

A novel geospatial living shoreline site suitability decision support tool that incorporates future conditions based upon locally derived sea-level rise scenarios

Lead Project Investigator: Randall W. Parkinson, Ph.D., P.G. (rparkins@fiu.edu)

Co-Investigators: Zhaohui Jennifer Fu, Levente Juhasz, Ph.D., and Jinwen Xu, Ph.D.

Florida International University, Miami, Florida

Sponsor: The US EPA Region 4 Wetland Development Program

Coastal Habitat Integrated Mapping and Monitoring Program & Mangrove Working Group

Florida Fish and Wildlife Research Institute, St. Petersburg, Florida

January 16-17, 2024



Application examples:

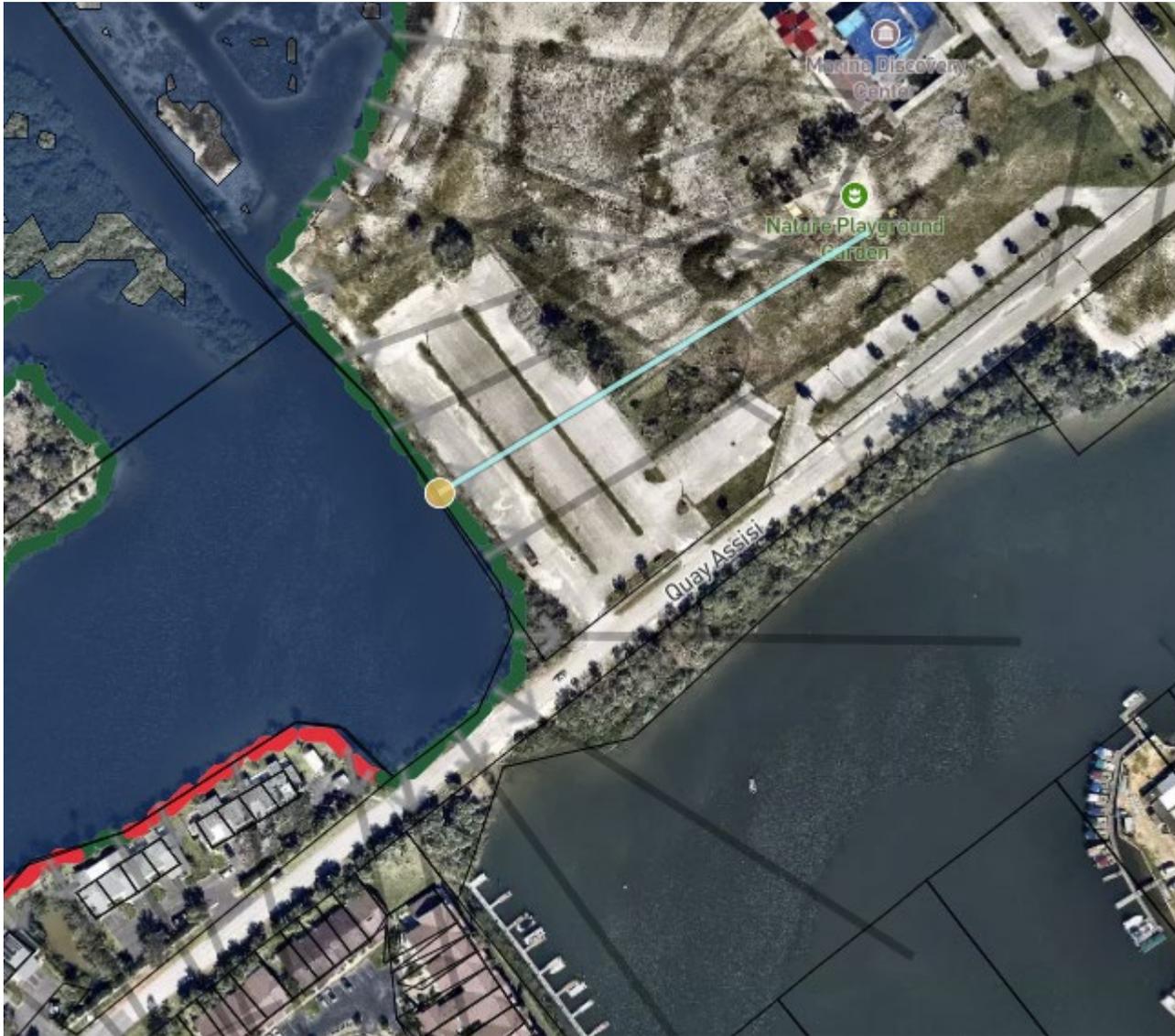
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|--|-----------------------|
| 1. Brevard County: existing installation. | 28.089228, -80.576581 |
| 2. Volusia County: shoreline restoration. | 29.03479, -80.91970 |
| 3. Indian River County: resource management. | 27.796903, -80.432367 |

