Sheldon Marsh Nature Preserve

U.S. Army Engineer District
Buffalo, NY
Project Goals

- Slow the retreat of the barrier and protect the interior wetlands
- Allow waves to wet the beach slope during wave activity
- Minimize visual impact over a wide range of water levels
- Provide additional fish habitat
- Minimal construction impact
- Minimize future maintenance
### Sheldon Marsh Model Study

**Average Wave Height at Gauges 8-10**

<table>
<thead>
<tr>
<th>Water Level</th>
<th>Wave Recurrence Interval</th>
<th>Average Wave Height - FT</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>AVERAGE</td>
<td>2.119</td>
<td>1.176</td>
</tr>
<tr>
<td></td>
<td>2-YEAR</td>
<td>2.364</td>
<td>1.567</td>
</tr>
<tr>
<td></td>
<td>20-YEAR</td>
<td>2.803</td>
<td>1.513</td>
</tr>
<tr>
<td>10-Year</td>
<td>AVERAGE</td>
<td>3.067</td>
<td>2.376</td>
</tr>
<tr>
<td></td>
<td>2-YEAR</td>
<td>4.484</td>
<td>3.918</td>
</tr>
<tr>
<td></td>
<td>20-YEAR</td>
<td>4.638</td>
<td>3.861</td>
</tr>
</tbody>
</table>
Conclusions

- Project will minimize wave impact on the marsh and surroundings
- Waves will periodically overtop existing dunes
- Waves will continue to wet the beach slope
- Visual impact will be minimized over a wide range of water levels
- Additional fish habitat will be provided
- Maintenance will be minimized
- Actual wave dissipation should be higher than model
Current Progress

- Project report is at 95%
- Tech Note has been completed and formatted at ERDC
- Geomorphology report has been completed by Morang and Chader and is being formatted at ERDC
- Technical report for ERDC is at 50%
- Scope of work completed for independent reviewers (outside agency reviewers)
- Final Report will be sent out in next few weeks for independent review
Current Issues

- Problems with obtaining construction access to the project site and staging area
- MOA current draft does not reflect Ohio’s concerns re. project removal (if necessary).
- The proposed project area has restrictions due to its Nature Preserve status. USACE and ODNR are currently negotiating to obtain construction access via land to the project site and staging area.
Current Issues – continued

- Land access is easiest and cost effective
  - Non-Federal sponsor does not want land access, issues with possible road damage and tree removal
  - Preserve access by public will be impacted

- Water access is difficult and more costly
  - Dredging will be required
  - Bathymetry will be permanently altered - greater impact on ecosystem (organic peat lake bottom exists)
  - Still need to access beach for nourishment, dune work, etc.
QUESTIONS