Virginia Habitat Restoration - Platforms

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Virginia

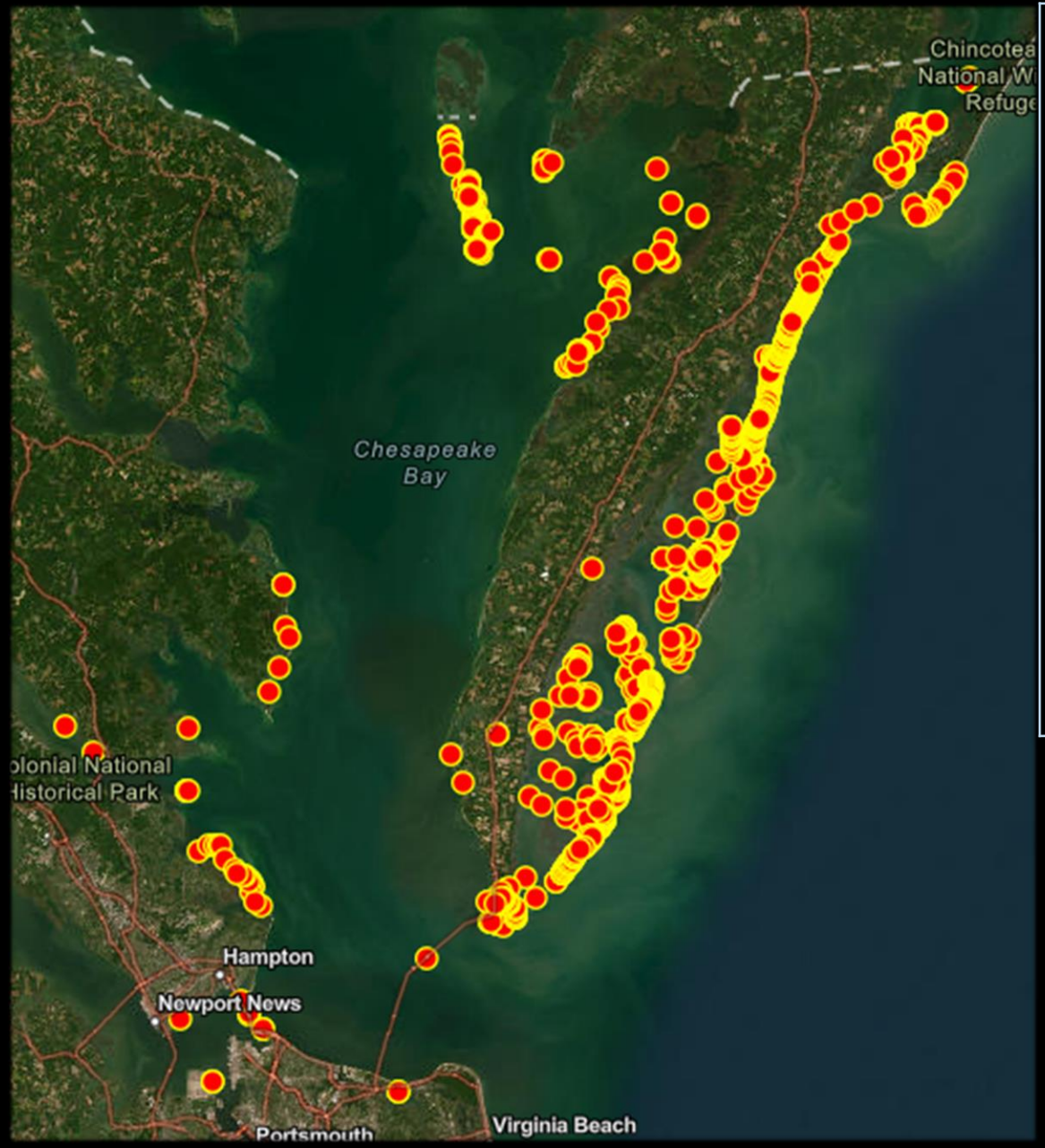
2021

- Develop a plan that:
  - Identifies potential habitat restoration and management actions in coastal marshes to reduce the impacts of sea level rise on AMOY nesting success and increase the resilience of nesting/roosting habitat
  - Evaluates challenges and opportunities
    - Cost, material, logistics, permitting, return on investment
  - Prioritize specific actions for implementation

