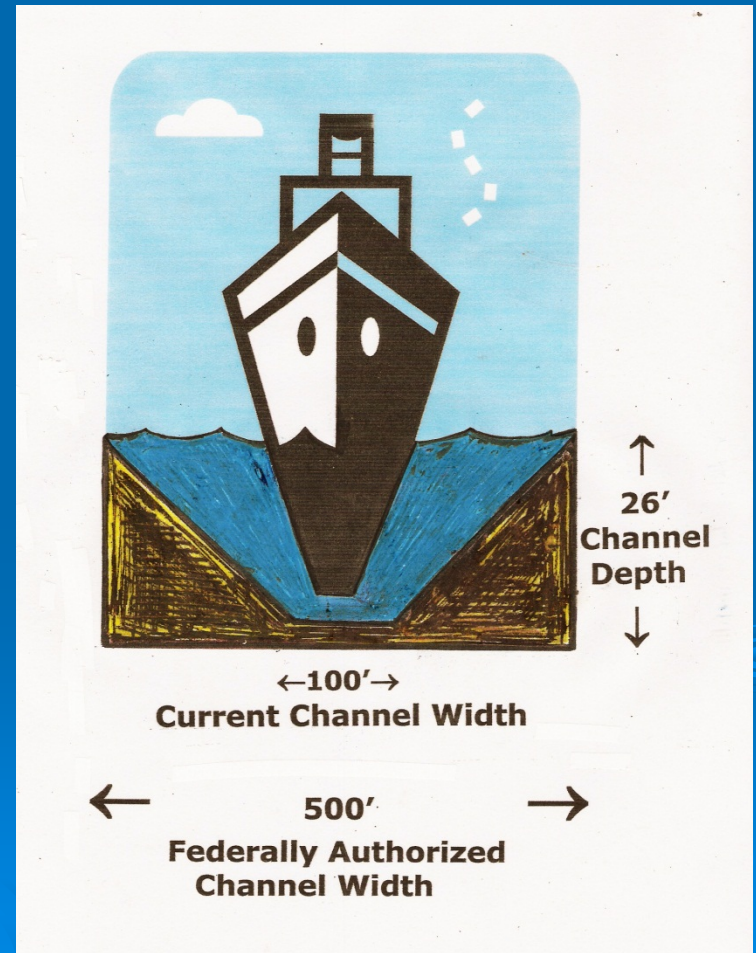


Members of the Citizens Advisory Committee and DNR staff worked together to develop the Lower Green Bay Remedial Action Plan. *(Photo by Dave Crehore)*



Annual Dredging

- Annual maintenance dredging is necessary to keep the Port of Green Bay active
- Annual dredging of 100,000 to 250,000 CY of sediment that has settled into the 14 mile long navigational channel



Project Goals

- Restore diversity of island and aquatic habitats
- Recreate 1960s island “footprint”
- Enhance spawning and nursery grounds for various fish species (e.g. yellow perch, musky, pike, walleye, sunfish)
- Create disposal capacity
- Beneficially use dredged material from the maintenance of the Port of Green Bay



Photo by WDNR 1969

Project Partners

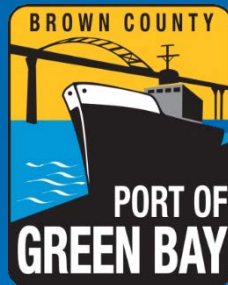
➤ Partnership between:

- Brown County, WDNR, WDOT, US Fish & Wildlife Service
- US Army Corps of Engineers, USEPA, UW-Sea Grant, UW-Green Bay
- Port Operators and the Fox River Group of paper mills

Cat Island Advisory Committee (CIAC)



US Army Corps
of Engineers®



Citizen
Member



Construction Phase I - June 2012



Cat Island

Sediment Disposal

Island	Area (acres)	Storage Capacity (yards ³)	Years Remaining (assume 2 yr cycles and sequential filling)
West Island	74	900,000	8
Central Island	92	1,140,000	22
East Island	106	1,680,000	40