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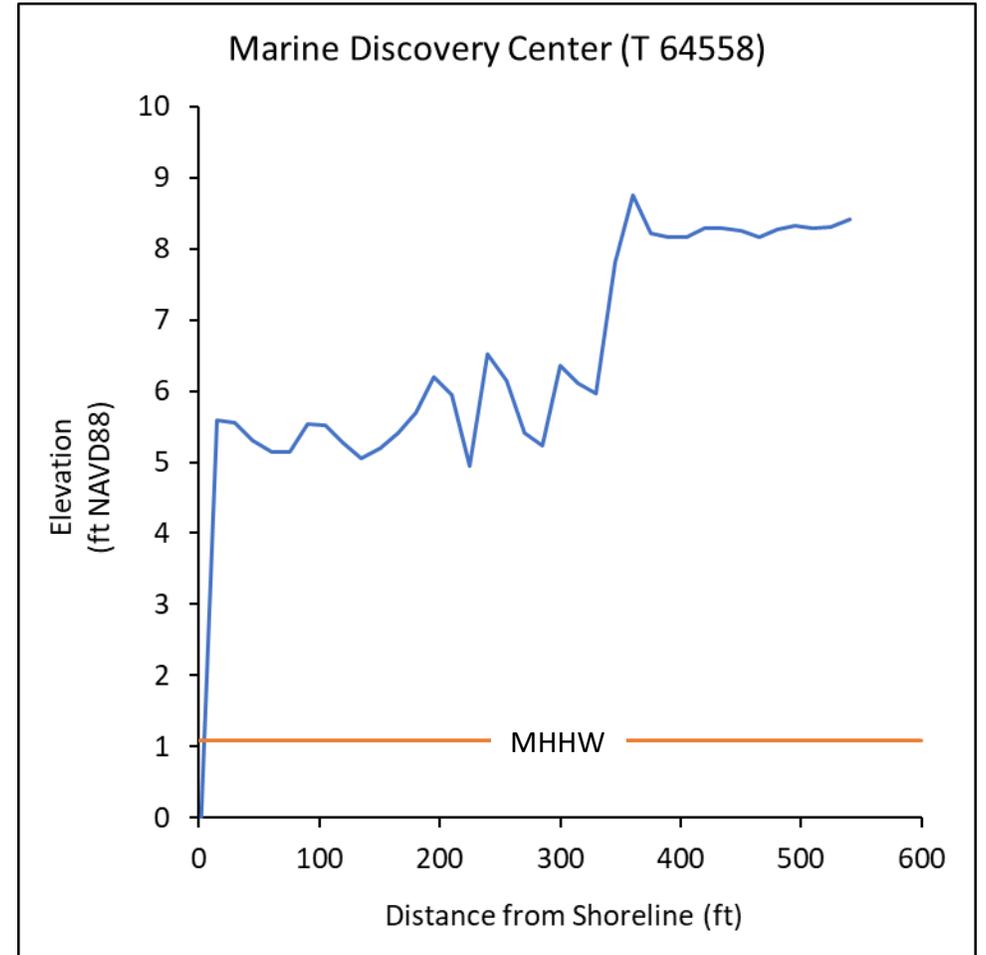
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