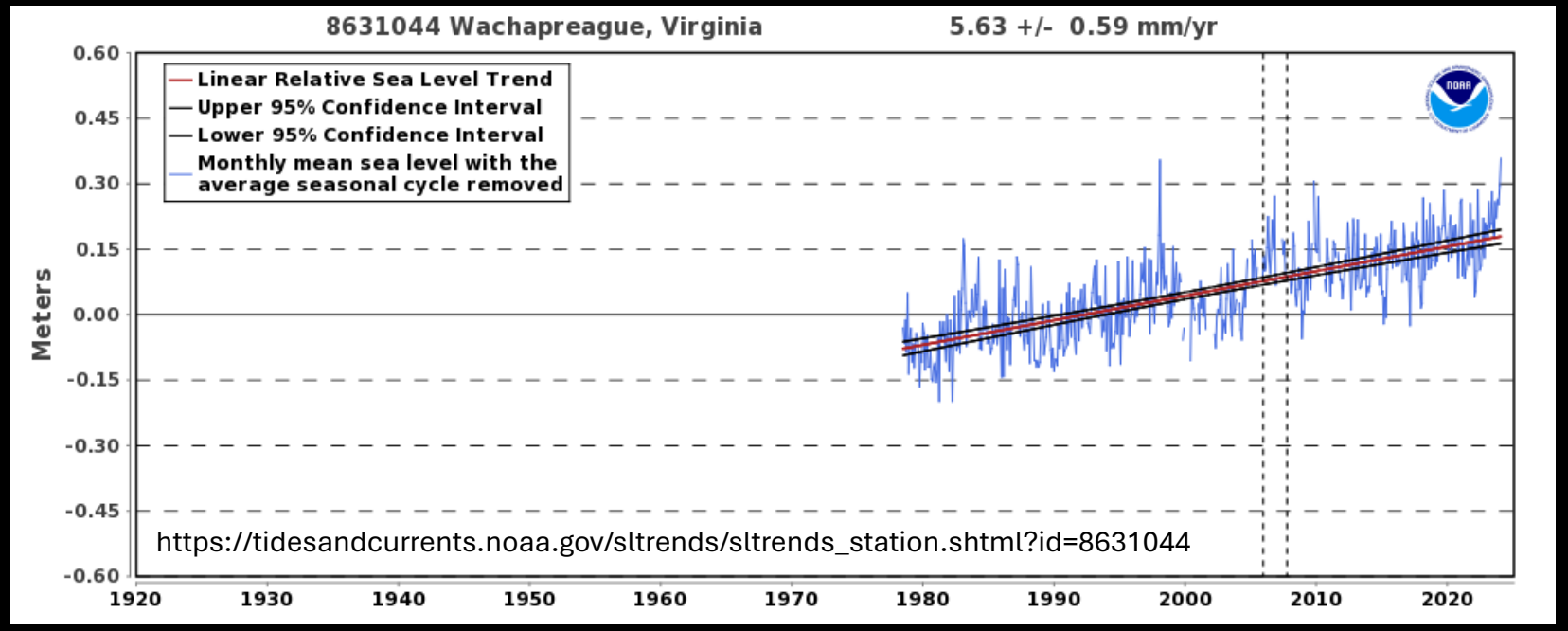
2024

- Evaluated SIX different potential management and restoration actions
  - Floating platforms/barges
  - Island/habitat creation
  - Oyster reef restoration
  - Shell rake restoration
  - Shell rake augmentation with platforms
  - Thin layer deposition

Background



Region	Pairs	% of total
Barrier Islands	557	58%
Seaside Lagoon	256	27%
Ches Bay-eastern shore	111	12%
Ches Bay-western shore	29	3%
Other	6	1%
STATE TOTAL	959	



