Going Soft: Encouraging Nature-based Shoreline Decisions

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Nature-based shoreline protection tactics serve as effective alternatives to grey infrastructure.

Figure 1: Previous bulkhead and house in 2002.

Figure 2: Boat launch and new embankment nearly complete in August 2006.
Nature-based shoreline designs vary according to the needs of the waterbody and site.
Nature-based shoreline promotional efforts are region-specific across the country.
What are the traits of programs that promote nature-based designs in shoreline management decisions?
Background Literature
Discussion of Environmentally Responsible Behavior (ERB) is well established.
There are several aspects that can influence an individual’s behavior.

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<tr>
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<th>Informational</th>
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<th>Positive Motivation</th>
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*Adapted from De Young, R., 1993.*
Programmatic tools that effect ERB are those external aspect of behavioral influencers.

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Methods

Source: US Army Corps of Engineers
The research focused on three case studies.
Four organizations participated in interviews for each case study.

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<th>Organization</th>
<th>NERR</th>
<th>Regulatory</th>
<th>Research</th>
<th>NGO</th>
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<tr>
<td>Puget Sound</td>
<td>WA Sea Grant (proxy)</td>
<td>WA Dept of Ecology</td>
<td>Puget Sound Partnership</td>
<td>Coastal Geologic Services, Inc.</td>
</tr>
<tr>
<td>Hudson R</td>
<td>NYSDEC, Estuary Prog</td>
<td>NYSDEC, Region 3</td>
<td>Cary Institute</td>
<td>Waterfront Alliance</td>
</tr>
<tr>
<td>NJ Coast</td>
<td>Rutgers</td>
<td>NJDEP</td>
<td>Stevens Institute</td>
<td>The Nature Conservancy</td>
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+ Restore America’s Estuaries (national)
Interviews examined organizations’ perceptions.

- **Current state**
  - Information tactics
  - Regulatory tactics
  - Positive motivation

- **Development of Informational tactics**
  - Active trainings
  - Passive resources
What are the traits of programs that successfully promote nature-based designs in shoreline management decisions?

Results

Source: US Army Corps of Engineers
Puget Sound is a bay in Washington State.

Source: NOAA
Puget Sound

Source: Jessica Czajkowski, WGS

Source: USGS
The Hudson River is an estuarine river in New York State.

Source: NOAA
Hudson River

Source: Rolf Muller, wikimedia commons
The New Jersey coast runs along the Atlantic.

Source: NOAA
Consistent themes surfaced from the interviews.

- Importance of positive motivation
- Consistent informational tactics
- Lack of metrics of success
Positive motivation was perceived to be essential, while the target of funds varied across cases.

- **Grant opportunities**
  - design process
  - construction
- **Low-interest loans**
  - construction
- **Fee waivers**
  - permitting process

Source: US Army Corps of Engineers
Similar tools have been developed independently in different case studies.

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<th>PASSIVE INFORMATIONAL TOOLS</th>
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<tr>
<td></td>
<td>Webinar series</td>
<td>In-class training</td>
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<td>Puget Sound</td>
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<td>Hudson River</td>
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<td>NJ Coast</td>
<td>X</td>
<td>X</td>
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<td>National (RAE)</td>
<td>X</td>
<td></td>
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Source: US Army Corps of Engineers
Metrics of successful programming were inconsistent both within and across case studies.

- **Stakeholder interest**
  - # of training attendees
  - post-event surveys
  - # officials engaged

- **Commitment to ERB**
  - permit tracking
  - # of projects

- **On-the-ground impacts**
  - linear feet, acres restored
What are the traits of programs that successfully promote nature-based designs in shoreline management decisions?

Conclusions & Recommendations

Source: US Army Corps of Engineers
Avoid “reinventing the wheel” when it comes to developing ERB promotional tools.
Consistent metrics of success will foster more potent conversations on lessons learned.
Expanding this study would provide valuable information to better promote nature-based shoreline decisions.
This study highlights the value in collaboration on promoting nature-based shoreline decisions.

Goals of a national-level conversation:

- inter-regional collaboration on tool creation
- establishing consistent metrics of successful programming
- expanding the scope of this study

Source: US Army Corps of Engineers