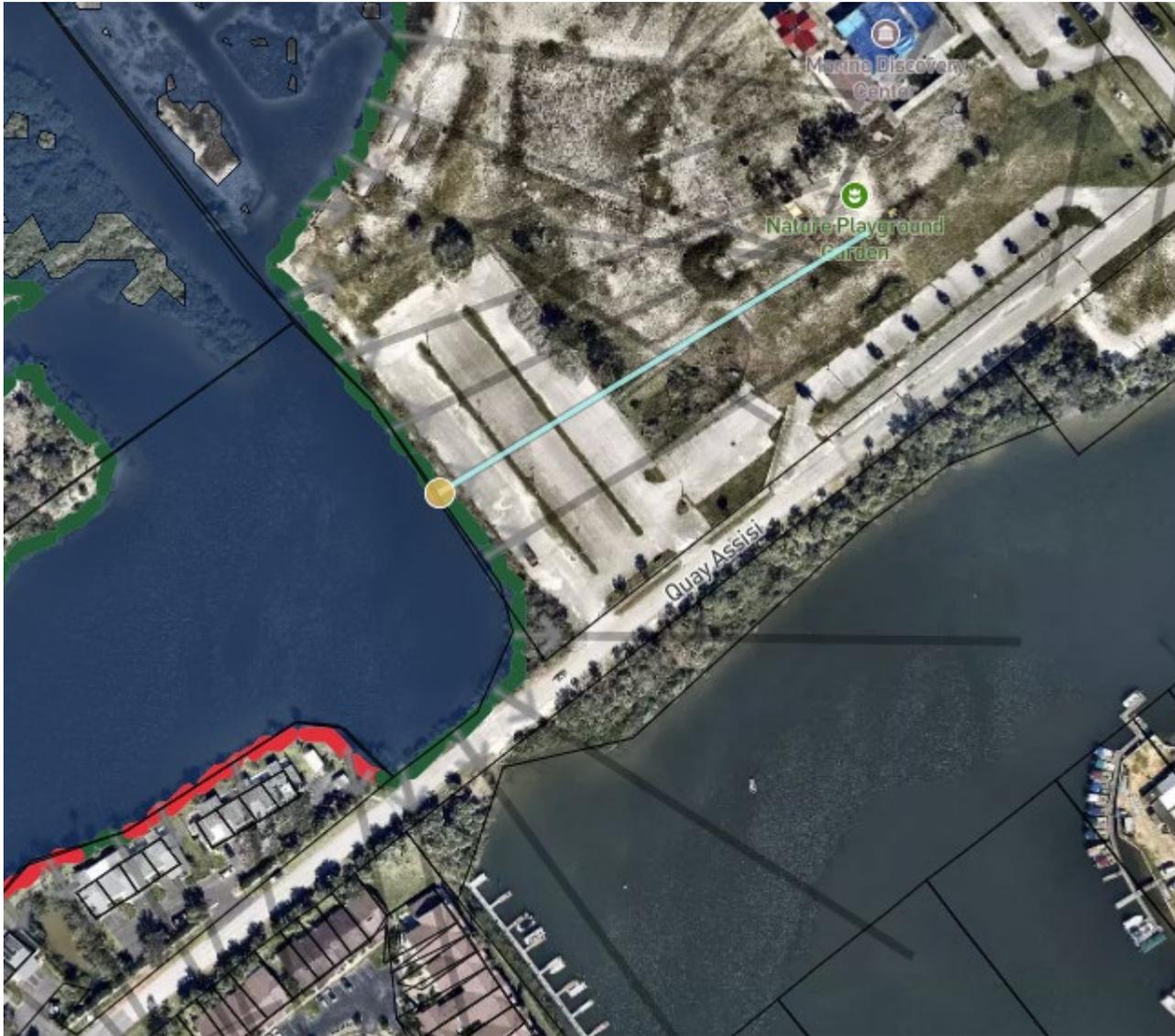
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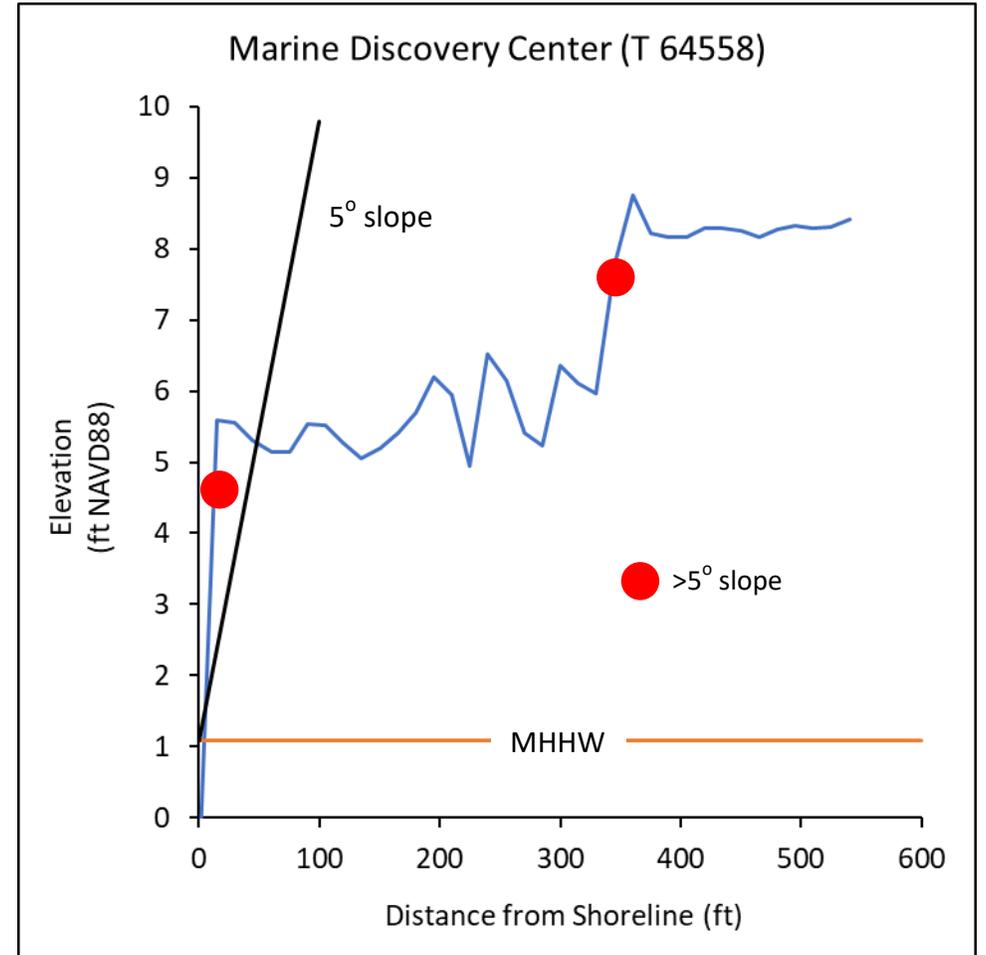
Volusia County