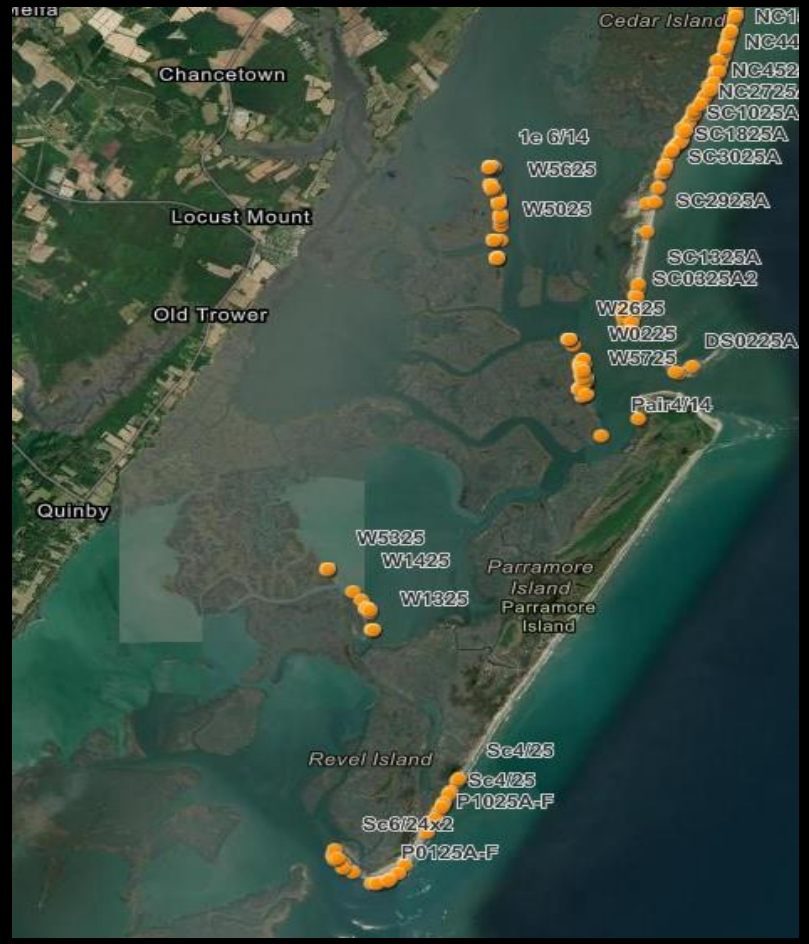
The relative sea level trend is 5.63 millimeters/year with a 95% confidence interval of +/- 0.59 mm/yr based on monthly mean sea level data from 1978 to 2023 which is equivalent to a change of 1.85 feet in 100 years.

