Update on Mapping Efforts Associated with Lone Cabbage Reef Restoration Project

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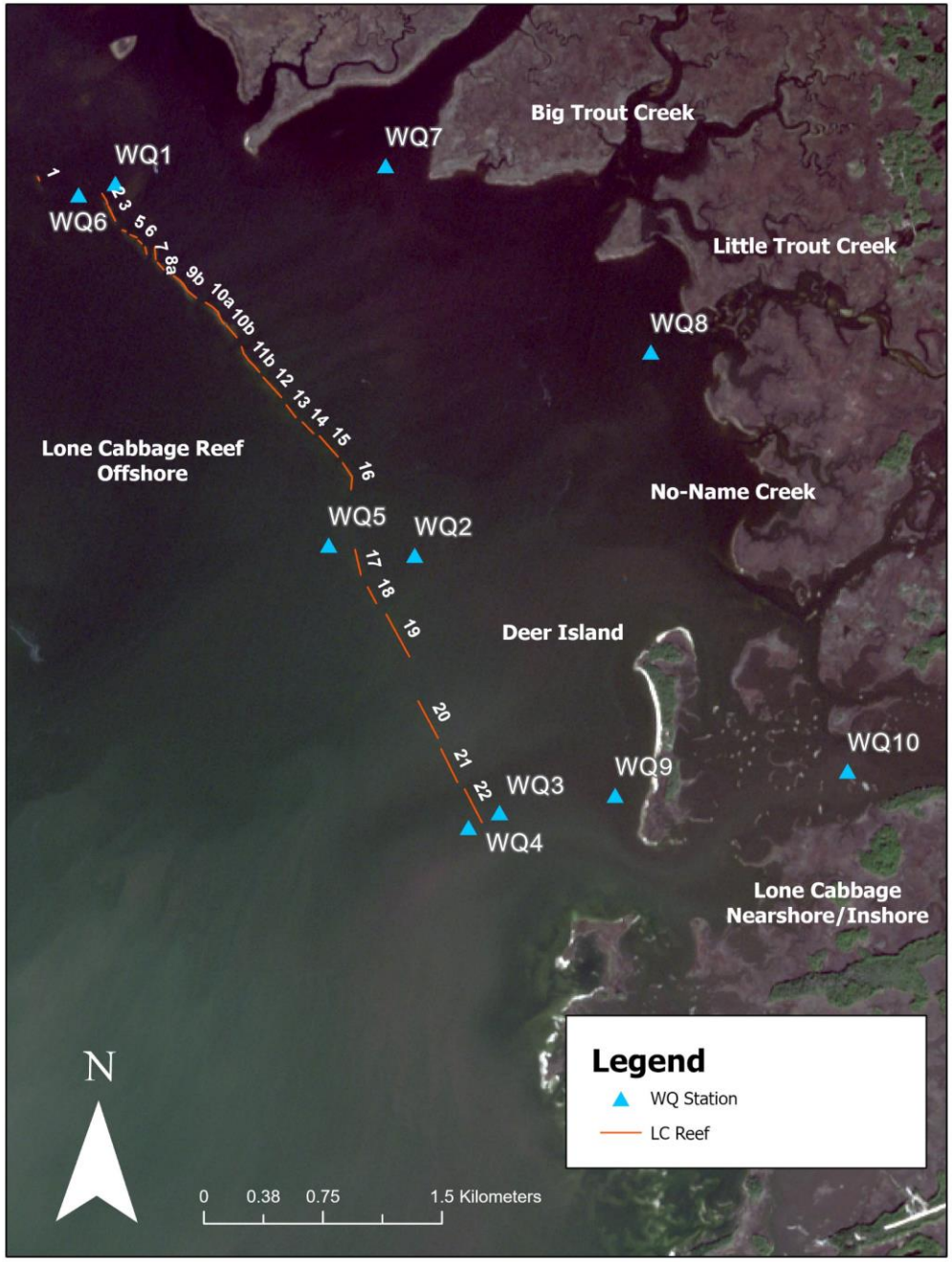
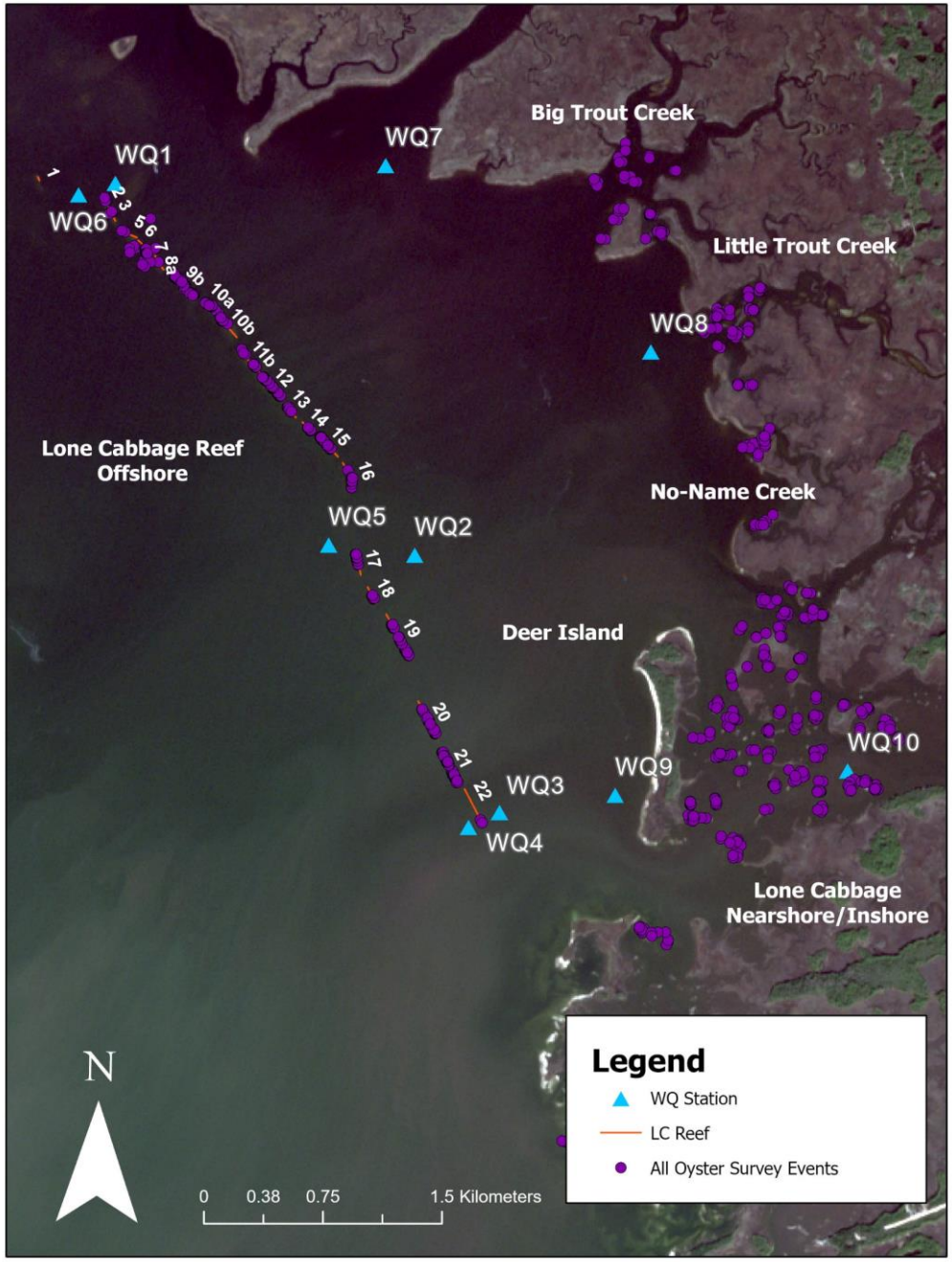
Horseshoe Cove and Suwannee Sound Virtual Workshop
March 9 - 11 2021


