

Washington State Lake Protection Association, *Waterline*, June 2004

This is the first in a series of articles addressing the top areas of concern identified by lake residents in the WALPA survey.

Impact of lake development on shorelines and wetlands

By Anthony J. Whiley, past WALPA board member

In early spring when I visited Medical Lake it was a beautiful quiet day. Medical Lake is approximately 13 miles southwest of Spokane, within the City of Medical Lake. From Waterfront Park, located at the south end of the lake, I could survey much of the lake and its shoreline. Standing there, looking up the lake, one of my first impressions was the stark contrast in land use surrounding the lake.

Situated on the west side of the lake is a nature preserve with a relatively undisturbed growth of shoreline vegetation comprised of tall pine trees and varied undergrowth. In contrast, the east side of the lake is residentially developed.

Within the preserve, I observed a number of larger trees that, over the years, had fallen into the water. Many had trunks still connected to shore with the majority of the tree extending into the lake, most remaining submerged. In a sense, the preserve offered a perspective of what lake shorelines probably once looked like. I saw turtles using the trees to warm themselves in the afternoon sun; the trees offered the turtles a structure to climb on, but also provided safety and quick access back into the lake.

In contrast, looking through the trees to the opposite, residentially developed side of the lake, it was sad to realize the contrast between what lake shorelines were to what they have become. There was hardly a tree to be seen. A development site had recently stripped all vegetation from a lot to the edge of the bank. This isn't anything new to lakeside development.

Historically, lakes have been a magnet to residential development both in urban and rural settings. It isn't uncommon that residential development surrounding rural lakes comprises some of the highest density for miles around. Much of the initial development on Washington's rural lakes occurred in the 1940s and 1950s, built primarily for recreational use as summer or weekend retreats. On many lakes, particularly ones that are still somewhat rural and in proximity to more urban centers, a second wave of development is occurring. Older recreational cottages are being replaced by larger primary residences. This change in the scale and type of development comes with other impacts including docks, use of jet skis, power boats, expansive lawns, with associated fertilizer and pesticide use, and the renewed loss of riparian vegetation.

Shoreline vegetation not only has environmental benefits, but it also protects the loss of property associated with erosion. The clearing of vegetation can, depending on the soils and height and slope of the bank, lead to instability. And, once a bank begins to erode, stabilizations methods become more intrusive on the environment. Stabilization methods such as bulkheads disconnect the critical ecological transition between the water and land environments.

In addition, the loss of vegetation, particularly large trees eliminates important habitat rarely found in lakes today, that of partially submerged trees that have fallen into the lake from the shore. While it has been widely recognized that wood in Pacific Northwest streams is a critical habitat component, its role in lakes has been less studied. Part of the problem is that there aren't a lot of lakes, particularly in the Puget Sound lowlands, to use as models. This type of habitat is preferred and, in some cases required, by turtles, amphibians, emergent insects, as well as fish and other organisms. Trees have been removed from lakes to provide greater shoreline access for activities such as boating or water skiing, among other reasons. The end result is submerged trees elimination from all but the most remote lakes. For this habitat to occur naturally, trees have to grow along the shoreline.

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The question arises: what laws are in place to protect riparian vegetation?

Within Washington state, the primary law influencing riparian vegetation on lakes (applying to those over 20 acres) is the Shoreline Management Act (SMA). The Shoreline Management Act, which went into effect in the early 1970s, required cities and counties to consider land-use practices, and its effects on surface waters, within 200 feet of the ordinary high-water mark. Each city and county is required to write a plan, called a shoreline master plan, based on Washington State Department of Ecology guidelines. These plans indicate how shorelines will be used and developed and include regulations to ensure compliance.

Recently, the Department of Ecology issued new guidance and many of the original plans are undergoing revision, including Medical Lake's. The new guidance has ambitious goals. Shoreline master plans are to include policies and regulations designed to achieve no net loss of ecological function and provide for the restoration of impaired ecological function. These goals attempt to lay out a pathway toward the re-establishment of riparian vegetation, particularly in the most impacted residentially developed areas. However, each county and city designs and implements its own plans. As to how effective they are at protecting riparian vegetation varies. And, perhaps of greater challenge, is overcoming property rights and human behavior issues.

The SMA has been in place for about 30 years. However, no comprehensive assessment has been completed to determine whether it has had a positive influence on the protection and enhancement of riparian vegetation. This is unfortunate. Without some measure of effectiveness it won't be known whether changes to the law are necessary. If the absence of riparian vegetation along the residentially developed section of Medical Lake is typical of similarly developed shorelines in Washington then it's clear we may be missing the forest for the weeds.