

# Water Quality 102: The Riparian Zone

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When we discuss water quality attributes of a stream, we often refer to its aquatic nature rather than the creek itself. But, what if we were to step back, relax and focus on the larger aquatic system? What would we see first? Perhaps we would notice some trees or a lack thereof; or perhaps we'd notice logs piled in the creek, vegetation growing on the bank terraces or even an animal using the greater area as habitat.

Where does the stream environment end and the land environment start? It's hard to say because unlike living organisms, ecosystems lack definitive boundaries. Instead the transition area between two adjacent but different plant communities is called an ecotone. An ecotone is a unique juxtaposition of two ecosystems, an area characterized by higher diversity and abundance of plant and animal species. According to Wikipedia: "The ecotone contains not only species common to the communities on both sides; it may also include a number of highly adaptable species that tend to colonize transitional areas."

An excellent example of this "edge effect" created by this blurry boundary is the Riparian Zone. A riparian zone is an ecotone between the aquatic community of a creek, river, or wetland and its adjacent terrestrial (land) community. Riparian zones are crucial points of management because of their role in soil conservation, maintaining biological diversity and their importance in maintaining water quality within the aquatic systems they border.

Riparian zones are important natural biofilters, protecting aquatic environments from erosion, polluted storm water runoff and excessive sedimentation. Riparian zones also provide adequate shade and have a cooling effect upon the aquatic community from the sun. Not only that, a well established riparian zone impacts groundwater patterns, helps control flooding and provides natural corridors for native plant and animal migrations.

The Coquille Indian Tribe's Land Resources and Environmental Services staff has long provided management for the benefits of riparian zones. Essential for the protection of the Tribe's waterways, the Tribe manages for adequate buffer zones to improve water quality temperature and protect aquatic ecosystems from multiple source pollution. Additionally, LRES designs and manages forestry projects that create riparian reserves where no timber is cut; the benefits of which are to buffer creeks against soil erosion and keep creeks cool for salmon. The benefits of protecting these dynamic ecotones will be appreciated for generations to come.

Looking at the Tribe's waterways as a functioning, well-managed system gives new awareness to the importance of sound management practices. The multiple benefits include a whole and functional riparian system, healthier watersheds and human communities, a sacrificial erosion buffer that absorbs the impact of multiple land uses and finally, a unique and beautiful environment worthy of these protections.