

Adaptive Management & Monitoring

Abbotts Meadow Marsh Restoration Abbotts Meadow Wildlife Management Area

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Bureau of Land Management
New Jersey Fish and Wildlife





Northwest Reach - Heislerville WMA



US Army Corps
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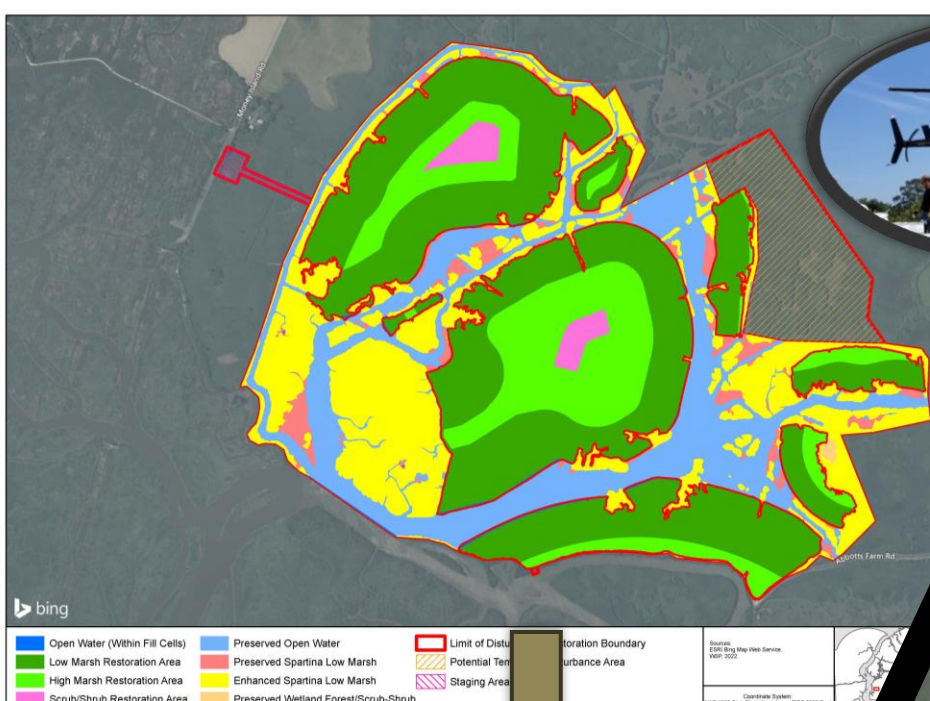
Scotch Bonnet Island - Cape May Coastal WMA Seven Mile Island Innovation Lab



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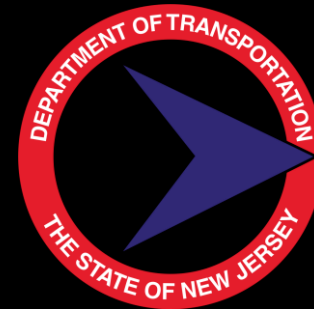


Abbotts Meadow Wildlife Management Area Marsh Restoration

- Formerly ditched & diked for agriculture.
- Ditching and dike dilapidation negatively impacted the hydrology & sedimentation of site
- Result was a degradation of marsh to mudflat & Phragmites Monoculture



> 600,000 Cubic Yards of Sediment
147 acres
Largest BUDM Project in New Jersey Ever

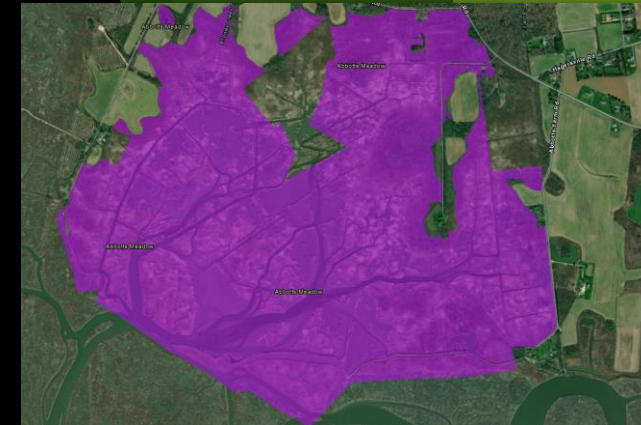
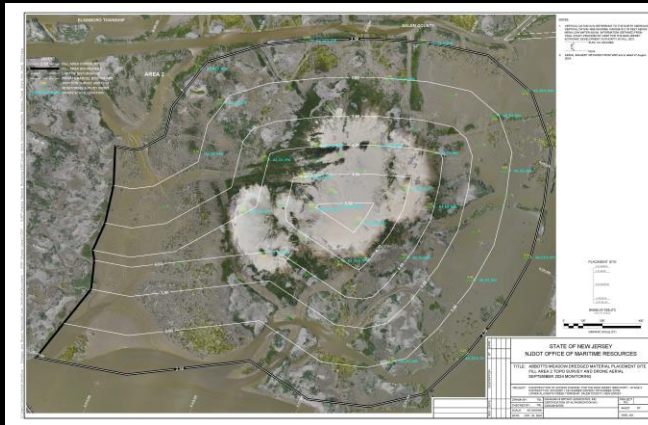
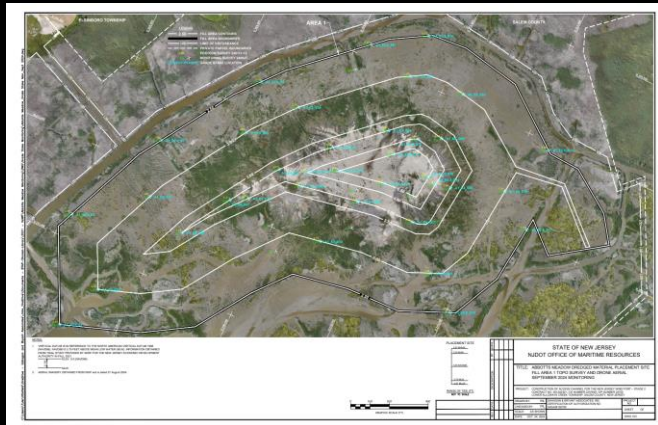