Only outer harbor “clean sediments” will be placed onto the islands

September 9, 2014



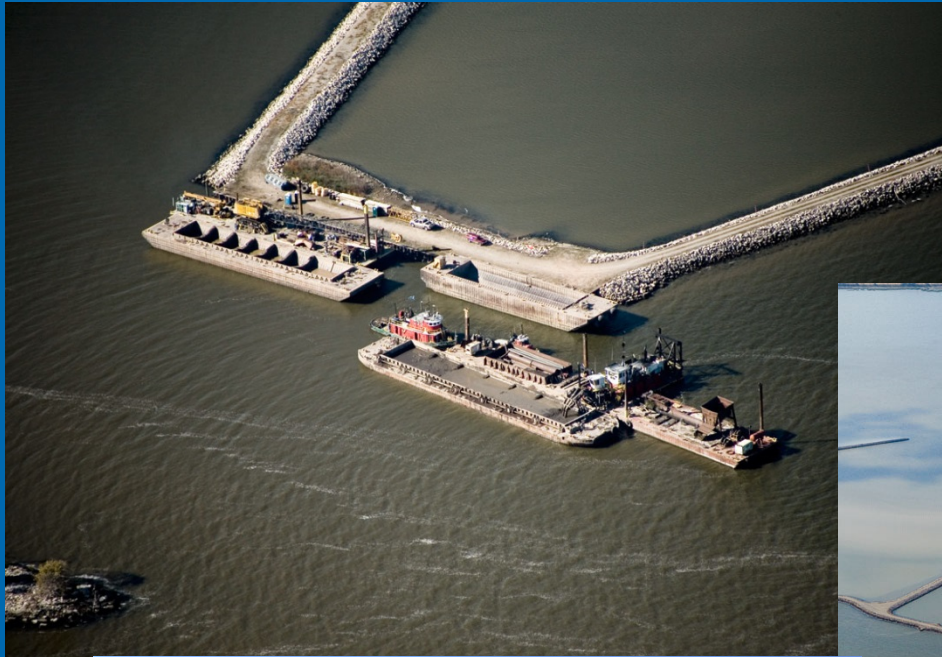
May 7, 2015



July 2, 2015



October 24, 2016



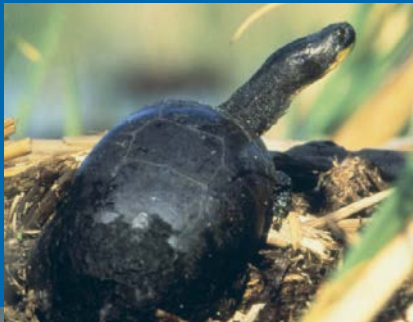
October 26, 2016



April 21, 2017

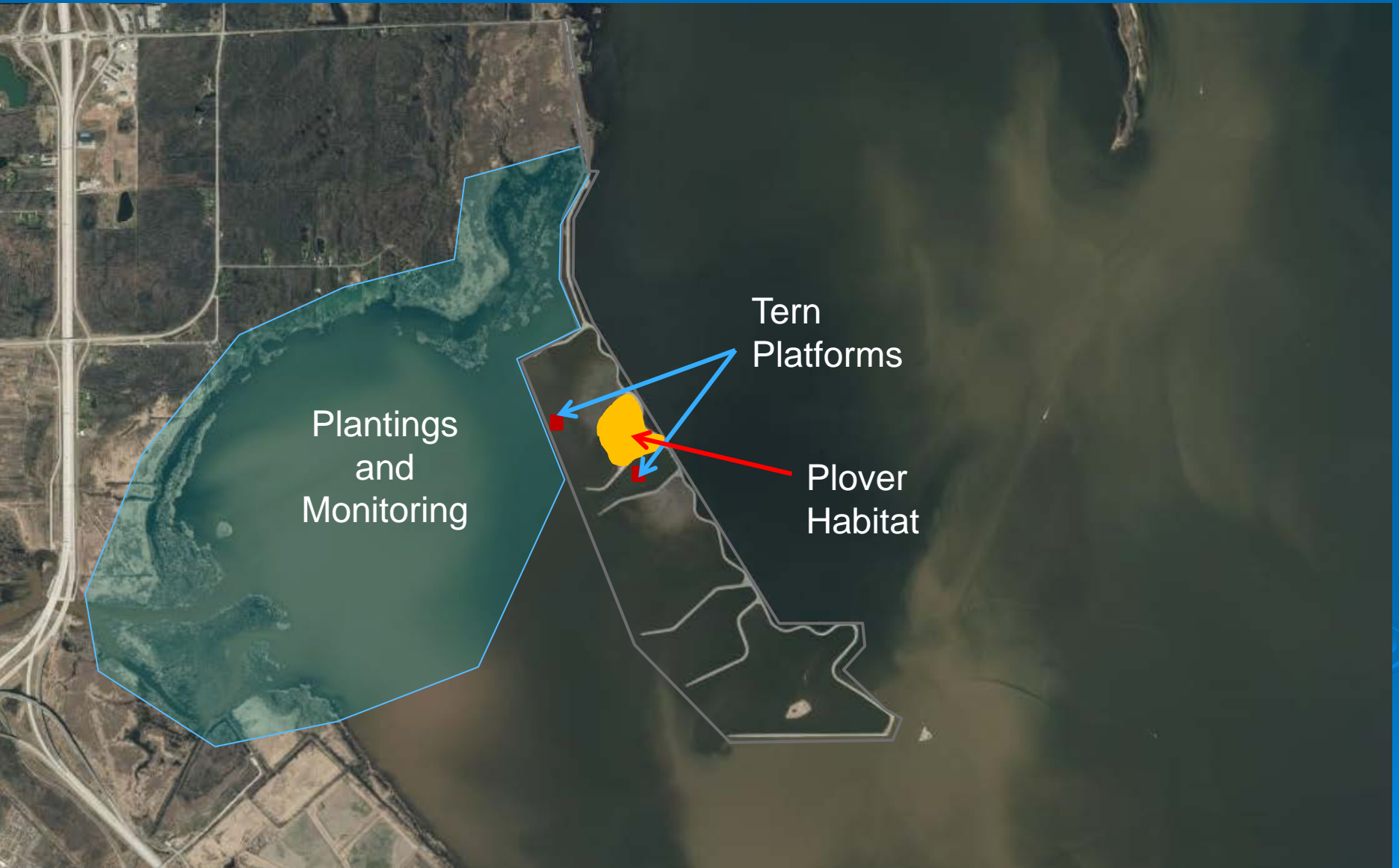


Habitat Impacts



- Colonial Nesting Water Birds
- Shorebirds
- Waterfowl
- Fish Spawning
- Fish Nurseries
- Turtles
- Amphibians
- Invertebrates

Cat Island Habitat Projects



Piping Plover

- Piping Plover successfully bred on westernmost island in 2016 & 2017
 - First local breeding in 75+ years



Tern Platforms



Wild Rice Planting



FY17 Dredging Activities



Rear Barrier placed in center cell

38,500 CY to Cat Island (100,000 to be placed in 2018)

84,293 CY from transition area to Bay Port Cell 5

On-Going Issues

➤ Management

- Cat Island Advisory Committee (CIAC)

➤ Public Access

- Public Safety
