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What Is a Riparian Area

Riparian literally means of, or pertaining to, the banks of a river or lake. The riparian area is defined as the part of the landscape adjoining rivers and streams that has a direct influence on the water and aquatic ecosystems within them. The area consists of perennial and seasonal streams, lakes, reservoirs, wetlands and the adjacent lands with soils, vegetation and landform indicative of high soil moisture or frequent flooding. A riparian area includes the body of water along with the associated soils, vegetation and hydrology. It extends down into the ground water, up to the top of the canopy, outward across the floodplain, up the near slopes that drain into the water, laterally into the terrestrial ecosystem and along the water's course at a variable width. The variable widths are determined by significant boundaries rather than arbitrary distances. Riparian areas are often referred to as "ribbons of life" since they are considered the most productive habitats in North America.

Riparian areas are plant communities connected to and affected by surface and subsurface hydrologic features of perennial or intermittent, lotic (moving) or lentic (still or boggy) water bodies. They are usually transitional between wetland and upland. All riparian areas have one or both of the following characteristics: (1) A distinctively different vegetative species than adjacent areas, which is the norm or (2) Have species similar to adjacent areas but exhibit more vigorous or robust growth forms.

Vegetative growth in riparian areas is not random but organized in a natural structure consisting of three roughly parallel ecosystem bands, each containing species adapted to survive in specific moisture conditions and able to perform specific ecological function. These conceptual bands are sometimes easy to identify but often they are muddled, run together and are difficult to identify.

The first band at the edge of the water often consists of deeply rooted, water-loving sedges and rushes. These plants form a protective band that stabilizes the banks against erosion.

The second band is the ground near the banks. Vegetation often consists of a variety of trees, shrubs, grasses and broadleaf plants adapted to period flooding. The third band is drier and edges along the uplands. Vegetation in this band is a mixture of more dry tolerant riparian plants and plants suited to the uplands. The function of these two bands of plants is to catch or slow water, facilitate absorption, take up nutrients and contaminants and provide critical habitat for terrestrial wildlife.

If land management practices reduce the riparian area to only one or two of these bands, some or all of the environmental benefits of these areas will be lost. The first band is both the most ecologically important and requires the greatest protection against degradation. Dominance of water loving plants in the first band is critical for promoting water recharge and increasing the water table height.

Identifying and mapping the riparian area involves aerial photography combined with field checking to accurately determine boundaries. It needs to address a range of issues including the need for environmental corridors and open space linkages, terrestrial and aquatic habitats, bed and bank stability and water quality. Vital features of function and condition for a healthy riparian area include:

1. Sources of large organic debris, such as fallen trees and tree roots
2. Areas for stream migration
3. Vegetative cover to help moderate water temperatures

4. Provision for food, nutrients and organic matter to the stream
5. Bank stabilization
6. Buffers for streams from excessive silt and surface runoff pollution.

As our population increases, there will be increased pressures to use riparian areas for a variety of commercial, residential and recreational purposes. It is vital that we all become involved in the conservation and restoration of these areas.

The accuracy of this article was reviewed by Steve Nelle, wildlife biologist with NRCS