

RSM FY12 IPR

Detroit District, St. Joseph Nearshore Feeder Berm

Description/Challenge

- Material dredged from the inner harbor contains a small amount of fines (~10%). The remainder of the material is beach suitable sand.
- Because of the fines, some of the material must be disposed of upland, resulting in a loss of material to the littoral zone and increased costs.

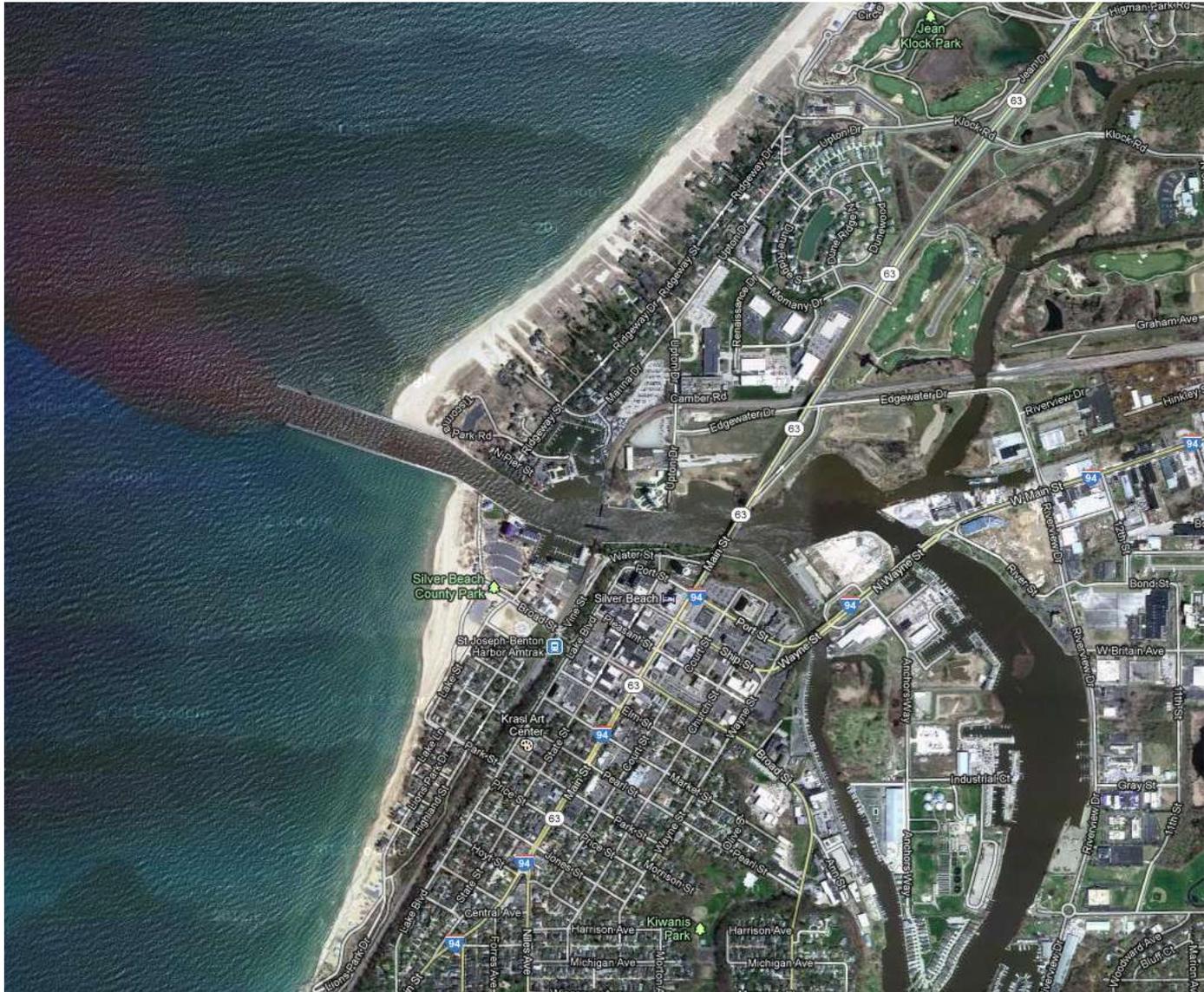
Goals/Issues to Address

- Find a suitable way of placing inner-harbor material in the littoral zone such that the fines will winnow away while the sand is moved shoreward.
- Placing the material on the beach or upland is expensive, we want to place the material in the nearshore and make our O&M funding go further.



