

Beach Nourishment on Wisconsin Point

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Project Manager

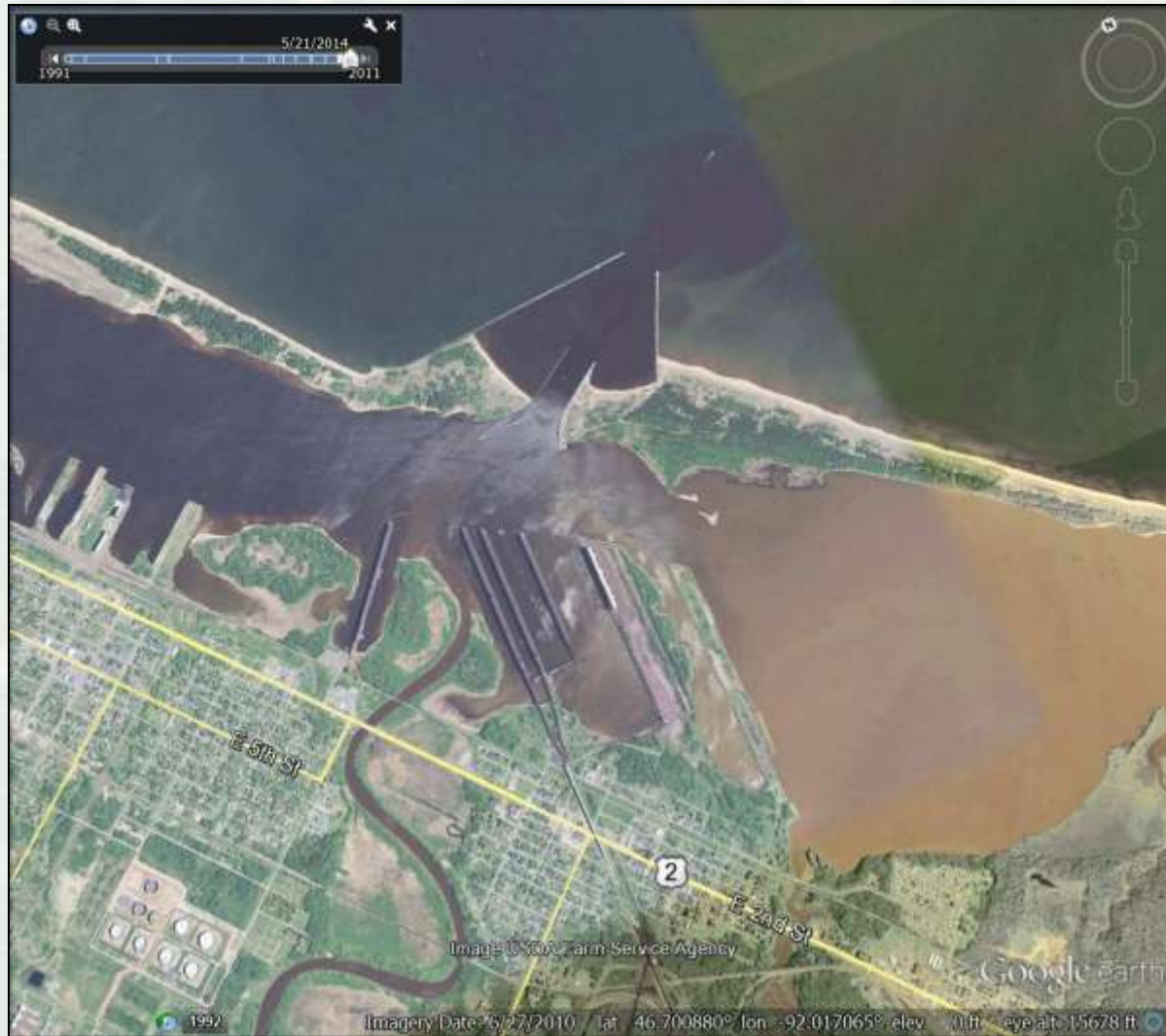
U.S. Army Engineer District, Detroit

November 2014



US Army Corps of Engineers
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Superior Entry