Big Trout Creek
WQ7
WQ1
WQ6
1
2
3
5
6
7
8a
9b
10a
10b
11b
12
13
14
15
16
Little Trout Creek
WQ8
Lone Cabbage Reef
Offshore
No-Name Creek
WQ5
WQ2
17
18
19
Deer Island
20
21
22
WQ10
WQ9
WQ3
WQ4
Lone Cabbage
Nearshore/Inshore
N
0
0.38
0.75
1.5 Kilometers
Legend
WQ Station
LC Reef


Big Trout Creek
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WQ2
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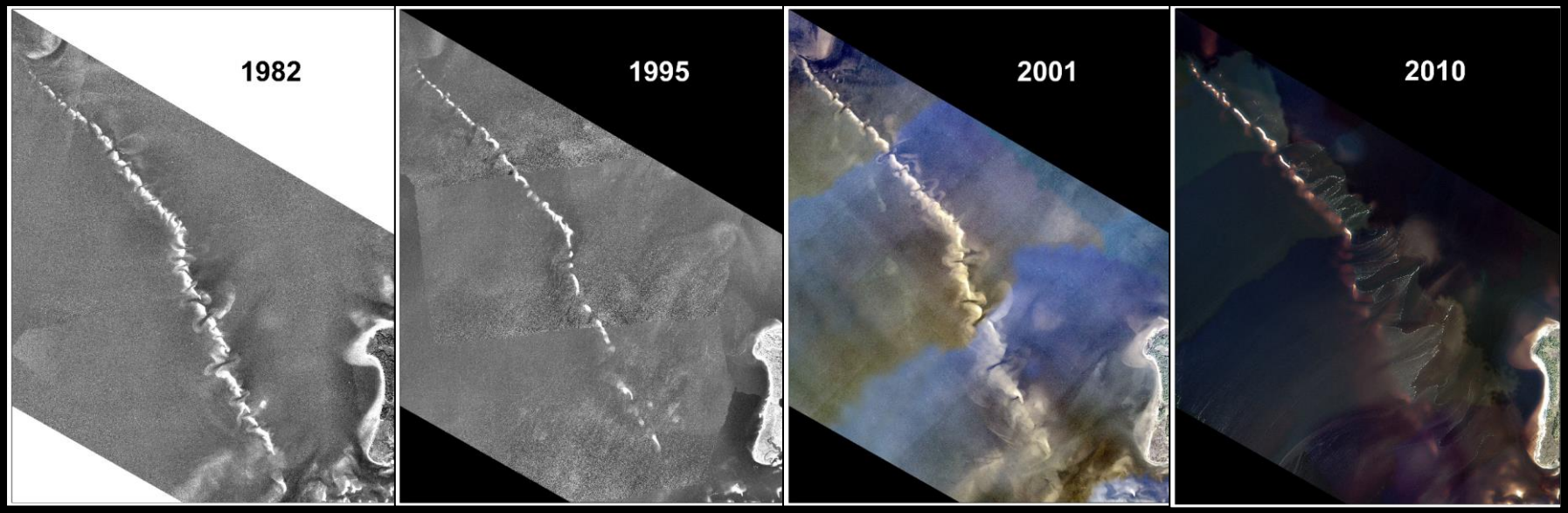
WQ10
WQ9
WQ3
WQ4
Lone Cabbage
Nearshore/Inshore
N
0 0.38 0.75 1.5 Kilometers
Legend
WQ Station
LC Reef
All Oyster Survey Events