Pre-Construction - August 2022



Post-Construction - July 2024



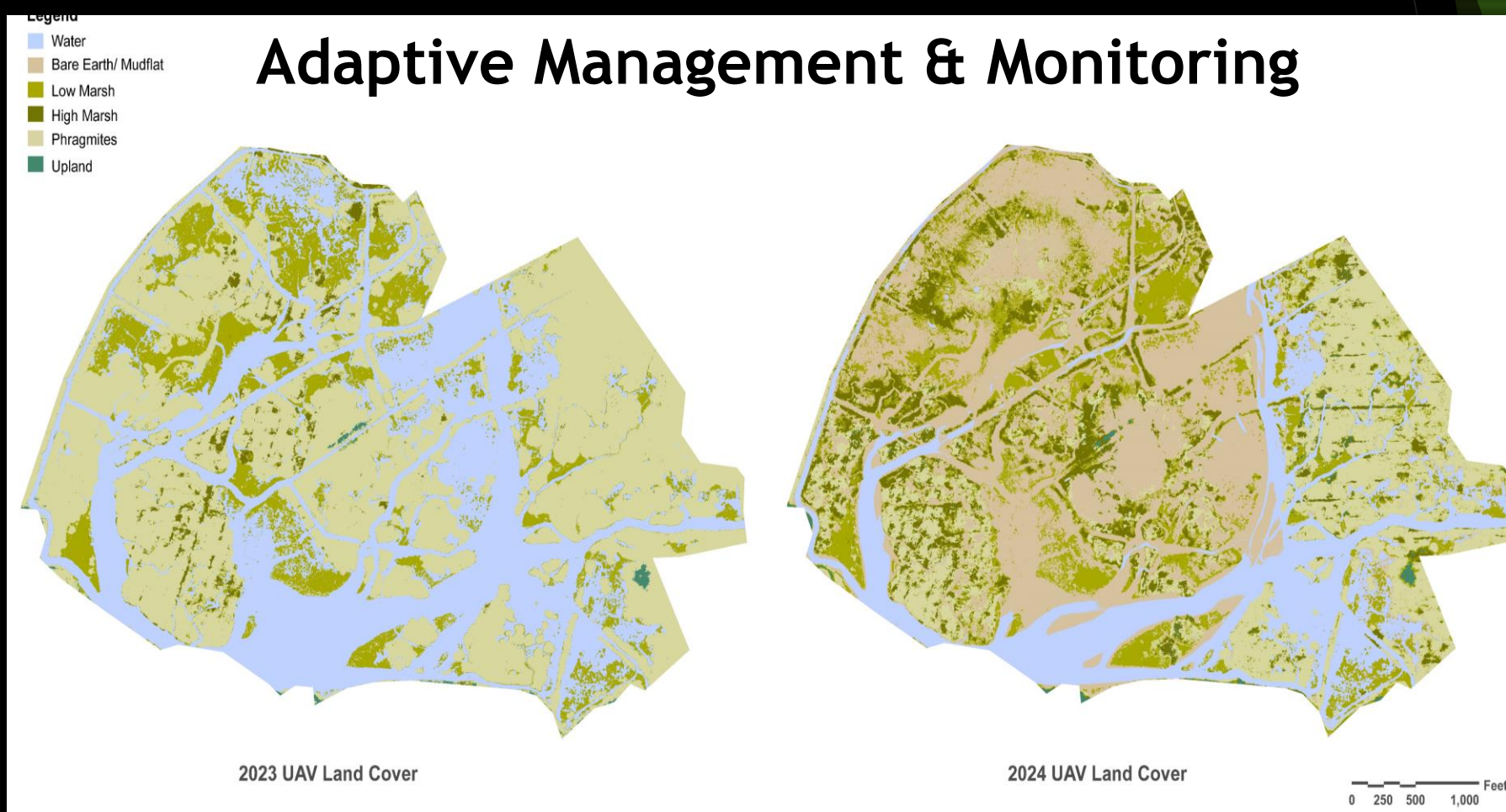


Elevation

Adaptive Management & Monitoring



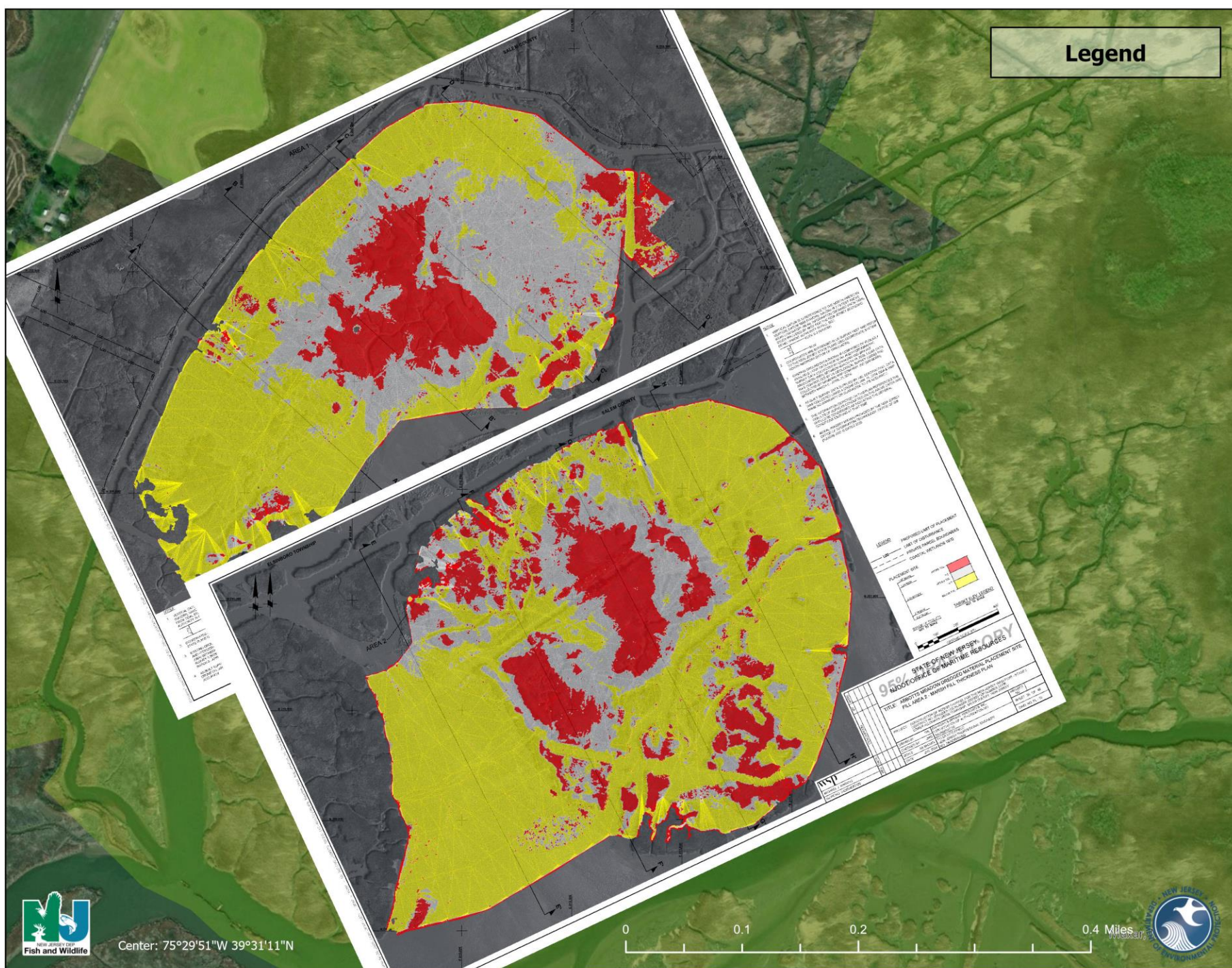
Phragmites Treatment

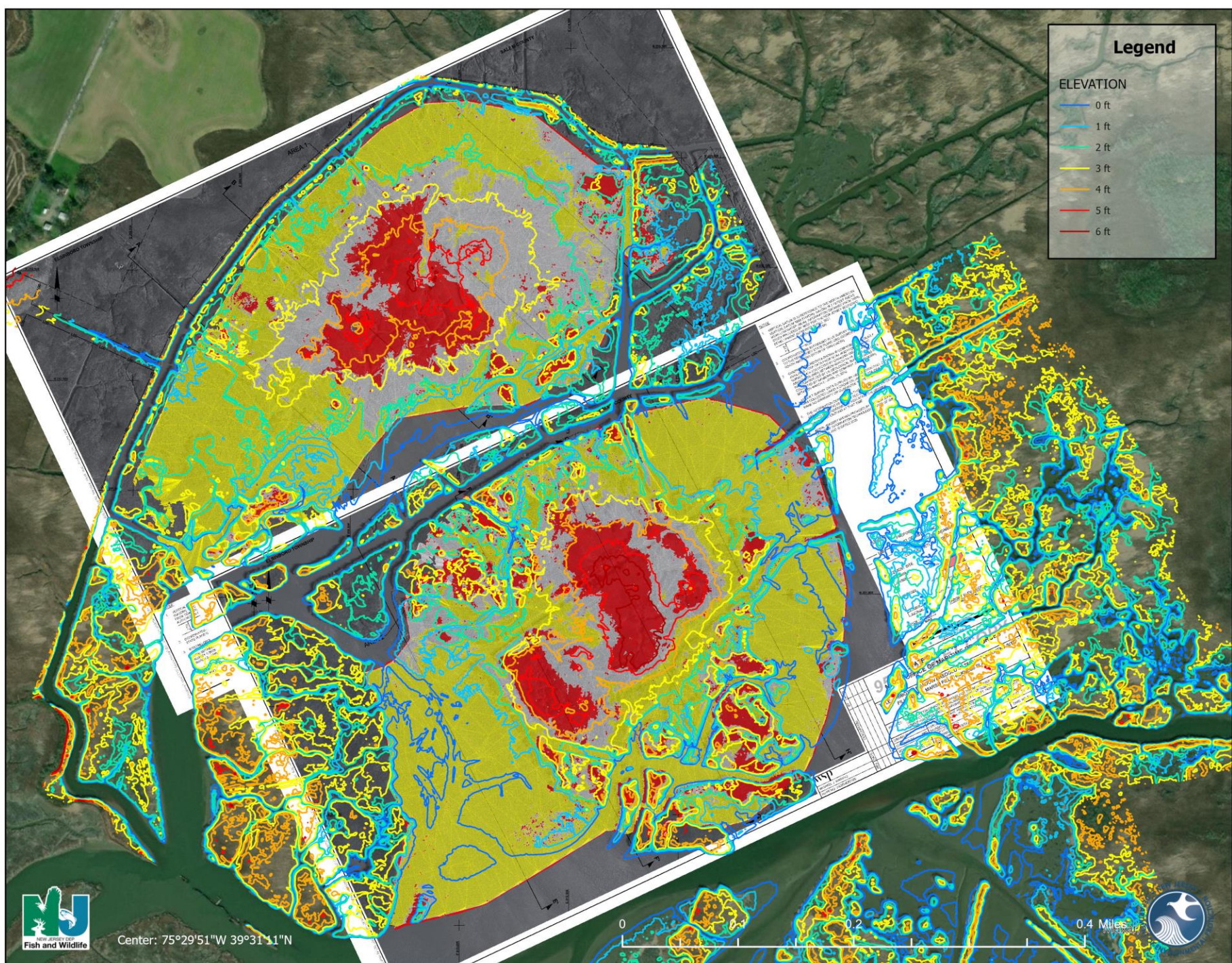


Legend



Center: 75°29'51"W 39°31'11"N