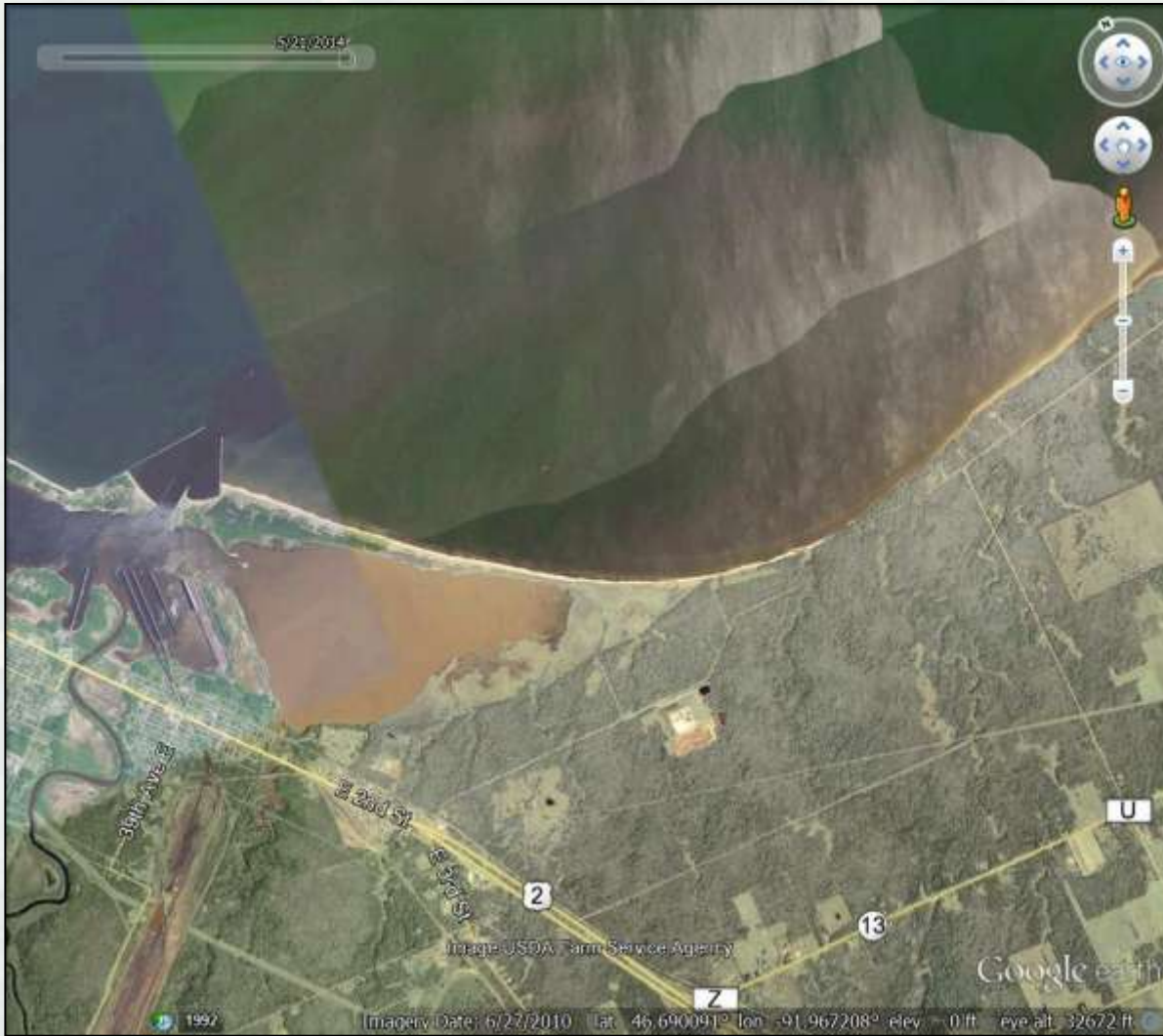
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Piping Plover Habitat

- Important for AoC delisting.
- Have been observed each year but do not nest.
- Issues with dog walking along the beach.
- Beach needs to be wider. Birds need a certain distance between waterline and treeline.