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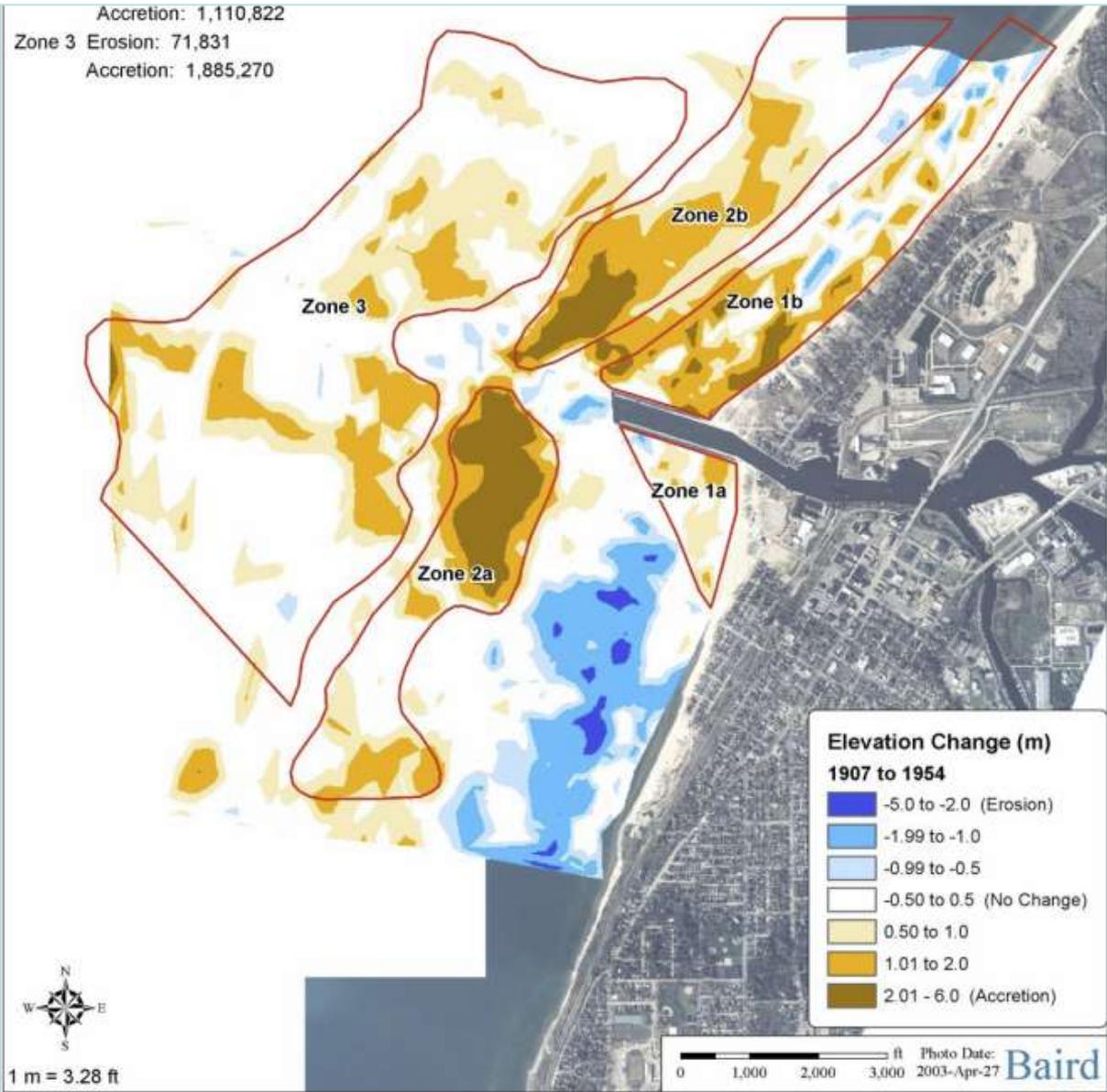


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District, RSM Activity Title

District PDT Members

- Jim Selegean, H&H
- Greg Mausolf, H&H
- Molly Mahoney, O&M

Stakeholders and Partners

- Chris Antieau, MDEQ – makes the decision as to whether material can be place in open water