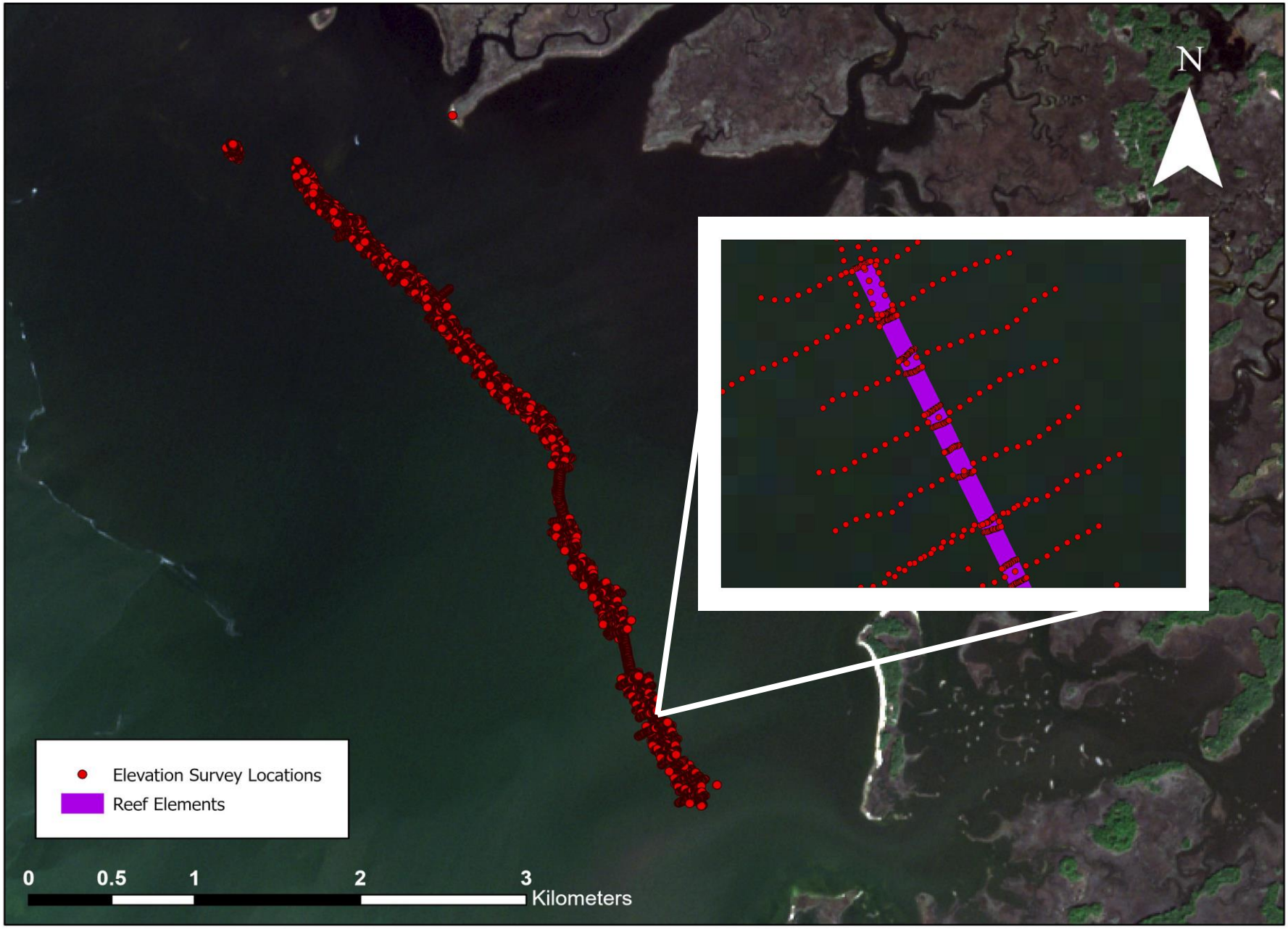
Degradation of Lone Cabbage Reef: 70% lost from 1982-2010



Seavey, J. R., W. E. Pine, III, P. Frederick, L. Sturmer, and M. Berrigan. 2011. Decadal changes in oyster reefs in the Big Bend of Florida's Gulf Coast. Ecosphere 2(10):114. doi:10.1890/ES11-00205.1

Current Data for Lone Cabbage Reef Offshore:

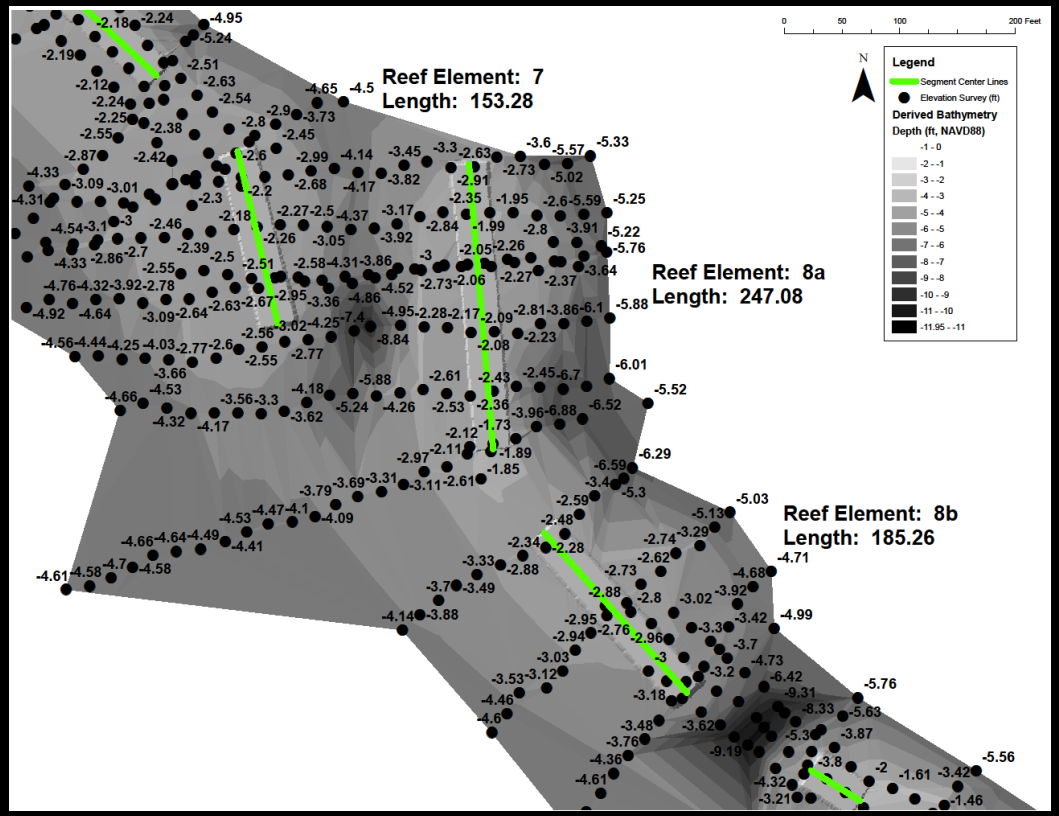
- 2017 Pre-Construction Survey
- 2018 As-Built Survey
- 2018 Inlet Survey