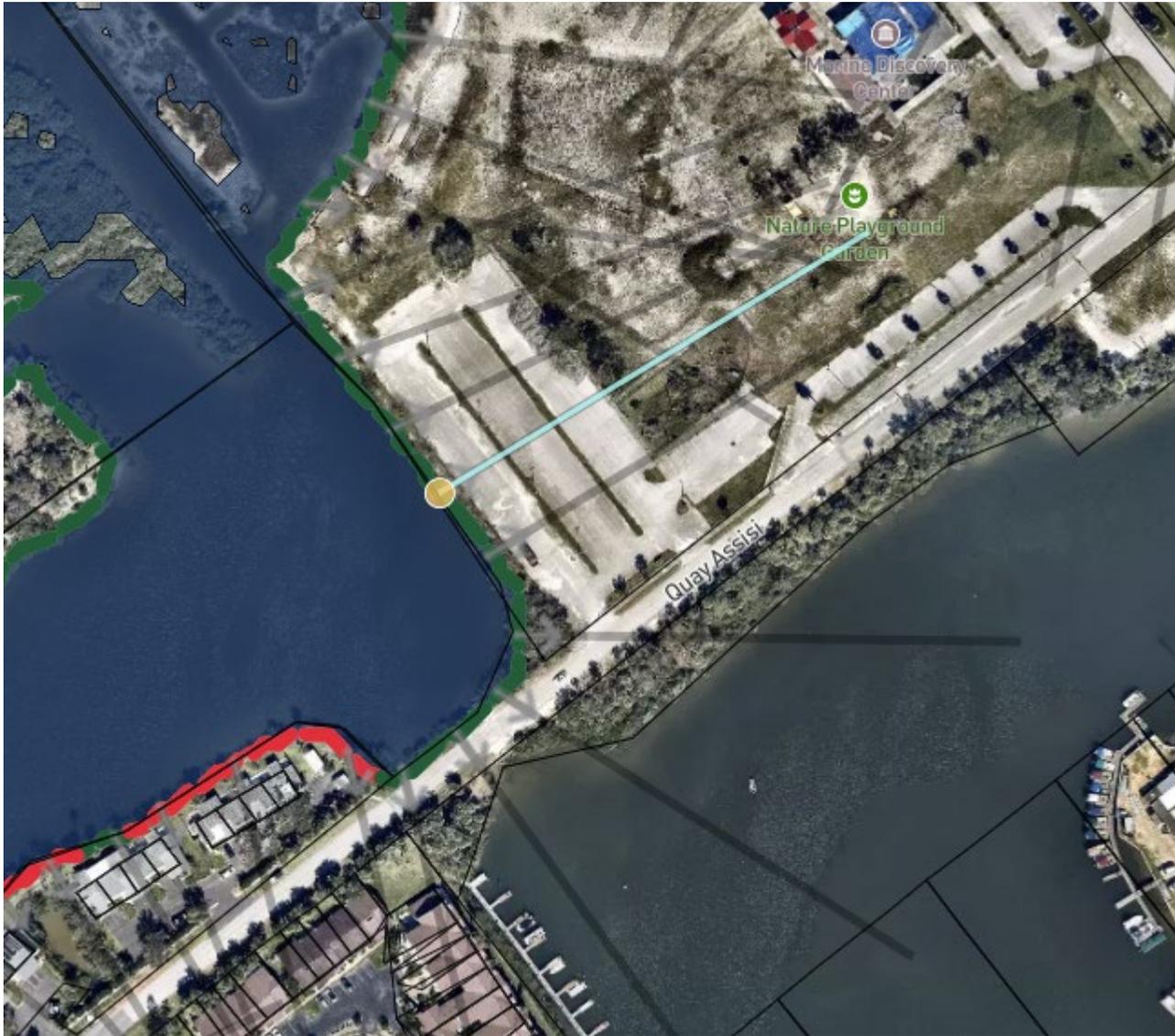
Elevation profile



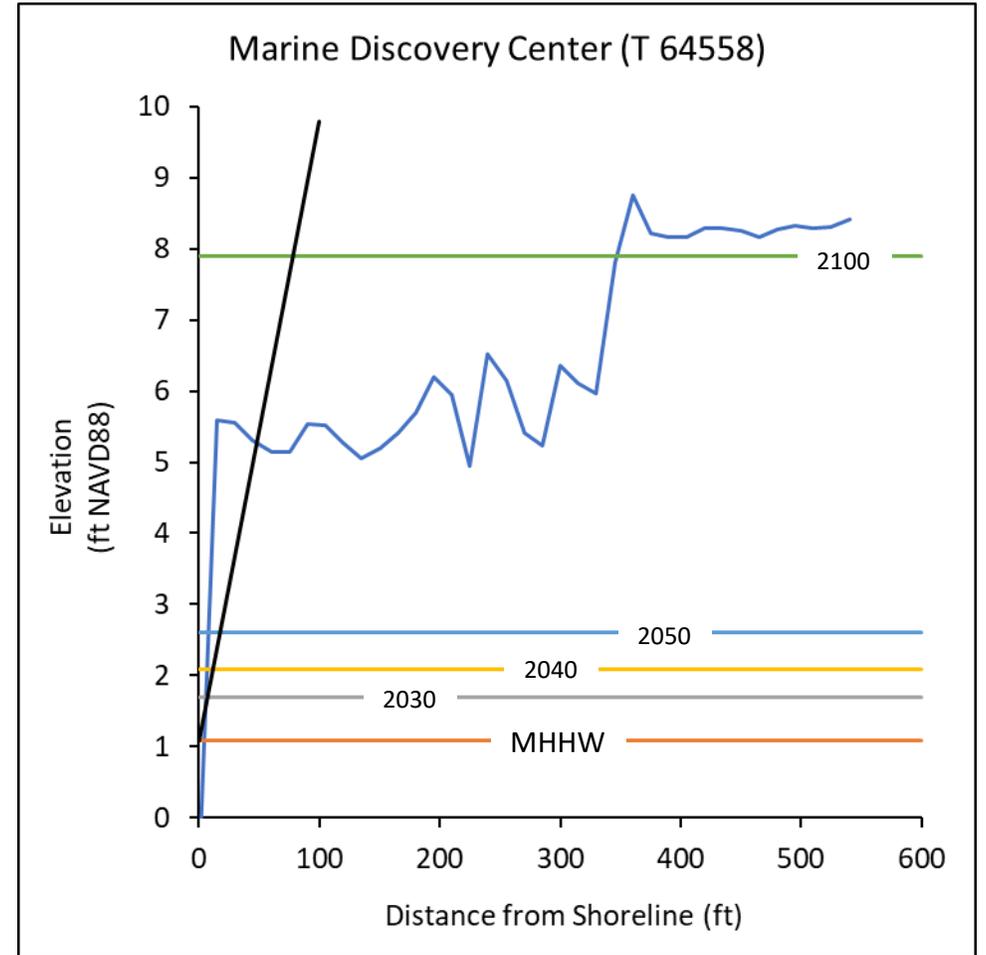
