

## **Governor's Clean Water Initiative: Shoreland Standards Update Project 2006 - Article Number 6**

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### **Your Lake, Our Lakes: Citizens use science to improve lakeshore management**

By Paul Radomski

The environment helps determine the health of individuals and communities. In many parts of Minnesota, healthy communities depend on healthy lakes and shorelands. Clean water and lakes are important to the quality of life for local residents and they draw visitors, supporting our local economies. These relationships suggest that lakes and their shorelands deserve our care. A decline in their condition can make a major difference in the quality and economic vitality of our lives.

To address this challenge, a group of citizens and government officials recently took a careful look at how to keep Minnesota's lakeshores healthy. Their effort resulted in an alternative set of shoreland development standards.

Over the past few decades, there has been significant change in the type of development on Minnesota lakes. During the 1960s and 1970s, most shoreland development was the traditional seasonal cabin or lake home. During the late 1970s and 1980s, the trend was to convert seasonal lakeshore dwellings into year-round lake homes. And, most recently, the demographics of a large segment of the population retiring, along with a diverse economy, have resulted in many more people living and working in Minnesota lakes areas, building ever increasing numbers of large, modern homes on lakes.

Minnesota's lake-rich counties are seeing a large influx of new residents, and that trend is likely to continue into the future. Growth in these counties is projected to exceed 35 percent in the next 25 years. For example, the Brainerd lakes area is one of the nation's fastest growing micropolitans (fourth fastest growing mini-metro area in the Midwest and 28th nationally). There is widespread concern that population growth, rapid development along lakeshores, and the transition to larger, year-round homes will adversely impact water quality and fish and wildlife habitat.

But, do these land use changes degrade lake quality? Unfortunately the answer is yes for many lakes in Minnesota. Today's development pressures are outpacing the state's 1970s-era shoreland development and rainwater management standards.

Initially the greatest impact of shoreland development is habitat alterations, which removes or significantly alters fish and wildlife habitat along the lakeshore. Then, as shoreland development increases, nutrient levels increase and water clarity decreases due to pollutant runoff, poor rainwater management, and shoreline phosphorus inputs from septic systems and lawns to the lake. Excess nutrients in the lake can lead to decreased water clarity and excessive plant growth. Phosphorous can lead to algae blooms – the green scum found on many lakes. Recent studies

show that development does affect lake water quality. These studies found no difference in phosphorus levels or water clarity from 1750 to 1995 for some northern Minnesota lakes, but substantial increases in phosphorus levels and resulting decreases in water clarity were found for this same time period for other lakes where there was poor rainwater management, urbanization, or agriculture in their watersheds.

To minimize impacts to water quality and fish and wildlife habitat as shorelines are developed, well thought out shoreland development guidelines are needed. Options need to be cost-effective and environmentally friendly. In addition, for lakes that are resilient to the additions of nutrients and pollution, restoring shoreline vegetation, rehabilitating rainwater infiltration in the watershed, and using conservation or low-impact development designs can reverse lake quality degradation.

The State of Minnesota sets minimum shoreland development standards that guide the use and development of shoreland property. These guidelines include minimum lot size, minimum water frontage, building setbacks, and subdivision and planned unit development regulations. The intent of these standards is to preserve and enhance the water quality, conserve the economic and natural environmental values of shorelands, and provide for wise use of water and land. However, these standards were developed in 1970 when small cabins were the predominant form of development. These shoreland standards needed to be updated to provide better tools to address the growth in shoreland development and the trend towards larger, year-round, residences. The updated standards also needed to reflect local resource conditions and needs.

A 34-member committee of developers, resort owners, conservationists, county commissioners, government representatives, and lakehome property owners, recently came together to create an alternative set of shoreland development standards. Using information based on the scientific and planning literature and their individual experiences, citizens and government officials worked together to craft tools that local governments may now adopt into their ordinances. These shoreland development standards incorporate innovations that can make a positive difference in our quality of life. These modernized standards could serve as the foundation for local government administered ordinances to provide greater protection to economic and environmental concerns, thereby helping to sustain healthy communities across Minnesota.

Details of the Minnesota's Alternative Shoreland Development Standards can be found at: <http://www.dnr.state.mn.us/waters> [click on the Shoreland Standards Update link], and comments can be emailed to [shorelandupdate@dnr.state.mn.us](mailto:shorelandupdate@dnr.state.mn.us).

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