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## Creating a New Waterfront Porch for Wildlife and People

Governmental, industrial, and nonprofit organizations in southeast Michigan and southwest Ontario are working to make waterfront shorelines friendly to fish, wildlife, and people. Indeed, these partners are rapidly becoming North American leaders in the use of soft shoreline engineering techniques.

Today, cities are promoting locating both businesses and homes in walkable neighborhoods with front porches on houses that encourage talking with neighbors, keeping in touch with what goes on in the neighborhood, and looking out for one another. Proponents argue that front porches are a key factor in achieving a sustainable community. Just as house porches can help promote sustainability in neighborhoods, waterfront porches can help promote sustainability of rivers in urban areas.

Historically in most Great Lakes cities, houses, and businesses were built facing away from their rivers. Detroit was no exception. In fact, much of the Detroit River shoreline was developed as the back door of commerce and industry. As commerce and industry expanded in the Detroit metropolitan area, 31 of the 32 miles of the U.S. mainland of the Detroit River shoreline were hardened with concrete or steel (hard shoreline engineering), providing no habitat for fish or wildlife. This shoreline hardening contributed to a 97% loss of coastal wetland habitats along the Detroit River. Today, there is growing interest in reclaiming urban waterfronts with new front porches. Urban planners and developers are using ecological principles and practices to reduce erosion and achieve stability and safety of shorelines, while enhancing habitat, improving aesthetics, enhancing urban quality of life, increasing waterfront property values, and even saving money when compared to installing concrete breakwalls or steel sheet piling. Ecologists refer to this as soft shoreline engineering.



Before  
Wayne County's Elizabeth Park shoreline  
(photo credit: U.S. Fish and Wildlife Service)



Before  
DTE's Rouge Power Plant shoreline  
(photo credit: Nativescape)

From an ecological perspective, soft shoreline engineering provides much needed habitat and can aid in flood and erosion control. "Soft shoreline engineering is particularly important in channelized rivers like the Detroit River because of the amount of shoreline hardened with concrete breakwalls and steel sheet piling," notes Dr. John Hartig, Refuge Manager for the Detroit River International Wildlife Refuge. "Soft engineered shorelines are critically important because they can provide spawning and nursery habitat for many fishes, and can provide shelter, resting areas, food, and a chance to grow a little bigger and stronger on a larval fish's trip downstream to Lake Erie."

Not only is soft shoreline engineering important to enhance aquatic habitat and provide other environmental benefits, but it is important from a social perspective because it helps reconnect people with the natural world. Soft shoreline engineering is increasingly becoming an important element in making places special or unique and in fostering a sense of belonging in urban areas like Detroit. Indeed, waterfronts are magical places where the water meets the land and people can reconnect with their watershed. Experience has shown that creating waterfront vistas, reintroducing watershed residents to river history, geography, and ecology, establishing unique conservation places linked by greenway trails and blueways (i.e., canoe and kayak trails), promoting ecotourism, and championing green waterfront developments also help build a political base for a sustainable community.

Finally, we cannot lose sight that there are economic benefits. Environment Canada has performed economic studies of greenways, natural areas, and parks on the Canadian side of the Detroit River in Windsor, Ontario. These studies show that the closer houses are to greenways, natural areas, parks, and gathering places for wildlife and people, the higher the property values. These green spaces and vistas also bring benefits through additional recreational spending and increased commercial activity. The economic importance of this was highlighted in a 2006 Outdoor Industry Foundation economic study that found that outdoor recreation contributes \$730 billion annually to the U.S. economy and supports nearly 6.5 million jobs across the United States.

"All feedback we have received on the North Shore Riverwalk soft shoreline engineering project at Wayne County's Elizabeth Park has been very positive, whether it be from walkers,



Milliken State Park storm water treatment system designed by JJR along the Detroit RiverWalk (photo credit: JJR)



Kayaking along the soft engineered shoreline of Elizabeth Park in Trenton, Michigan – according to the Outdoor Industry Foundation, paddle-based recreation contributes \$36.1 billion annually to the U.S. economy (photo credit: Janis Lane)

fishermen, kayakers, or people just seeking a quite reflective spot along the Detroit River,” noted Steve Alman, Chief of the Design Section of Wayne County Parks. “We are so pleased with the results that we are now working to incorporate soft shoreline engineering into the next phase of the Riverwalk at Elizabeth Park.”

Much like the effort to recreate front porches on houses in cities to encourage a sense of community, soft engineered shorelines along waterfronts in urban areas can help recreate gathering places for both wildlife and people.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, and plants, and their habitats, for the continuing benefit of the American people.

**Note:** In the past 10 years, 38 soft shoreline engineering projects have been implemented in the Detroit River watershed. For more information on these projects, see the soft shoreline engineering section in the menu bar of the following website:

<http://web4.uwindsor.ca/units/stateofthestraight/softs.nsf/inToc/D27D2ED7AB6CBCE48525775F00726983?OpenDocument>

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