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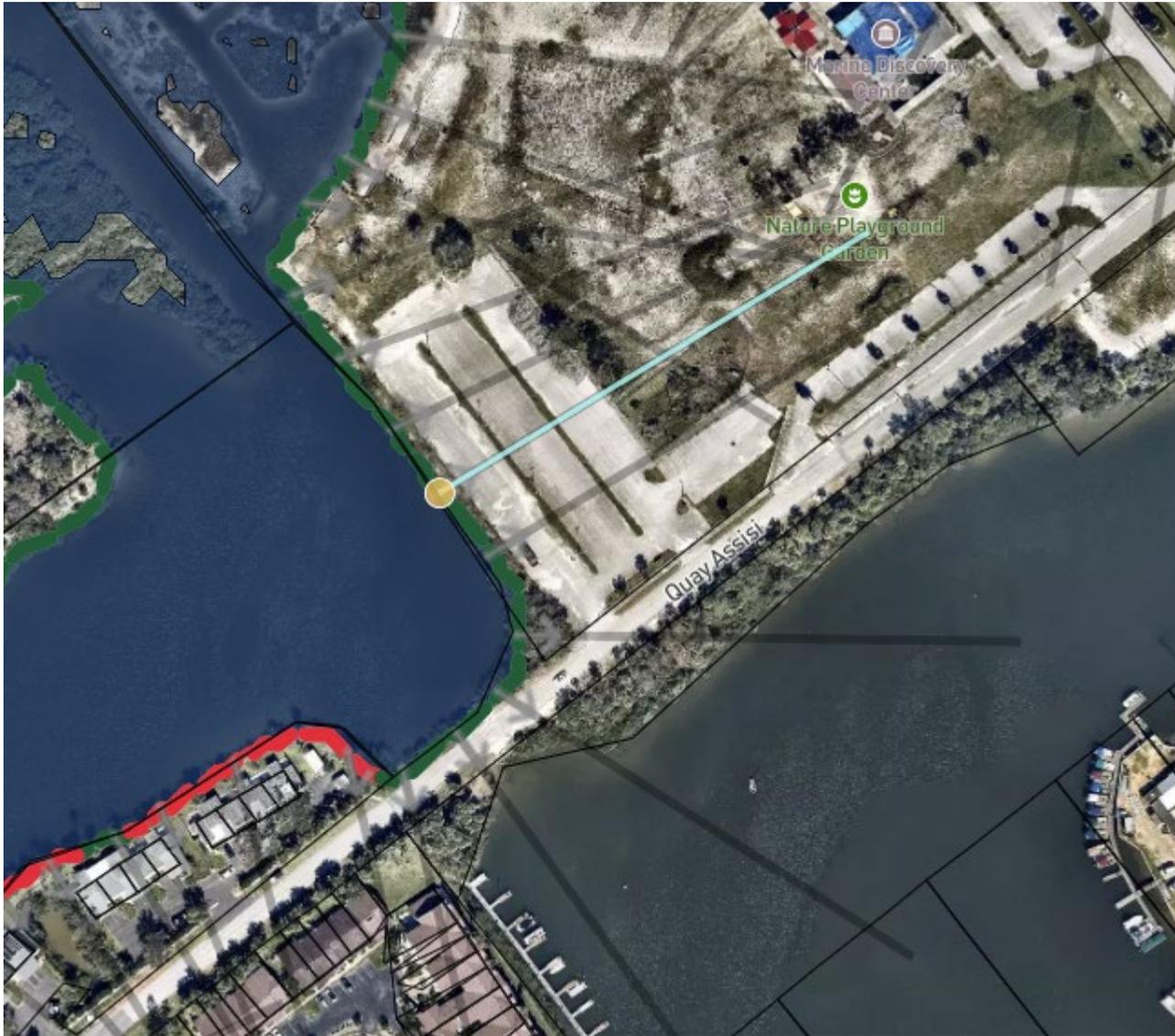
Profile slopes