N
Elevation Survey Locations
Reef Elements
0
0.5
1
2
3
Kilometers

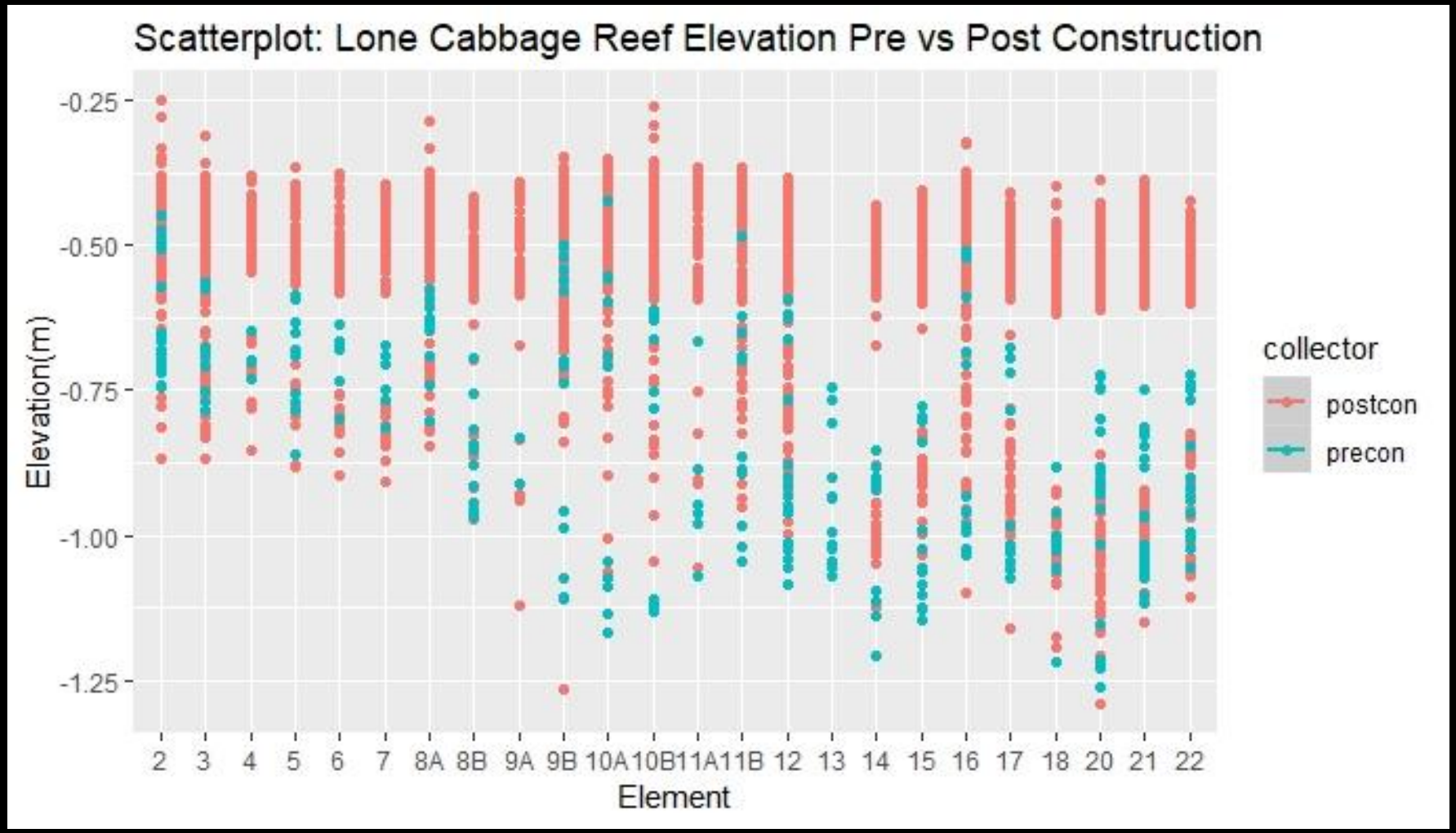
Monitoring Efforts: Elevation/Bathymetry

- **Surrounding Reef Change**
  - Average Reef Height
  - Oyster Density/Size Dist. and Elevation Relationship