Study Sites for 2025 Field Season

Oyster

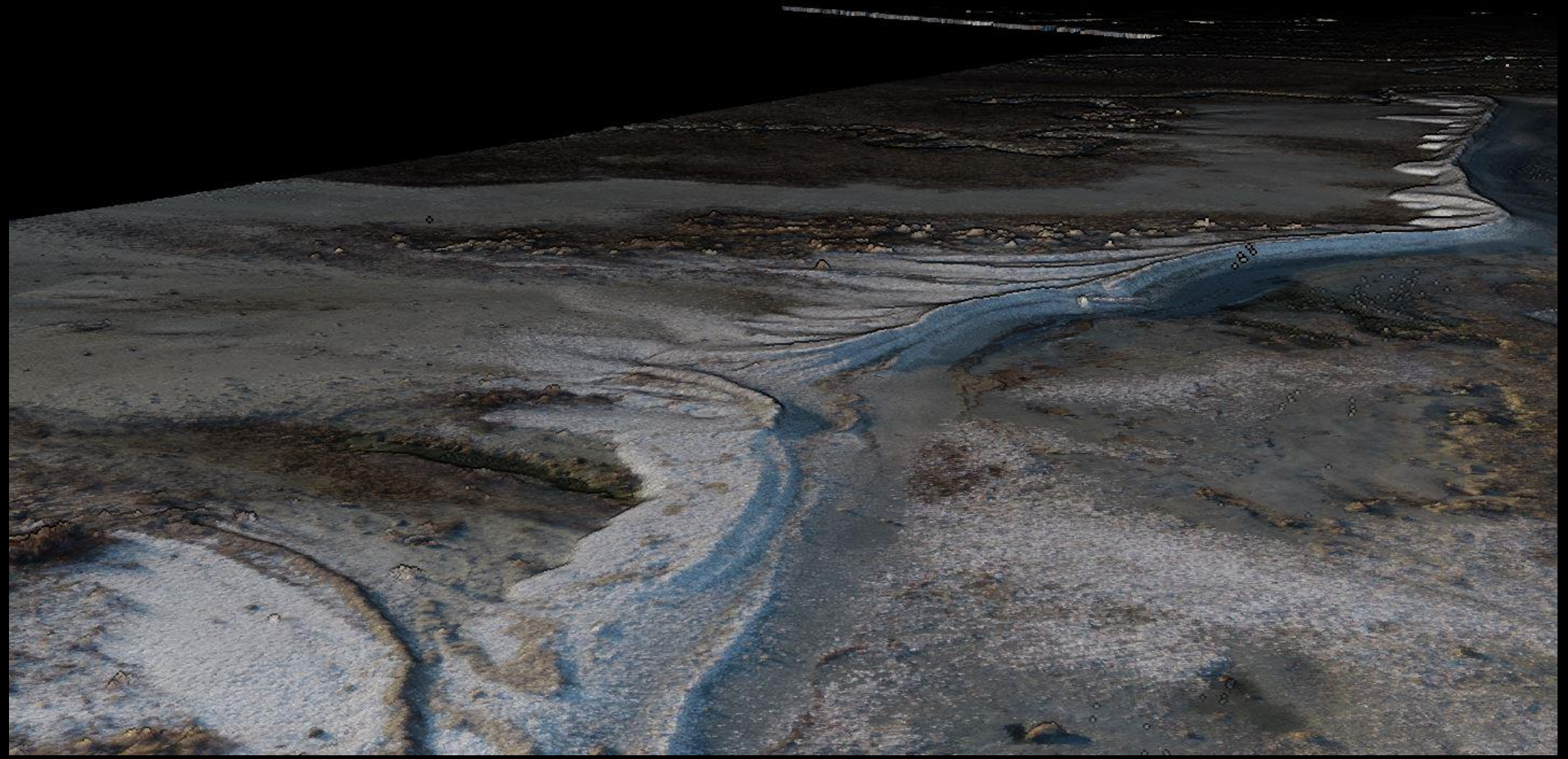
Reason for Selection

- Both sites have previous monitoring data.
- Both sites have at least 30 pairs.
- Both have similar habitats.
- Both are convenient with nearby boat ramps.



Wachapreague

Drone LiDAR



Implementation

- Artificial substrate - Sandbar
- Cost-effective, near-term strategy

SANDBAR
OYSTER COMPANY | Shellfishly Motivated™

Platform Creation

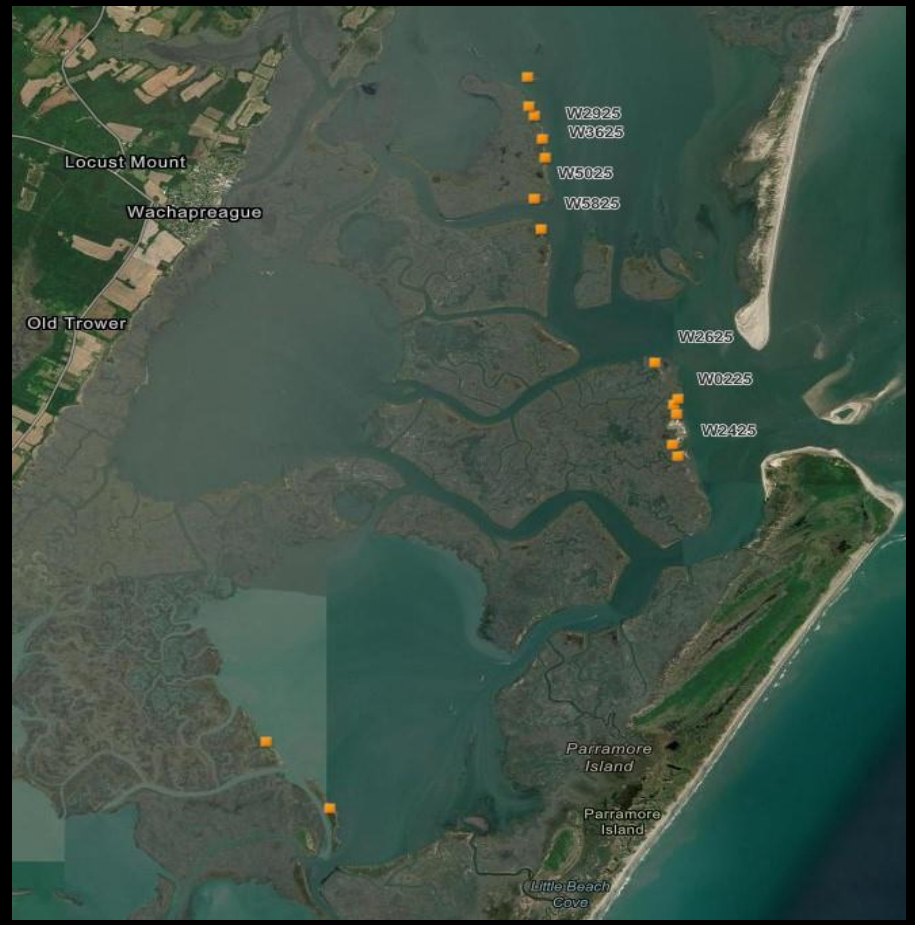
- 4 People
- 4 hours
- 12 Platforms created
- Cost per platform $42 (jute, Portland cement, rebar)