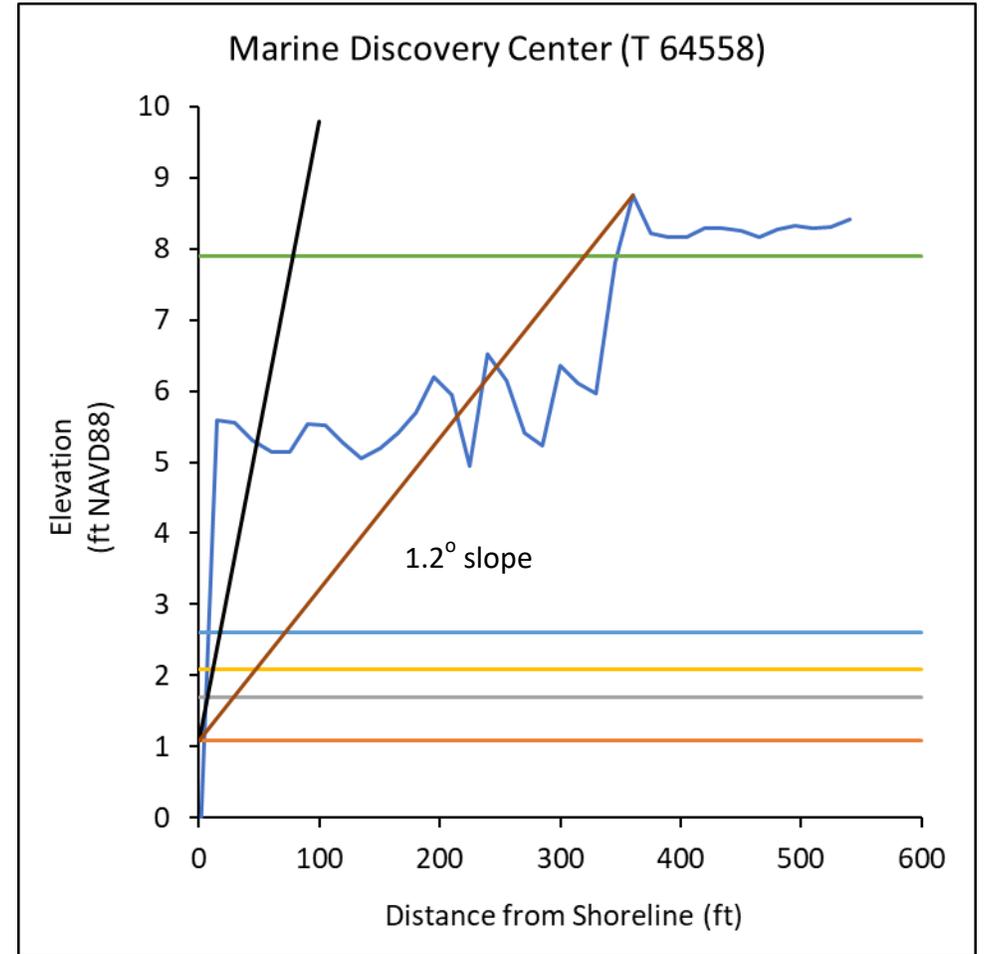
Volusia County



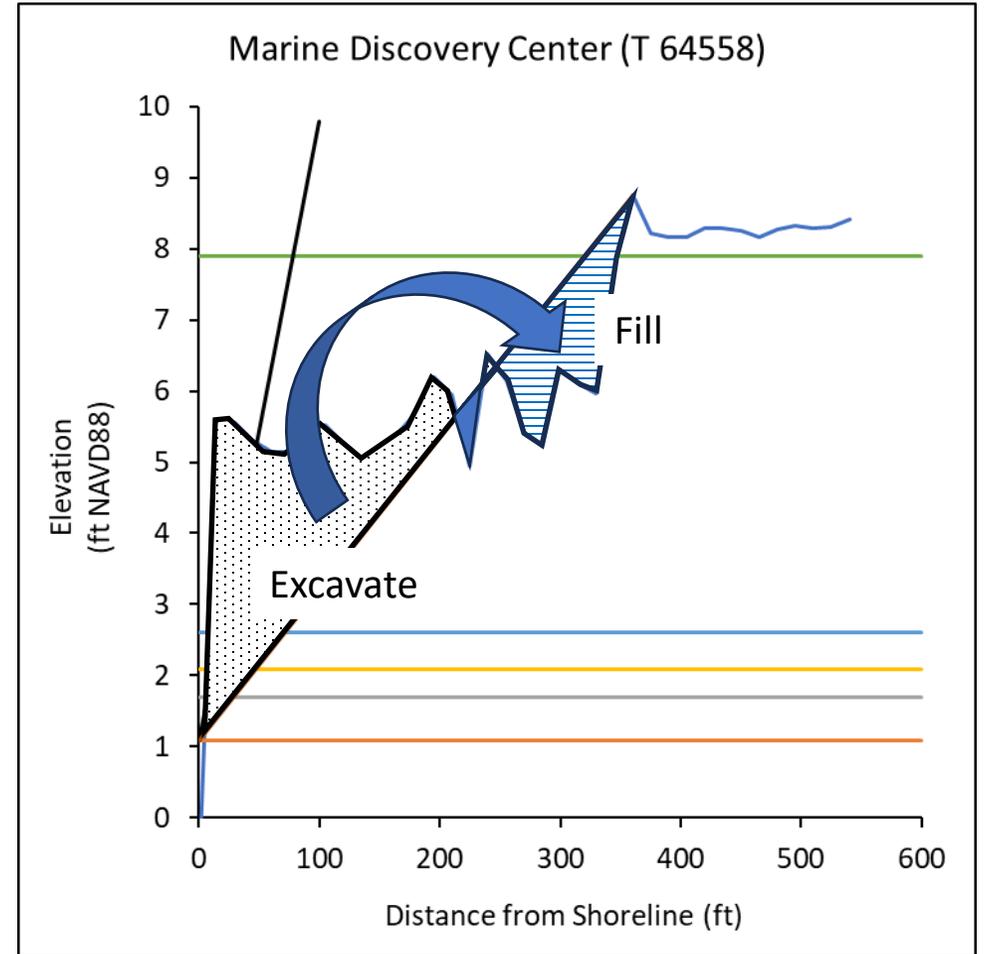
