

Chautauqua Watershed Notes  
From the Chautauqua Watershed Conservancy  
August 17, 2008

Lake Scientists Present Shore Management Program  
By John Jablonski III, Executive Director  
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*The prized muskellunge needs woody debris along wild shoreline for successful reproduction and survival. (Photo by John Hiebert, Minnesota Department of Natural Resources.)*

The Chautauqua Watershed Conservancy hosted two Healthy Landscaping ~ Healthy Waters programs on July 9th where the impacts of shoreline management on lake fisheries, plants and lake food chain were presented. This article will summarize the presentations by Mr. John Hiebert, Coordinator of the Shoreline Habitat Program for the Minnesota Department of Natural Resources.

Hiebert addressed the fishery impacts of shoreline development and various methods of shoreline erosion control. He reported on research in Minnesota and Wisconsin that has shown that largemouth bass and black crappies will select spawning sites related to natural shorelines, and select against using sites adjacent to developed shorelines. He noted that as lakes become more developed, fewer attractive spawning sites remain available for these gamefish. Shoreline trees often fall in the water and create excellent fish habitat. Large and small woody debris: trees, logs, branches and twigs in and along the lake provide very important shelter, food, breeding and nursery habitat for a large number of important insect and fish species. He encouraged those present to leave trees and logs in the lake where they fall. Removal of downed trees and logs can impact the quality of the aquatic community for as long as two centuries.

Hiebert noted that in Minnesota, on lakes with healthy, heavily-forested watersheds, Eurasian watermilfoil, has not grown to nuisance levels. If there is not excessive sedimentation and pollution, the beneficial native plants remain dominant in these lakes. He emphasized that conserving the watershed must be a high priority as well as conserving shore lands to maintain a healthy lake.

Bird diversity is also heavily impacted by shoreline development. Natural shorelines have more warblers, vireos, and thrushes, whereas developed shoreline sites are populated by starlings, grackles, house sparrows and blue jays.

He noted that conserving shoreline vegetation or “buffer strips” is important to:

- Anchor the shoreline in place with plants whose stems, trunks and roots absorb and deflect wave and ice action to control erosion
- Filter nutrients and sediments from human activities on shore before these pollutants reach the lake and fuel algae and aquatic plant growth

The State of Minnesota highly values natural shoreline. Hiebert administers a statewide grant program to promote the restoration of natural shoreline vegetation. His state does not permit vertical concrete or sheet piling breakwalls and discourages the use of rock rip rap shore stabilizations, except in some cases where high wave energy sites dictate they be used. Then, shrubs and trees are incorporated into such designs. His agency favors the use of stabilizing eroding shorelines with trees and shrubs, with added protection using cut cedar trees bound together as “cedar tree revetments” and installed along the shoreline, and/or “bio-logs,” coconut or other fiber logs that break wave action and allow plantings to get established behind them. He noted that shorelines naturally move, and that re-establishing a heavily-vegetated natural shoreline makes such movement less of a concern.

Hiebert emphasized the importance of informing landowners of the multiple values of natural shoreline and convincing them to conserve it wherever possible. He encouraged shoreline owners to consider returning their shorelines to a more natural condition with the following restoration treatment options: First, at no cost, just stop mowing and let a lakeshore strip of ten to forty feet grow naturally. After that, plant some native trees and shrubs. If significant erosion is a problem, get professional assistance to design a bioengineered shoreline (rock or other structural material and plantings). He suggested the following references to help owners get started on buffer projects: the *Restore Your Shore* CD and *Lakescaping for Wildlife for Water Quality* book (available on loan from CWC).

Helpful websites: <http://www.dnr.state.mn.us/shorelandmgmt/index.html>  
<http://files.dnr.state.mn.us/assistance/backyard/shorelandmgmt/savewateredge.pdf>

The CWC has led efforts conserving 1.8 miles of lake and outlet shoreline. It has an urgent need to raise funds to conserve sites that are presently on the market and are part of the last 3% of the lake’s entire shoreline available for conservation purposes or development. The CWC is holding a tour of potential shoreline conservation sites today at 4:00 PM, meeting at Hogan’s Hut. Participants must wear appropriate footwear for mud and be able to climb over logs and

obstructions. CWC will host a presentation on managing nuisance geese at 7:00 PM Monday, August 18th at the Celoron Community Building. The public is invited. The CWC is a member-supported, local grassroots 501(c)(3) tax-exempt watershed education, pollution prevention and land trust organization. It seeks your participation to conserve Chautauqua Lake's most important endangered shore lands. For more information please contact the CWC at 664-2166 or [info@chautauquawatershed.org](mailto:info@chautauquawatershed.org).