

## Eagle River Chain of Lakes Shoreland Condition

By Marc Groth, Shoreline Restoration Chair & Duck Lake Captain

One of the most vulnerable areas of a lake's watershed is the immediate shoreland zone (from the water's edge to 35' from shore). When this 35' buffer is developed, the increased impervious surface, removal of natural vegetation and other human practices can severely increase pollutant loads to the lake while degrading important habitat. Limiting these man-made effects on the lake is important in maintaining the quality of the lake's water and habitat.

The intrinsic value of natural shorelands is found in numerous forms. Vegetated shorelands prevent polluted runoff from entering lakes by filtering this water or allowing it to slow to the point where particulates settle. The roots of shoreland plants stabilize the soil, thereby preventing shoreland erosion. Shorelands also provide habitat for both aquatic and terrestrial animal species. Many species rely on natural shorelands for all or part of their life cycle as a source of food, cover from predators, and as a place to raise their young. Shorelands and the nearby shallow waters serve as spawning grounds for fish and nesting sites for birds. Between the abundant wildlife, the lush vegetation, and the presence of native flowers, natural shorelands provide natural scenic beauty and a sense of tranquility for humans. Therefore, the removal of vegetation and the inclusion of development reduces many forms of habitat for wildlife and some forms of development may provide habitat for less than desirable species.

All waterways within the Lower Eagle River Chain were surveyed to determine the extent of their development as part of ERCLA's Lake Management project. In general, developed shorelands are more stressful on a lake ecosystem, while benefits such as wildlife habitat and improved water quality arise from maintaining shoreland areas in a natural state.

The shorelands of the lakes within the Lower Eagle River Chain of Lakes were categorized into these five categories:

**Urbanized:** This type of shoreland has essentially no natural habitat. Areas that are mowed or unnaturally landscaped to the water's edge and areas that are rip-rapped or include a seawall would be placed in this category.

**Developed-Unnatural:** This category includes shorelands that have been developed, but only have small remnants of natural habitat yet intact. A property with many trees, but no remaining understory or herbaceous layer would be included within this category. Also, a property that has left a small (less than 30 feet), natural buffer in place, but has urbanized the areas behind the buffer would be included in this category.

**Developed-Semi-Natural:** This is a developed shoreland that is mostly in a natural state. Developed properties that have left much of the natural habitat in place, but have added gathering areas, small beaches, etc within those natural areas would likely fall into this category. And any urbanized shoreland that was restored would likely be included here, as well.

**Developed-Natural:** This category includes shorelands that are developed property, but essentially no modifications to the natural habitat have been made. Developed properties that have maintained the natural habitat and only added a path leading to a single pier would fall into this category.

**Natural/Undeveloped:** This category includes shorelands in a natural, undisturbed state.

The lakes within the Lower Eagle River Chain have portions of their shorelands that fall under all five of the assessment categories. Per our 2019 lake management plan the lake shoreline was categorized as

- natural-undeveloped/developed-natural ranged from 64% Scattering Rice to 23% Catfish Chain-wide: 30 miles or 46% of shoreline was delineated in these two categories
- Unnatural or urbanized range was Duck Lake 50% to Watersmeet 11% Chain-wide: 18 miles or 28% of the total shoreline is developed-unnatural or urbanized
- Developed-semi-natural is delineated to the remaining 17 miles or 26% of the shoreline

***Nearly one out of every three miles of shoreline in the Lower Eagle River Chain has a high degree of development with little to no natural habitat.*** The high degree of shoreland development is likely one of the largest stressors to the chain's ecosystem as nearly 30% of natural shoreland habitat has been lost. These developed shorelands do not provide any benefit to and may harm the lakes. These developed shorelines are our focus areas for restoration.

Fortunately, nearly 50% of the chain's shoreline still contains little to no development with most or all of the natural habitat still intact. These natural shorelines provide the most benefit to the lakes in terms of habitat and water quality protection and should be left in their natural state if possible.

While producing a completely natural shoreland is ideal for a lake ecosystem, it is not always practical from a riparian property owner's perspective. However, property owners can take small steps in ensuring their property's impact upon the lake is minimal. Placing lawns on flat areas with minimal slope or in areas that do not terminate at the lake's edge is one way to reduce the amount of runoff a lake receives from a developed site and allowing tree falls and other natural habitat features to remain along a shoreline may result not only in reducing shoreline erosion but creating wildlife habitat too.

The ERCLA Shoreline Restoration team is committed to helping ERCLA riparians work towards converting as much of the 28% of the urbanized shorelines back to a more natural state as possible. We can help you write Healthy Lakes grants for homeowners who have an interest in implementing any of the five Healthy Lakes best practice projects: Fish sticks, Diversion, Infiltration, Rain Garden, or Native Plantings. We are writing two Healthy Lakes Grants for fellow riparians with hope that approval and implementation is ready for spring 2024. Details regarding these projects and others will appear in future newsletters.

If you're interested in having the Shoreline Restoration team visit your shoreline for evaluation, email us at [erclaonline@gmail.com](mailto:erclaonline@gmail.com) or call Marc Groth at 847-951-1761.