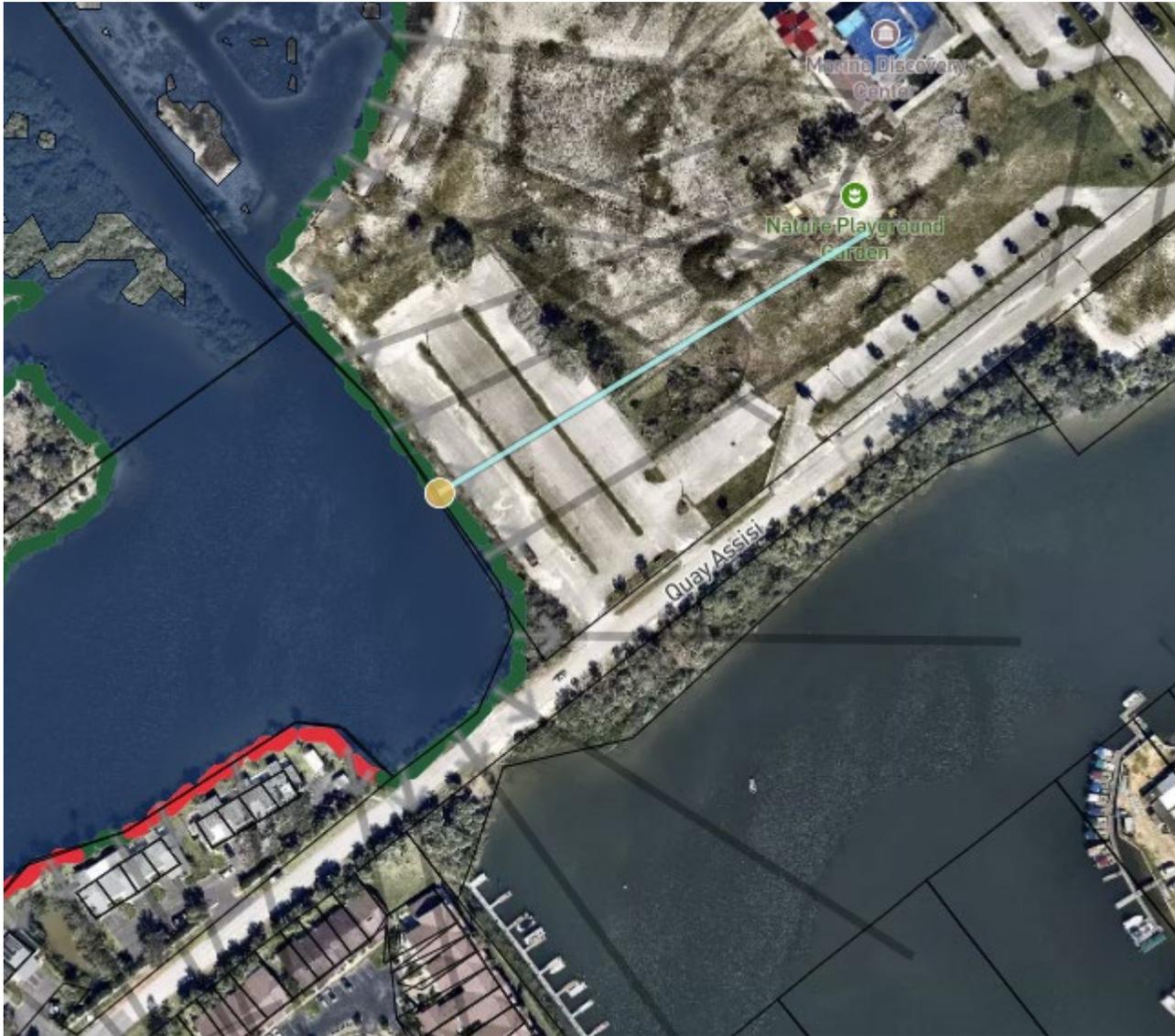
MHHW elevation time steps