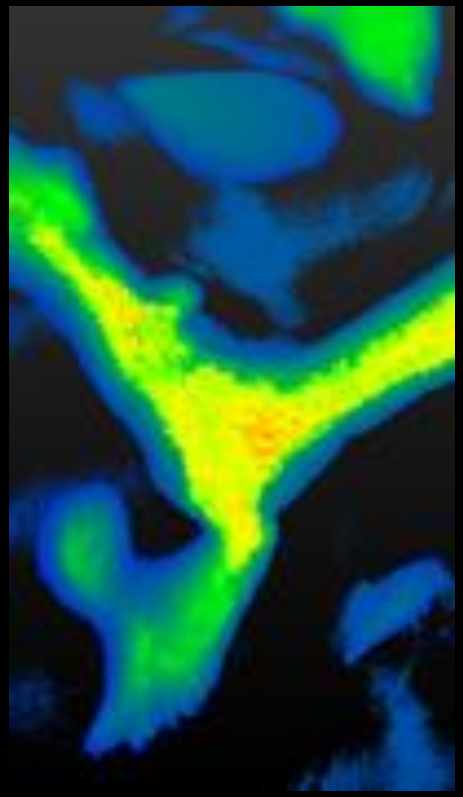
  Credit for 3D-work:
  Joe Aufmuth

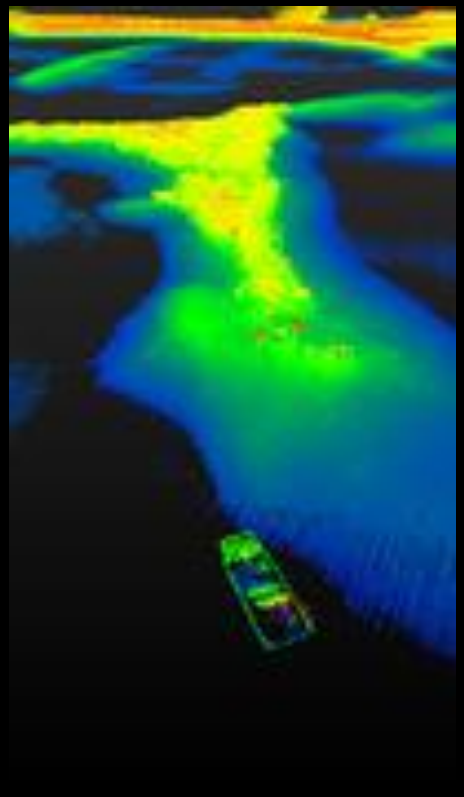


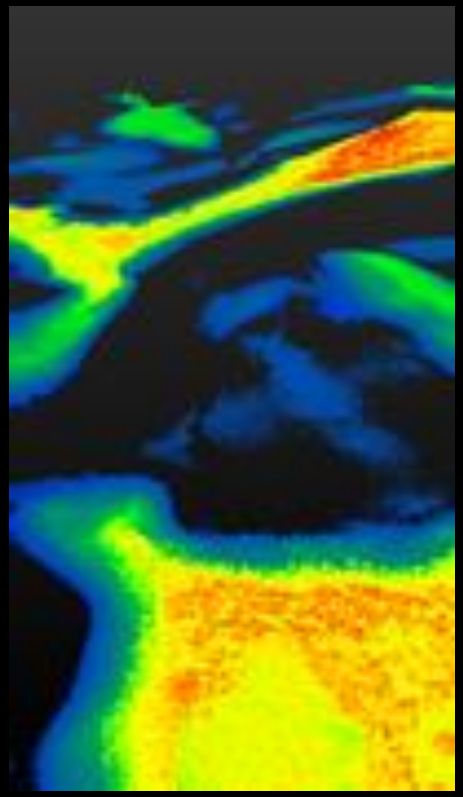
Monitoring Efforts: Elevation/Bathymetry



Drone Survey Efforts Little Trout Creek:

