

Safeguarding habitat, water quality to keep fishing great



Fishing is one of Wisconsin's most popular recreations and is an important economic engine for the state and local economies. It generates \$2.3 billion in economic impact, supports 26,200 jobs, and generates \$90 million in tax revenues to help pay for important services such as education and health care.¹

The vast majority of the 69 million fish anglers catch each year in Wisconsin come from natural reproduction resulting from good aquatic habitat and good water quality.^{2,3} Recent studies have shown that the alteration of shoreland and shallow water habitats that can occur if waterfronts are not developed in environmentally sound ways can affect the capacity of lakes and rivers to support fish populations and good fishing. For example:

* Good naturally reproducing muskellunge populations have on average only 20% of their shoreline developed while poor muskellunge populations have on average 40% of their shoreline developed.⁴

* Bluegill production is 2.5 times higher in lakes with no development versus developed lakes.⁵

* Trout populations eliminated in watersheds with more than 11% imperviousness (a measure of building and paving in a watershed).⁶

* The amount of woody cover and aquatic plant growth for fish cover declines exponentially with the amount of shoreline development.^{7, 8}

* The amount of woody cover, aquatic plants, and bank cover is 30-600% higher along natural shorelines versus ripped shorelines, and 100-600% higher along natural shorelines versus seawalled shorelines⁹.

References:

¹ Sportfishing in America, Values of Our Traditional Pastime. 2002. American Sportfish Association. Alexandria, Va.

² A Statewide Mail Survey to Estimate 2000-2001 Angler Catch, Harvest and Effort in Wisconsin. 2003 Dee McClanahan. MS Thesis, University of Wisconsin-Stevens Point, College of Natural Resources.

³ Online Stocking Database, 2004. Wisconsin Department of Natural Resources, (www.fishingwisconsin.org).

⁴ Lake characteristics influencing spawning success of muskellunge in northern Wisconsin lakes. 2002. A.J. Rust, J.S. Diana, T. L. Margenau and C. J. Edwards. North American Journal of Fisheries Management 22:834-841.

⁵ Patterns of fish growth along a residential development gradient in north temperate lakes. 2000. D. E. Schindler, S. I. Geib and M. R. Williams. Ecosystems 0:1-10.

⁶ Watershed urbanization and changes in fish communities in southeastern Wisconsin streams. 2000. L. Wang, J. Lyons, P. Kanehl, R. Bannerman and E. Emmons. Journal of the American Water Resources Association 36(5):1173-1189.

⁷ Impacts of lakeshore residential development on coarse woody debris in north temperate lakes. 1996. D.L. Christensen, B.R. Herwig, D.E. Schindler and S. R. Carpenter. Ecological Applications 6:1143-1149.

⁸ Consequences of human lakeshore development on emergent and floating-leaf vegetation abundance. 2001. P. Radomski and T. J. Goeman. North American Journal of Fisheries Management 21:46-61.

⁹ Shoreline Protection Study: A report to the Wisconsin State Legislature. 1996. M. Jennings, K. Johnson and M. Staggs. Wisconsin Department of Natural Resources. PUBL-RS-921-96.