Wisconsin Point



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Duluth-Superior Harbor Dredged Material



Sand



Plastic Clay Material



Mix of silts, organics,
and some sand

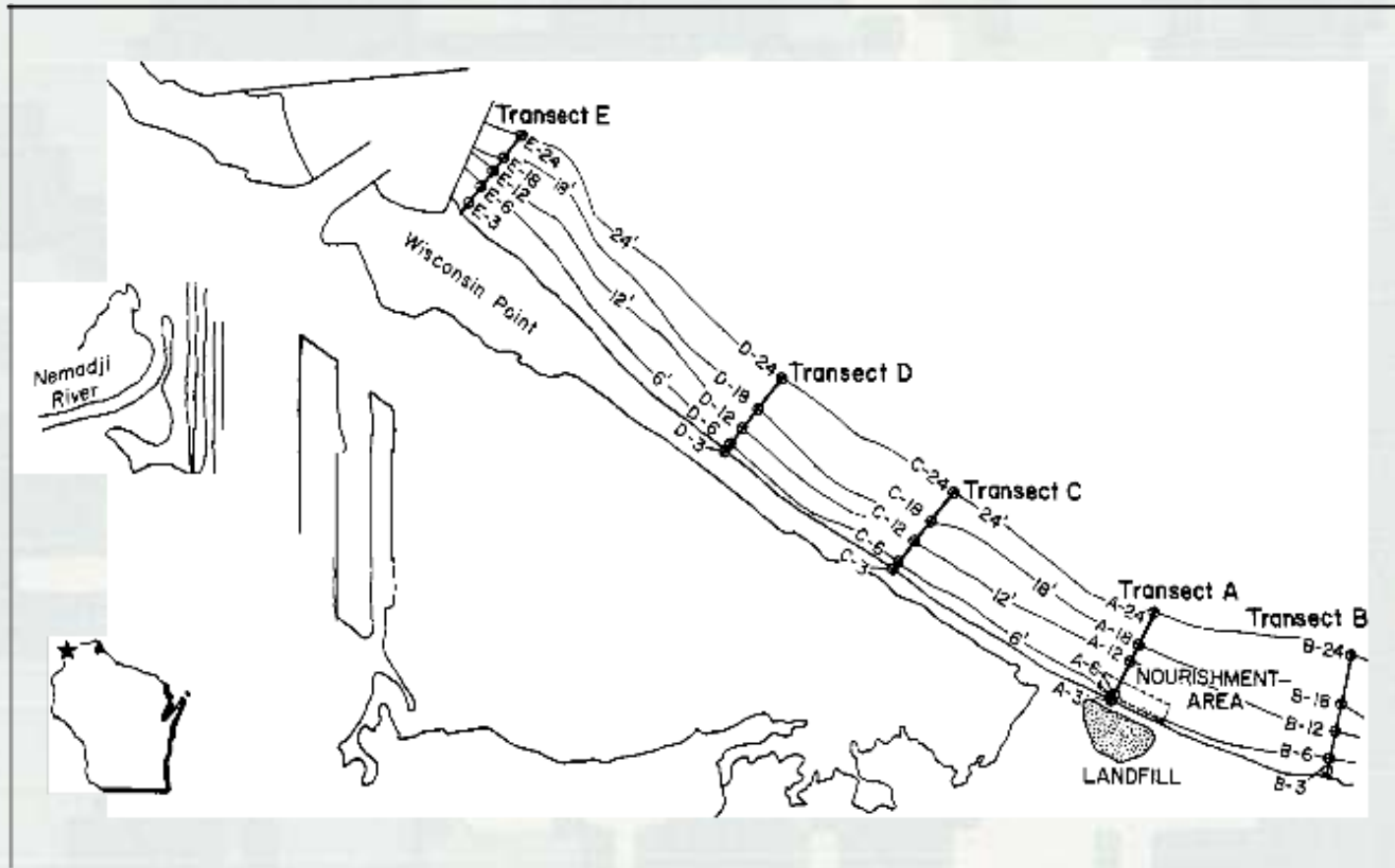


Mechanical Dredging with a Clamshell Bucket



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Wisconsin Demonstration Project 1980's