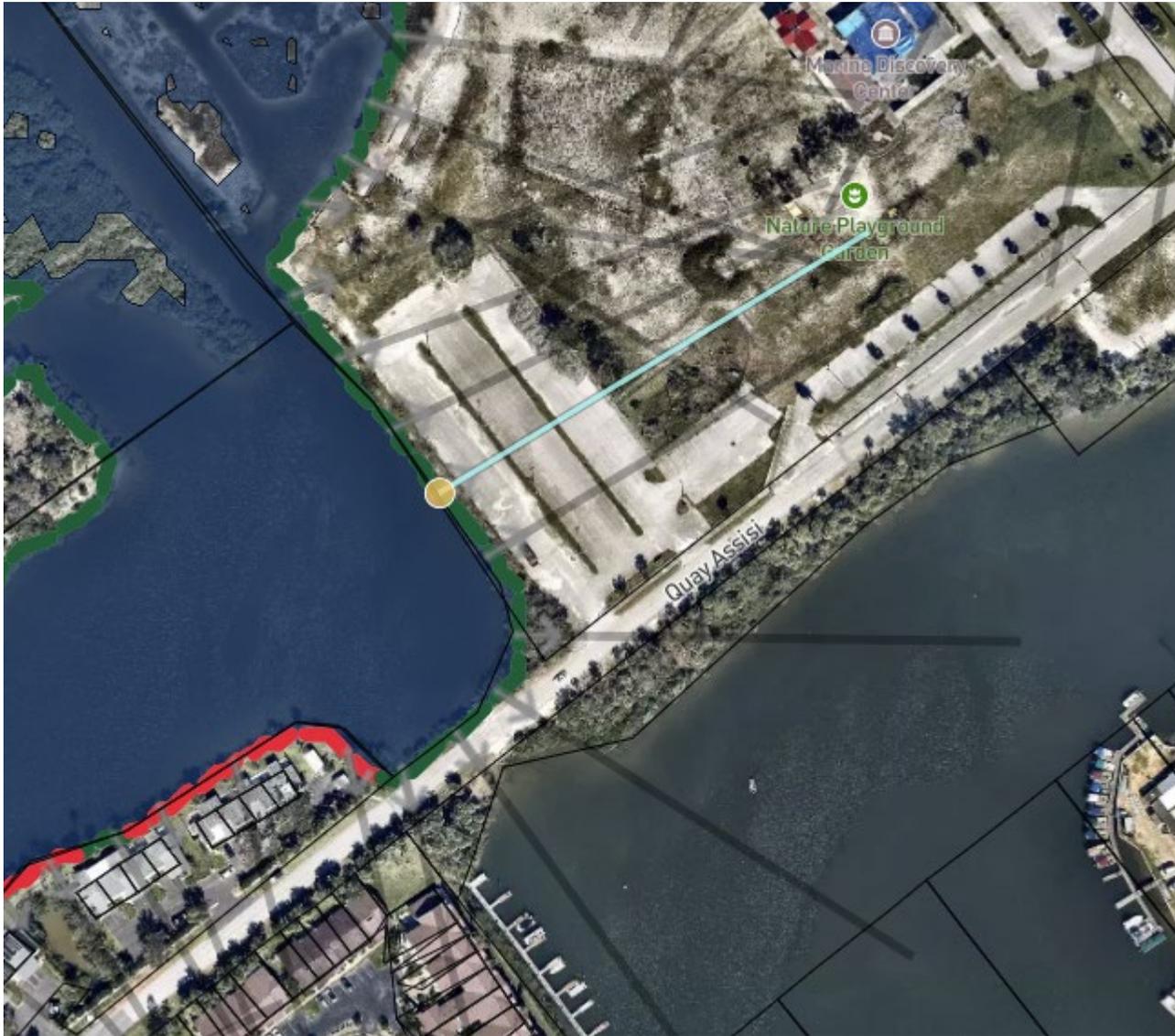
Volusia County



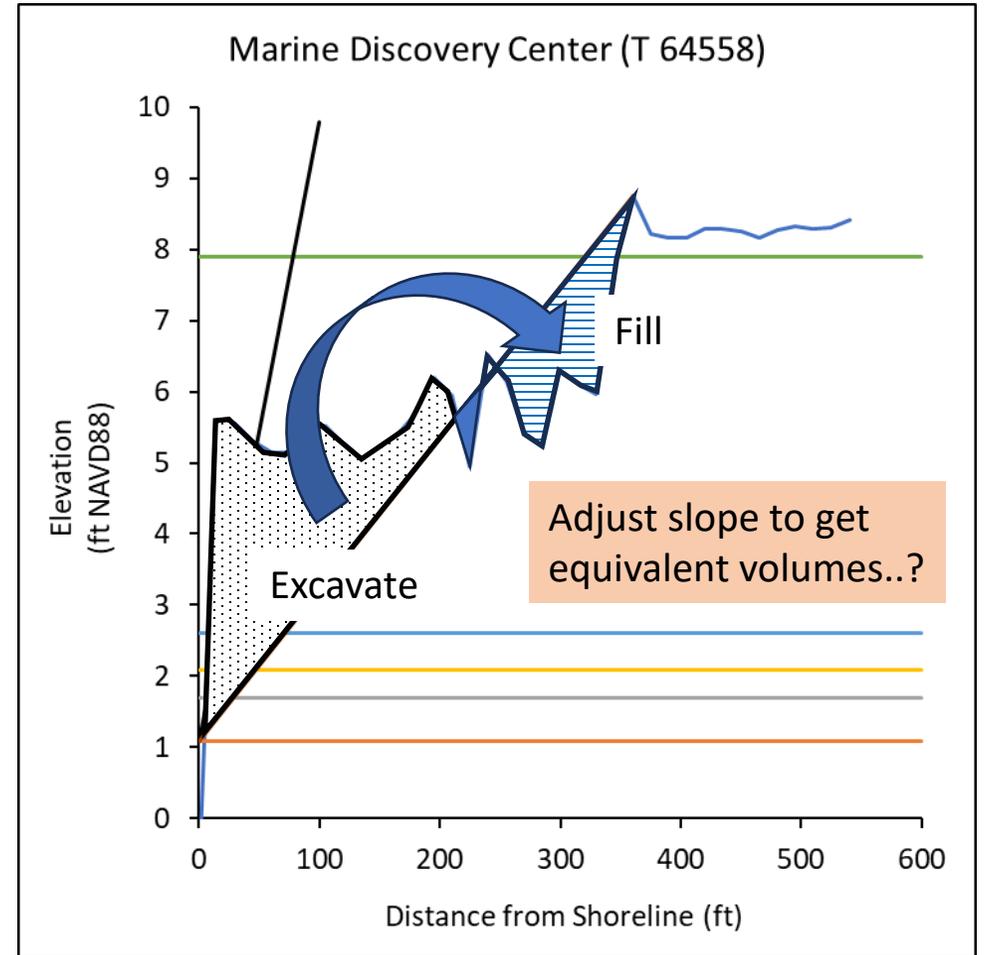
Potential slope of new shoreline



Volusia County



Volusia County



Restoration applications include:

1. Shoreline restoration (above)
2. Fill and disposal areas (above)

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Future work

1. Plan to submit another WDP grant for a Phase II to include attributes identified by partners as helpful in the design and permitting of installations, such as:
 - a. Bathymetry
 - b. Sea grass
 - c. Alternate elevation datums (e.g., MHW)
2. Looking for other partners and watersheds to which the tool can be readily customized

Thank you.

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