Niagara River Habitat Improvement Projects: Managing Erosion and Enhancing Habitat in a High Energy River System

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Off-Shore Low Profile Berms

• Wind, waves, ice and boat wakes necessitate an engineered solution in Niagara
• Design borrowed from coastal system approaches (i.e. Chesapeake Bay)
• First utilized at Environmental Remediation sites
• Later applied to habitat improvement/restoration projects
Reference Sites: Natural Shoreline on Niagara
Design Features to consider:

• Material: coarseness and roughness
• Use of wood vs. rock
• Height: ability to be overtopped/ protection from waves
• Water level fluctuation
• Vegetated vs. barren
• Plant community objectives
• Breaks along length
• Facilitate circulation
Low elevation, High Coarseness, No Vegetation, Closed design
Moderate Elevation, Medium Coarseness, Open design
Low coarseness, High profile, Closed design, heavy vegetation
Large Wood for Shore protection
Other examples of Off shore berms in Habitat Improvement Projects
Thank You

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