“SUMMARY AND CONCLUSIONS-----

Deposition of dredged material in the near shore area resulted in a significant gain of material in the beach and near shore area, which lasted at least until studies were discontinued (7 months). During the post-nourishment period, wave height appeared to be reduced by nourishment fill and waves broke farther offshore than along control areas of the beach. This buildup affected near shore processes and apparently caused additional deposition of material in adjacent beach areas. Hundreds of thousands of cubic yards of new beach material built up to the east of the project site after the project was completed, far exceeding the amount of material used in the treatment. This was caused for the most part by the offshore breakwater effect created by the deposited dredge spoil.”

-Wisconsin Technical Bulletin No. 157



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2014 WDNR Particle Size Sampling

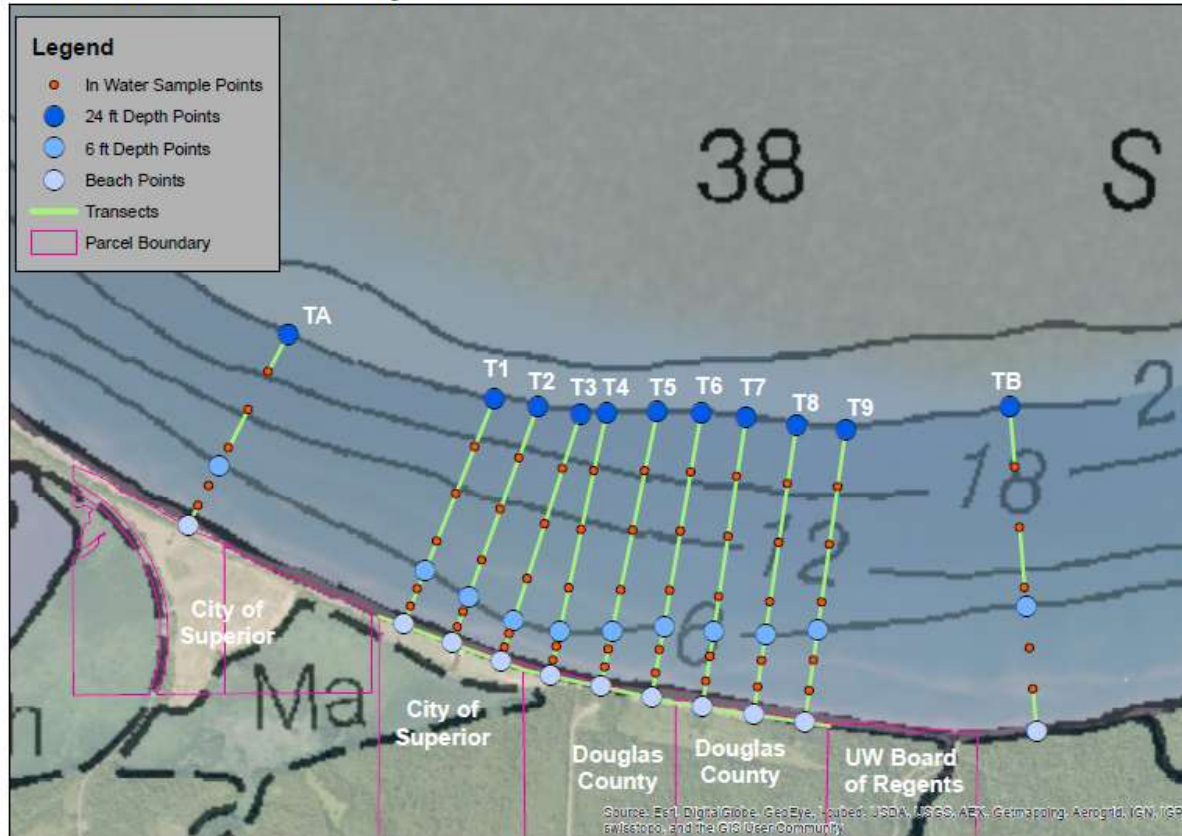
Shafer Beach Piping Plover Beach Nourishment Project Site