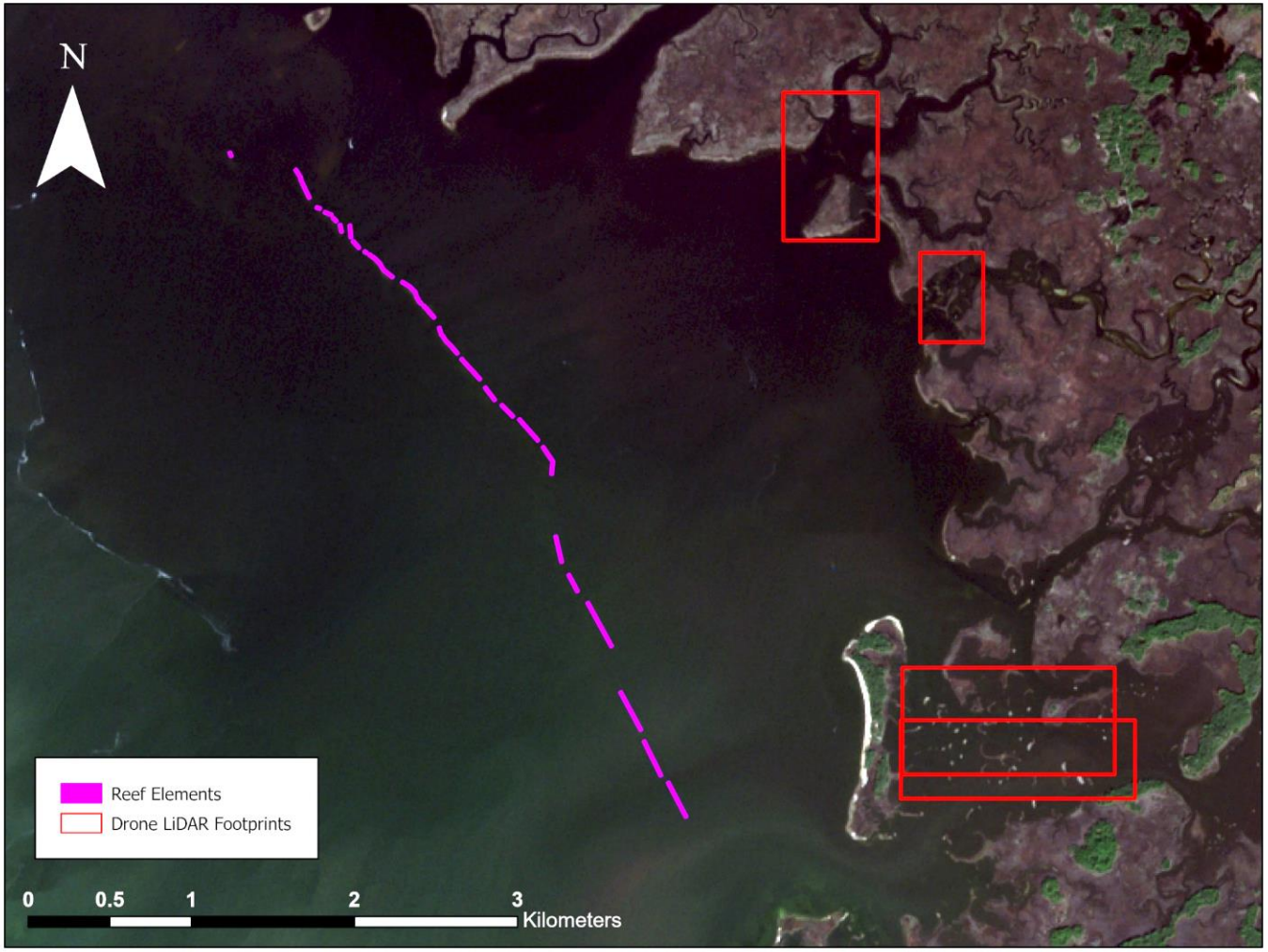






Lone Cabbage Reef:

LiDAR Coverage



Lone Cabbage Reef – Upcoming Elevation Data

Future Datasets from Project:

- 2021 Elevation Profile Surveys
- 2021 Inlet Surveys

Future Datasets from Partners:

- CZMIL – Airborne Bathymetric and Topographic LiDAR ***(SRWMD)***

Lone Cabbage Reef – Broader Impacts

- Goal of evaluating impacts of land use and climate change on Suwannee River estuary
- LCR Project is part of broader efforts
- Ongoing FWC work on birds and terrapins
- National Academy grant – 2021-2024
  - FWC, SRWMD, DEP, DACS,
  - UF/IFAS:
    - NCBS
    - Food and Resource Economics
    - UF Water Institute
    - PIE Center
  - Land use, hydrology and food web modeling
- Potential to leverage efforts among projects

Thank You!

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- Project co-PIs Leslie Sturmer, Peter Frederick, and Bill Pine

For More Information: https://lcroysterproject.github.io/oysterproject/