- Sensitive Wildlife Habitat Area

➤ Filling

- Sequence and Timing
- Removal of Causeway



Public Access



November 8, 2017



2017 CENTER CELL BARRIER INSTALLATION



Approximately 2300 LF of geotextile lined gabion-style barrier placed across the back of the center island

Barrier Construction



Barrier



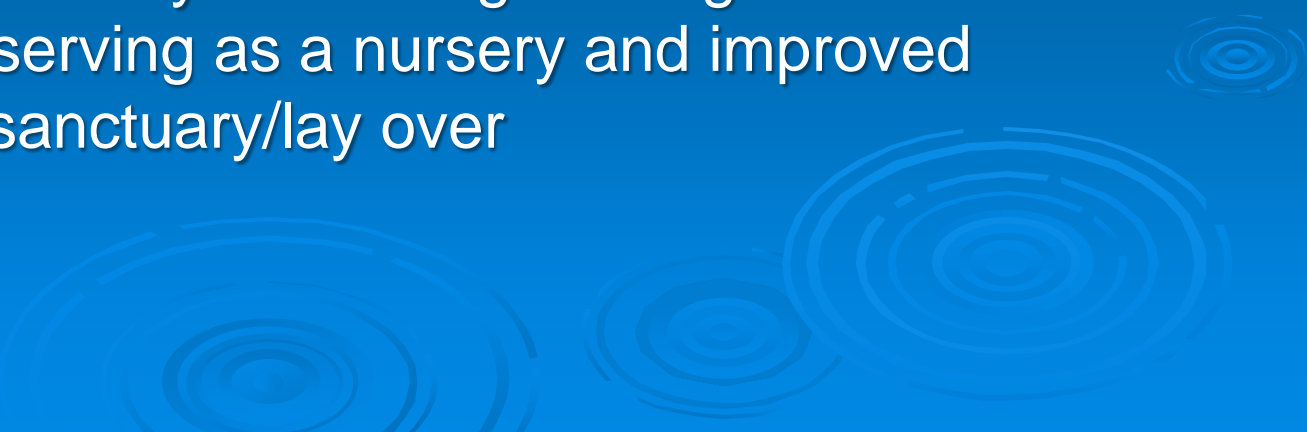
Image © 2018 TerraMetrics

Google Earth

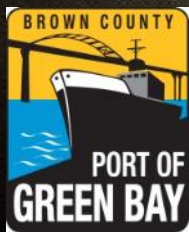
Cat Island Chain - 2017



Project Outcomes

- 30-50 years worth of disposal capacity
 - Beneficial reuse of dredged material
 - 2.5 mile wave barrier and re-establishment of 272 acres of islands
 - Wave barrier protecting 1,225 acres and providing critical habitat for birds, fish and mammals
 - Improved water clarity increasing weed growth for fish spawning and serving as a nursery and improved migratory bird sanctuary/lay over
- 

Questions?



*Brown County Port & Resource
Recovery Department*