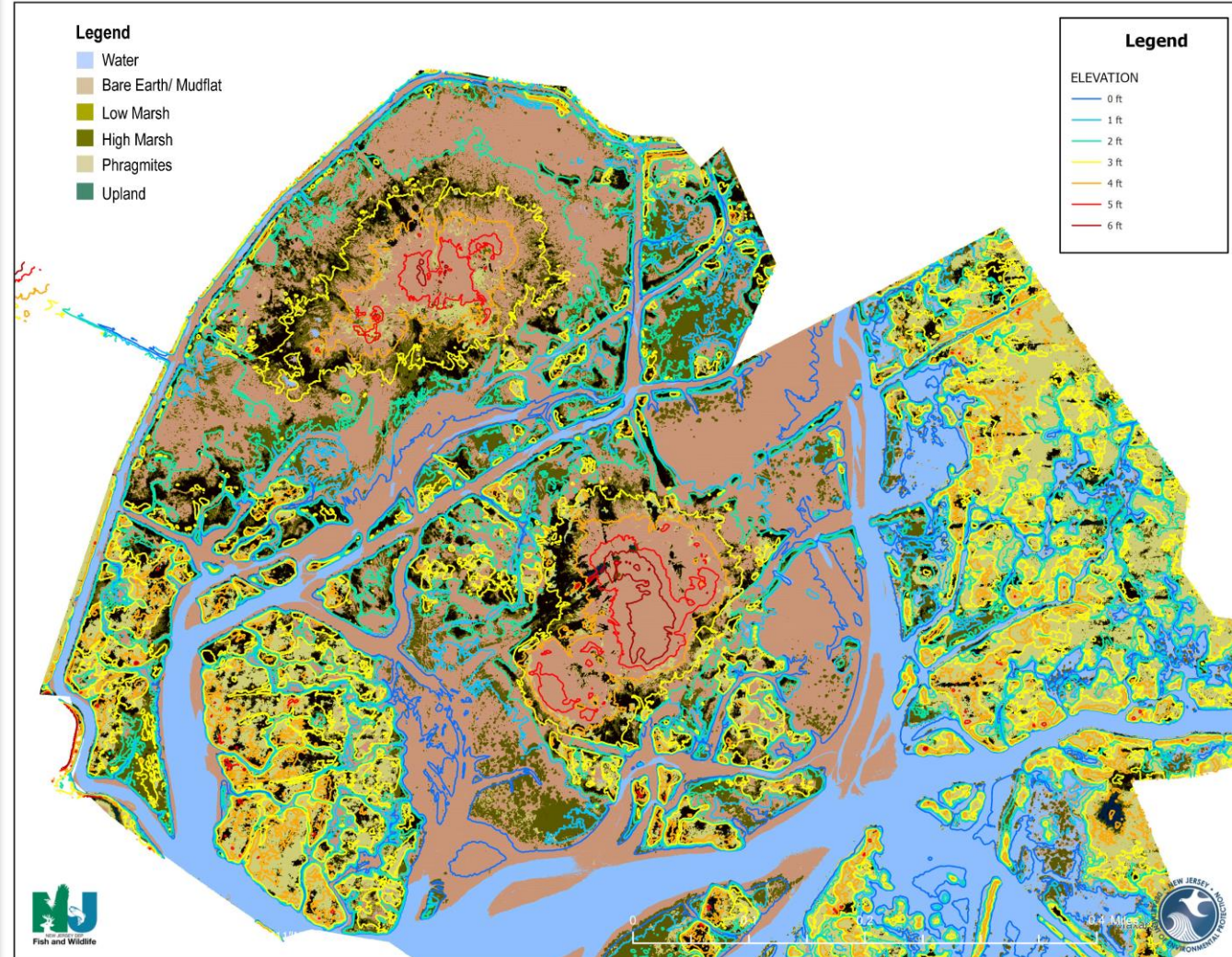




2024 UAV w/o Contours



2024 UAV w/ Contours

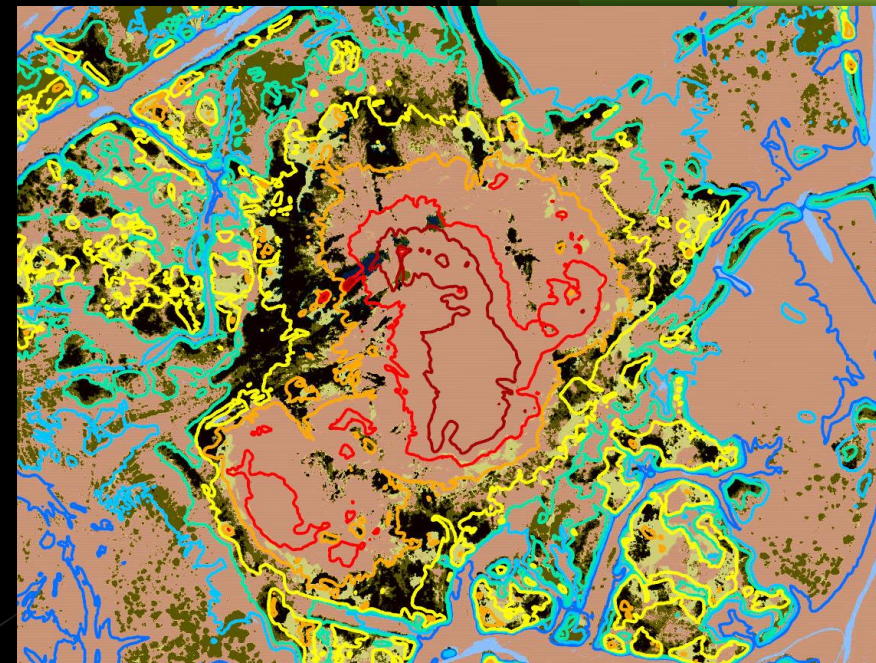
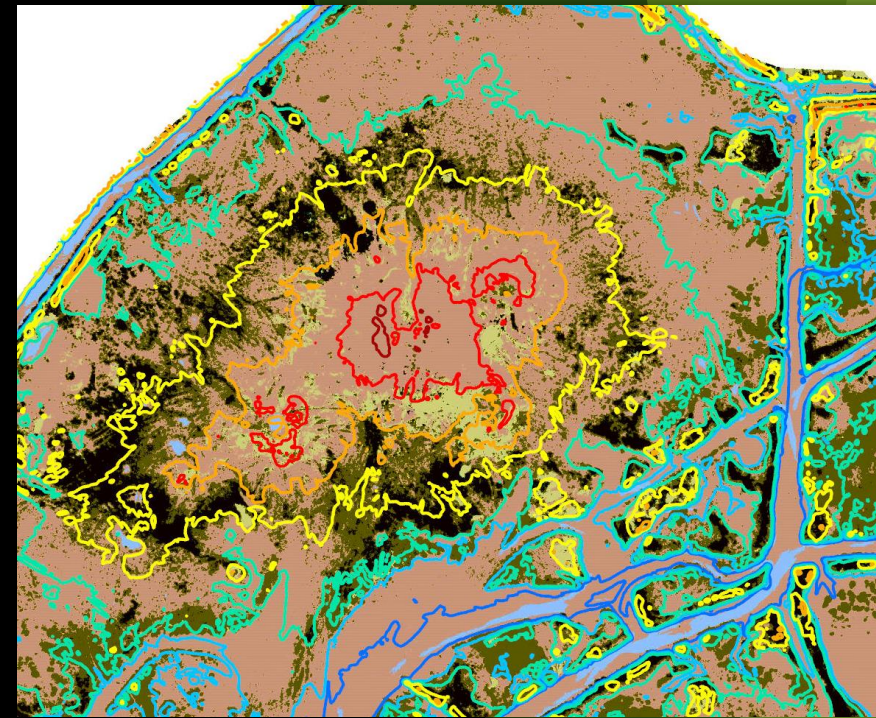


IN AREAS WHERE WE MET OR EXCEEDED TARGET ELEVATION...