2,200 Feet



Legend

- In Water Sample Points
- 24 ft Depth Points
- 6 ft Depth Points
- Beach Points
- Transects
- Parcel Boundary



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Groin Placement at Wisconsin Point



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Google earth

1992

Imagery Date: 8/28/2010 lat 46.683910° lon -91.949157° elev 591 ft eye alt 5115 ft



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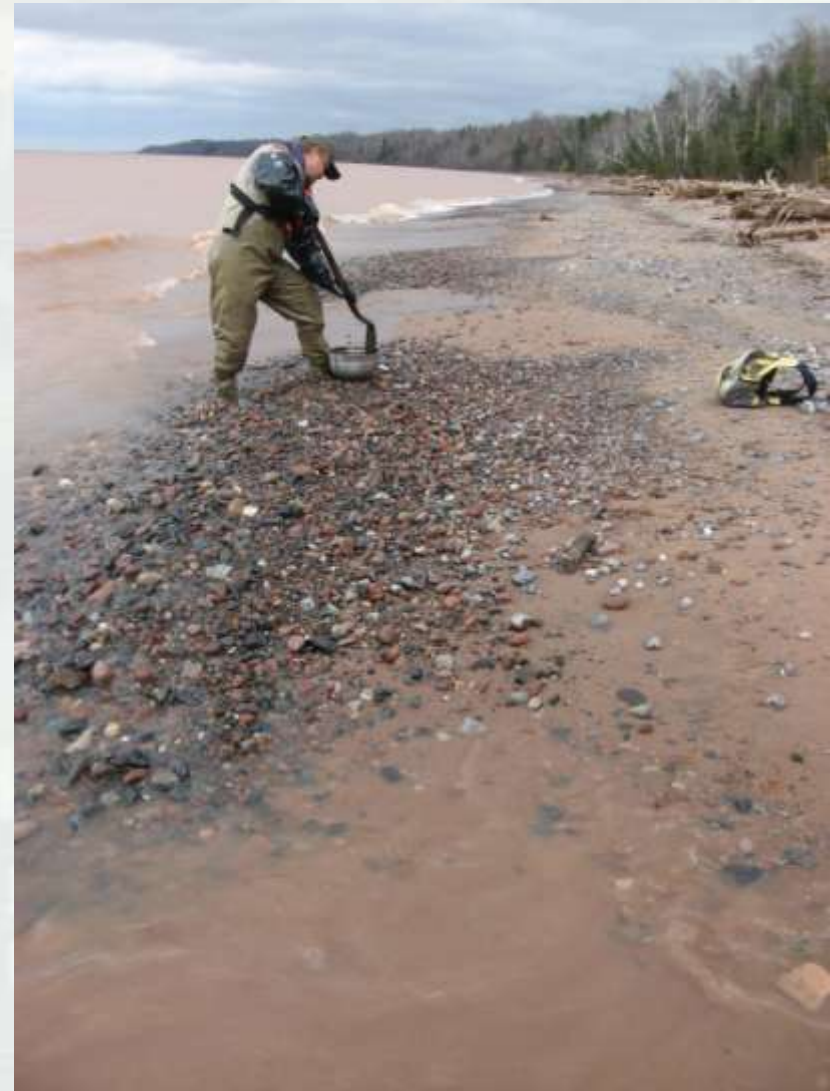
Submerged Breakwaters



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