Leveraging/Collaborative Opportunities

- Funding
- Data
- Tools
- Models
- Other Projects, Programs, Partners, etc

Milestones/Deliverables

- Build relationship with MDEQ decision makers (\$15k) – 100% complete
- Attend RSM workshop (\$10k) – 100% complete

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Approach

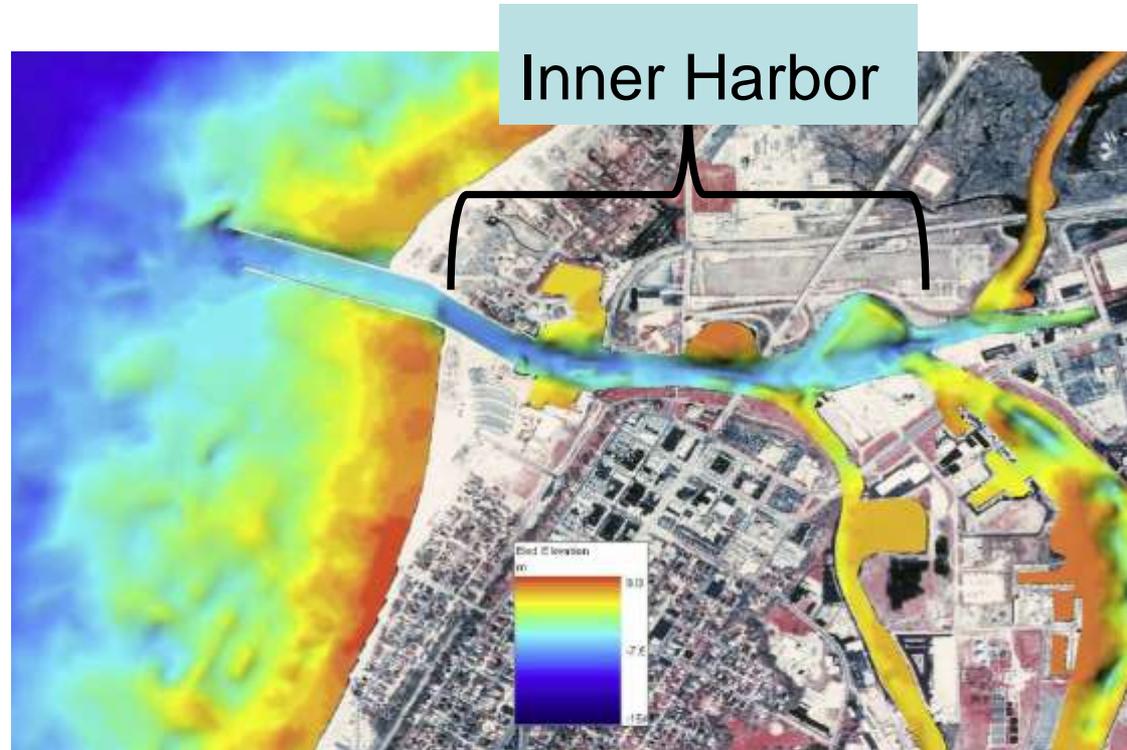
- Working towards a demonstration project to place inner harbor material in the nearshore as a feeder-berm.

Models, Tools, Databases, etc Used

- CMS
- LiDAR

Benefits to O&M, FRM, Environmental

- More sand will stay in the littoral zone
- O&M dredging disposal costs will be reduced if feeder-berm placement is allowed



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Opportunities to take action:

- Use waves to move sediment
- Improve efficiencies

Accomplishments

- Created a good working relationship with the state of Michigan
- Tentatively willing to allow a demonstration project to show that mixed dredged material can be placed in the nearshore and not cause significant problems.

Volume of Sediment Moved

2000	39,472	Beach OHWL to Shoreline
2001	36,897	Beach
2001	29,498	CDF
2002	27,117	Beach 4' Contour to OHWL
2003	10,440	Beach to Critical Shoals
2004	35,774	Beach to Critical Shoals
2005	48,089	Beach
2005	14,322	Airport
2006	24,612	Airport
2006	52,120	4' Contour to Shoreline
2007	35,565	Beach
2008	113,190	Airport & Harbor Development
2009	120,093	4' Contour to Shoreline
2010	59,478	Beach to Critical Shoals
2010	64,433	4' Contour to Shoreline

Lessons Learned

- There are many opportunities with RSM funding and tools to promote beneficial use of dredged material.
- We can change the perceptions.