- Native vegetation is positively responding to changes in elevation, recruiting well between 2 - 3ft NAVD88
 - Primarily high marsh spp., some low marsh spp.
- Phragmites appears to be establishing between 4 - 5ft NAV88
- Minimal vegetative response > 5ft NAVD88

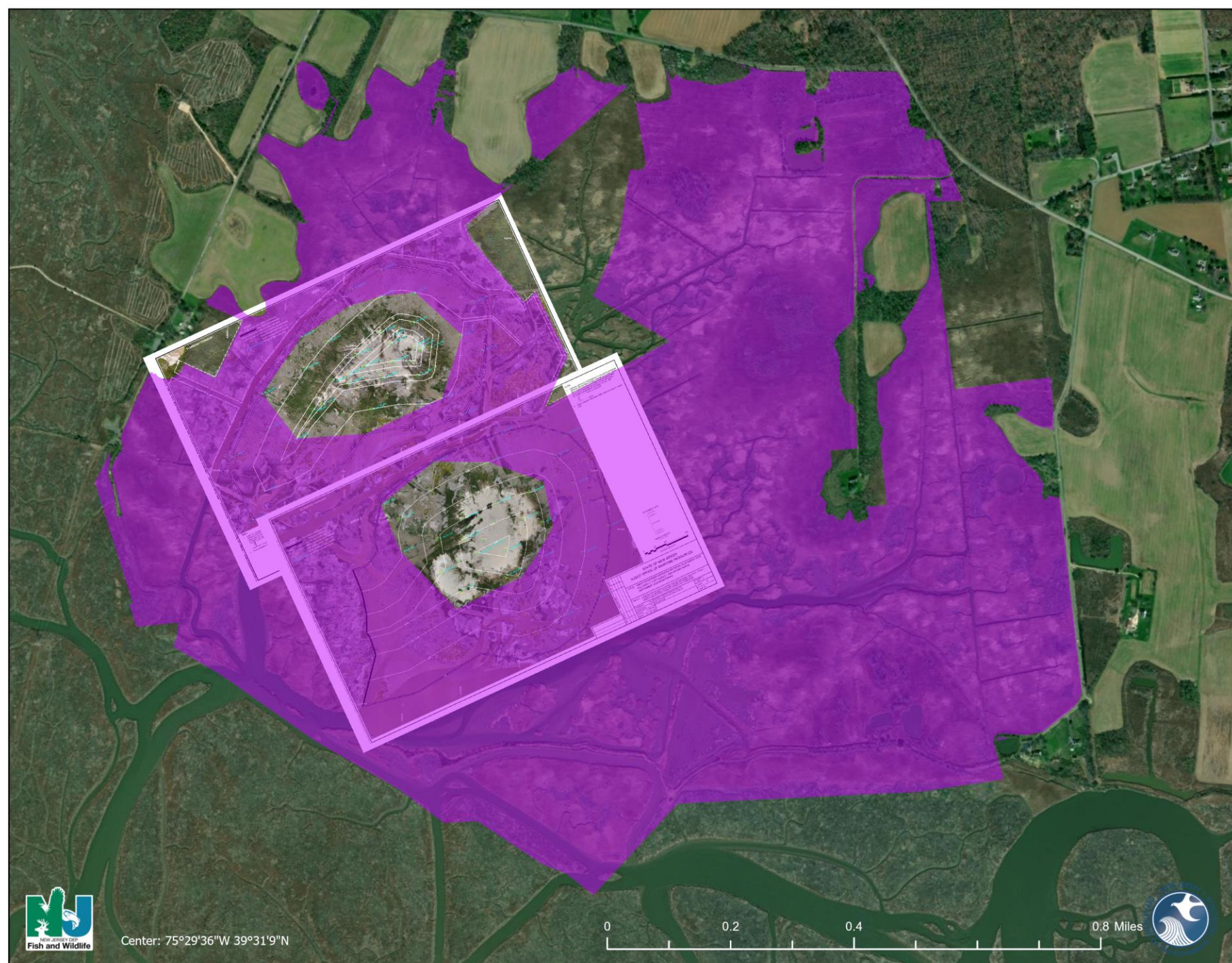
SUGGESTED ADAPTIVE MANAGEMENT

- Cease herbicide treatments at elevations > 2ft NAVD88
- Monitor phragmites recruitment in these areas, and prepare to make applications with higher resolution equipment (Marsh Master, Backpack Sprayers, etc.)
- Consider augmenting with coastal scrub/shrub plantings >4ft NAVD88