Deployment

Habitat Variability

Platform Locations

Oyster



Wachapreague

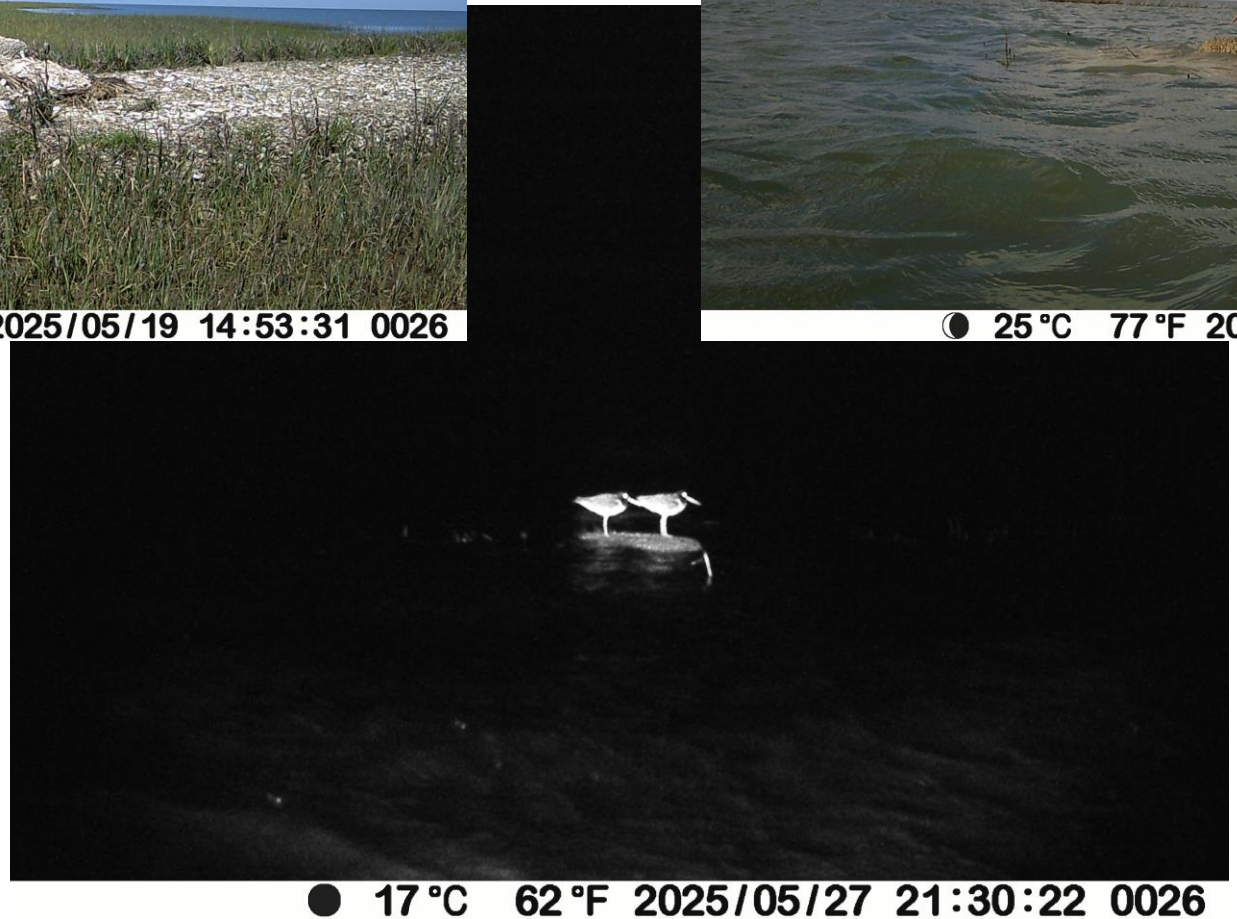
Results

- Deployed 30 Platforms, 15 at each site.
- Deployment time varied from 8 minutes to 30 minutes.
- 6 out of 15 hatch at least one egg at both sites.
- 6 pairs didn’t accept the platform (didn’t resume incubation): 4 at Wachapreague, 3 at Oyster.
- Oyster had 1 platform flooded, Wachapreague had 3.
- Hatch success similar to natural nests.

Success!


◑ 28 ℃ 82 ℉ 2025/05/19 14:53:31 0026


◑ 25 ℃ 77 ℉ 2025/05/22 17:02:15 0026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Predators

Future

- Find way to keep substrate on platforms.
- Maintain platforms for 2026 and see if birds naturally adopt them.
- Find elevation threshold for future deployments.

THANK YOU!

Field Crew 2025

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VIRGINIA DWR

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AT WILLIAM & MARY

NATIONAL FISH AND WILDLIFE FOUNDATION
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