Phragmites Treatment Area

- 63 acres removed from original treatment area
- 7.2% of original 869 acres



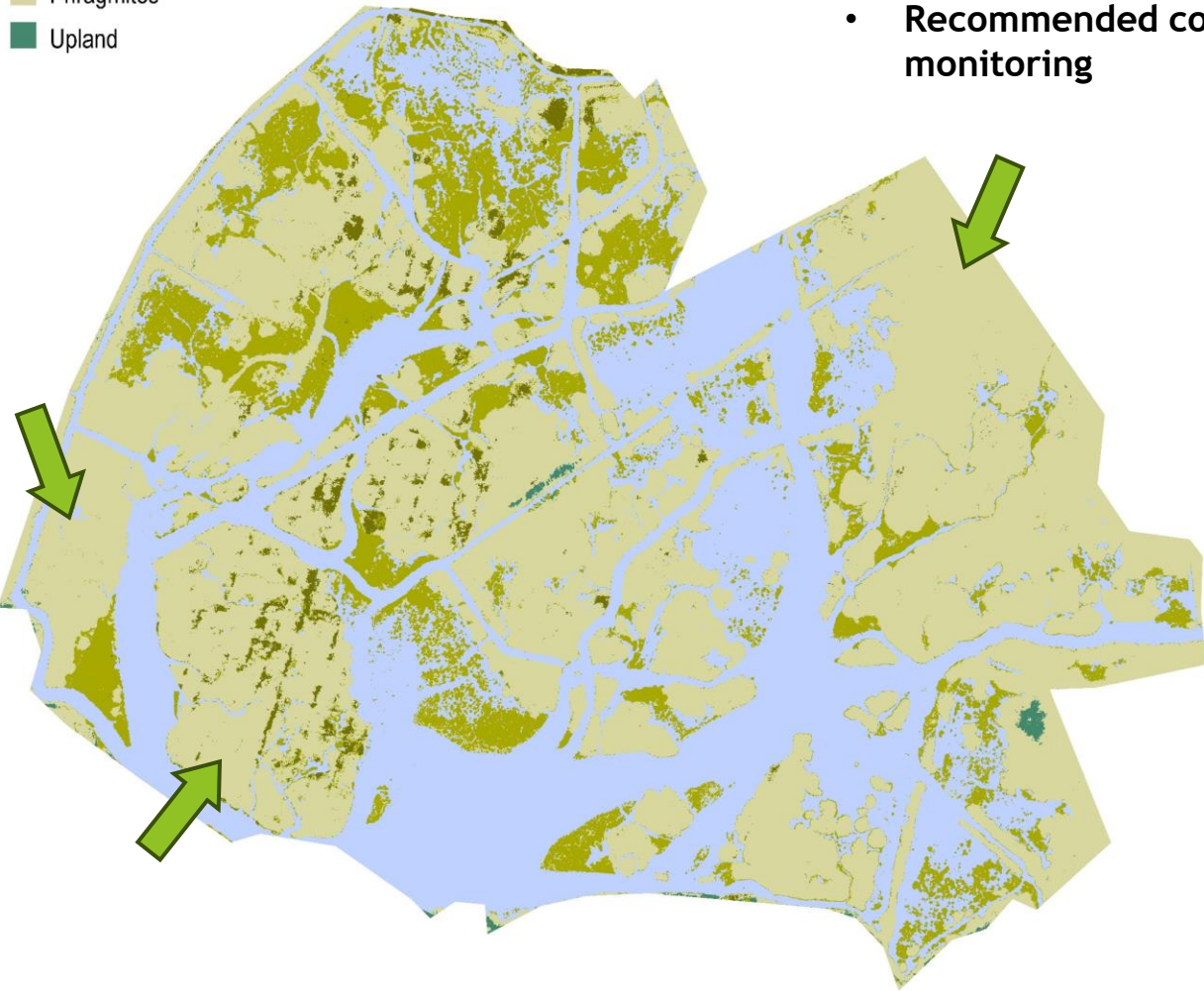
Legend

- Water
- Bare Earth/ Mudflat
- Low Marsh
- High Marsh
- Phragmites
- Upland

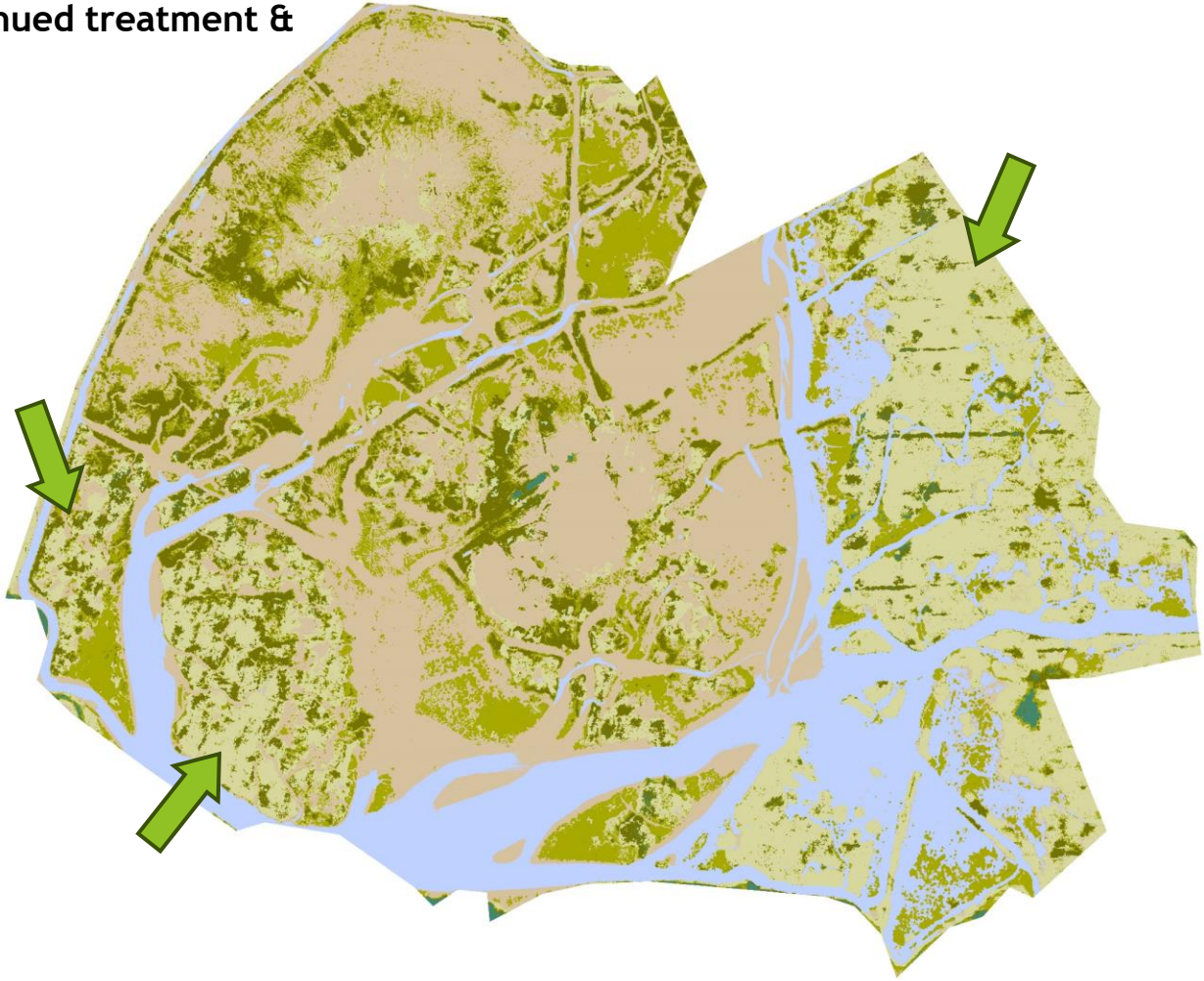
AREAS WHERE WE DID NOT MEET TARGET ELEVATIONS / AREAS THAT RECEIVED NO SEDIMENT

1. Phragmites Monocultures

- Response favorable to native vegetation
- Recommended continued treatment & monitoring



2023 UAV Land Cover



2024 UAV Land Cover



Legend

- Water
- Bare Earth/ Mudflat
- Low Marsh
- High Marsh
- Phragmites
- Upland

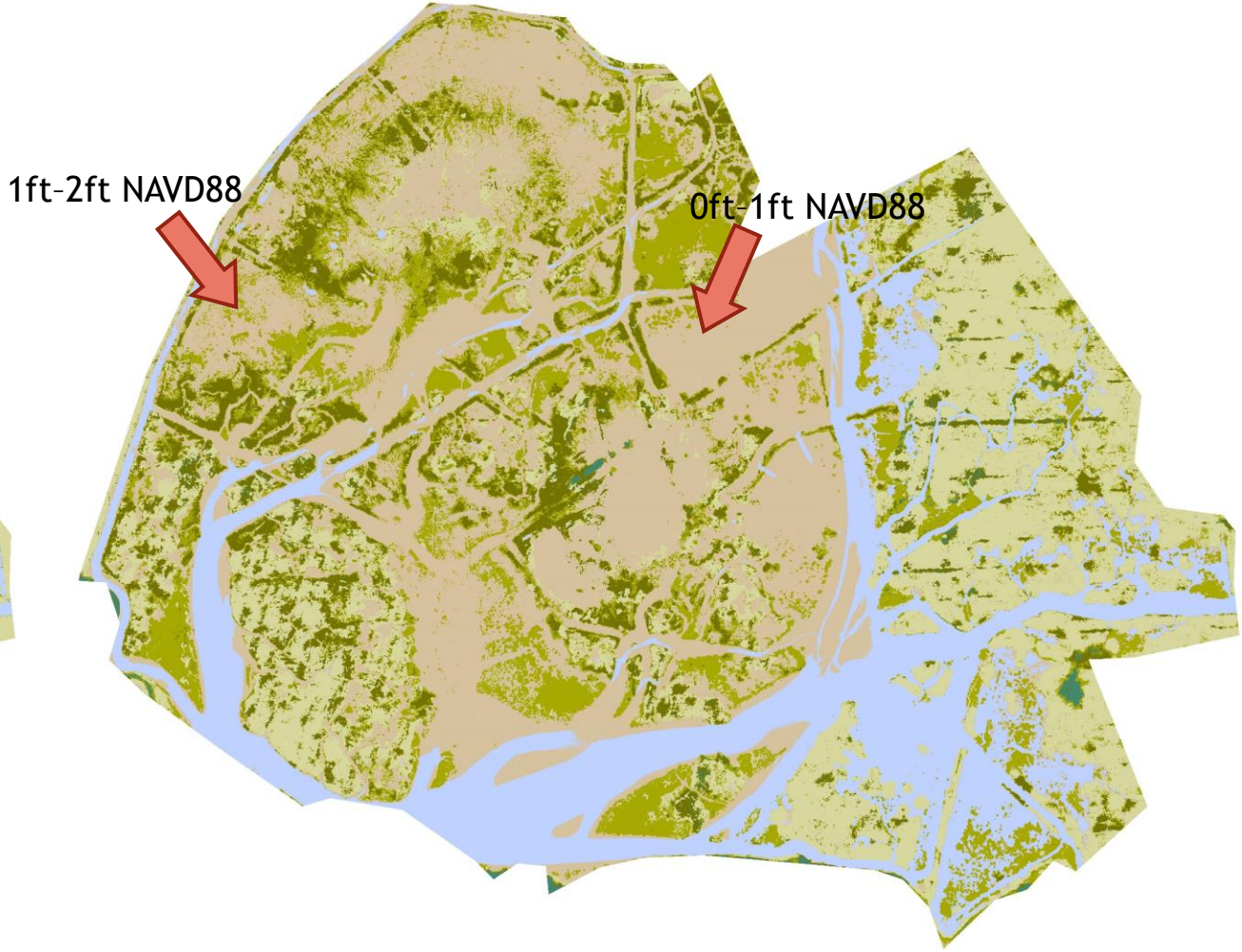
AREAS WHERE WE DID NOT MEET TARGET ELEVATIONS / AREAS THAT RECEIVED NO SEDIMENT

2. Bare Earth/Mudflat (areas formerly open waters or sporadic low marsh)

- Impacts of Treatment Undetermined, more information needed



2023 UAV Land Cover

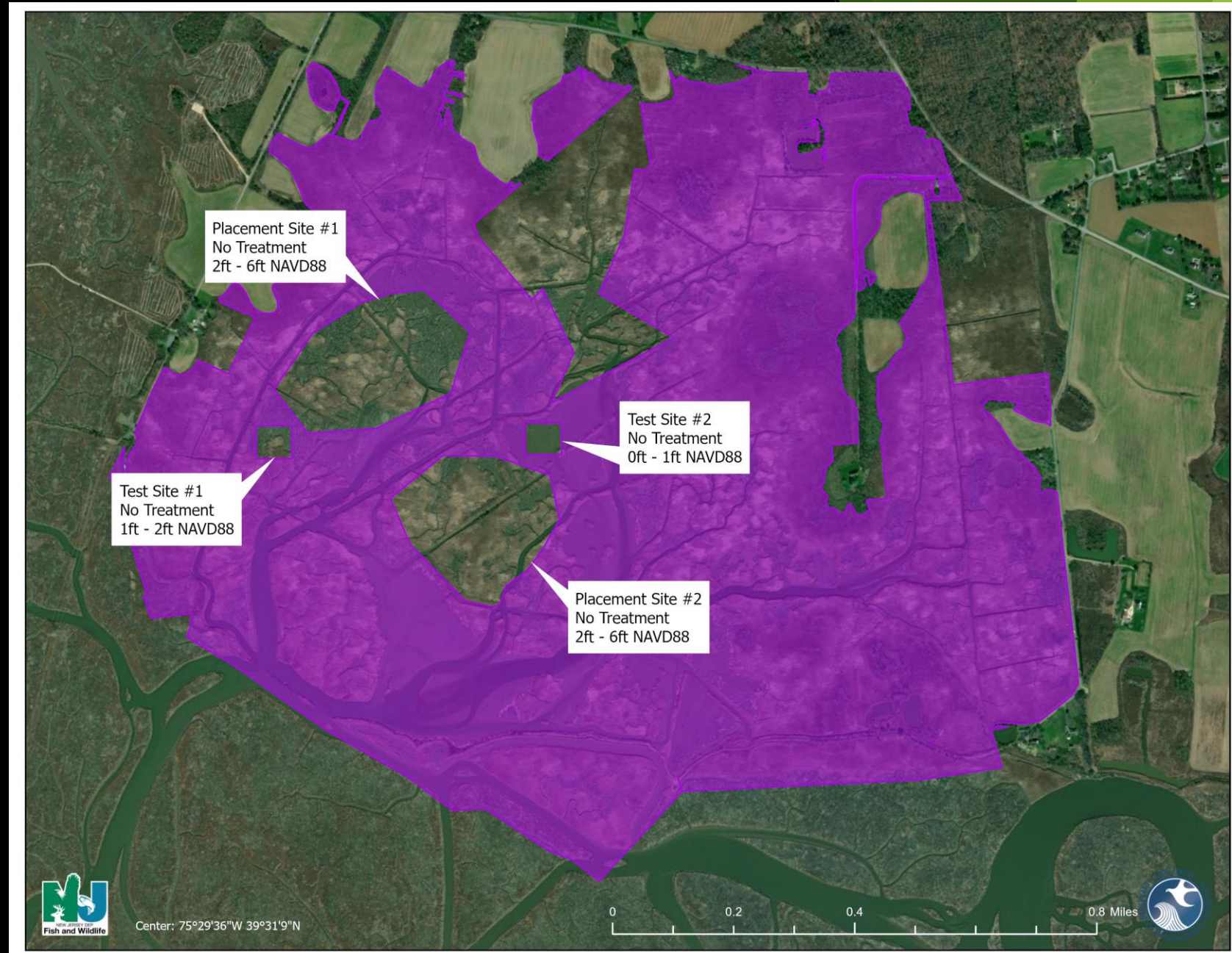


2024 UAV Land Cover



2025 Phragmites Treatment Area

- 68 acres removed from original treatment area, 801 acres total
- No Treatment in Placement Site #1 and Placement Site #2, where elevation appears to be managing vegetation.
 - Potential to revisit with fine scale phragmites treatments at higher elevations.
- Continuation of Phragmites treatments across the remainder of the site as treatment appears to favor native saltmarsh vegetation.
 - Two 2-acre Test Sites between 0ft and 2ft NAVD88 to test the response of mudflat areas to No-Treatment conditions.





Questions?