

Riparian vegetation

The value of riparian vegetation and a brief guide to regeneration

WHAT IS THE RIPARIAN ZONE?

The riparian zone is the area of land that adjoins riverbanks, flood plains, lake foreshores, and wetland fringes. Due to the presence of water and nutrients in riparian zones, this land often supports significant plant communities – the riparian vegetation.

Riparian plant communities are generally denser and faster growing and are essential for maintaining ecosystem health.

BENEFITS OF RIPARIAN VEGETATION

Biofiltration

Pollutants such as nutrients, pathogens, and pesticides can attach to sediment particles and run off the land with water, often during rainfall. Riparian vegetation plays an important role in trapping this sediment, and the attached pollutants, before it enters the water. This process is called biofiltration.

Riparian vegetation creates a buffer zone along waterways where biofiltration occurs. The wider the buffer zone, the more effective riparian vegetation is in trapping sediment and pollutants, with grasses and other understory vegetation being the most efficient filters.

Bank stability

Riparian vegetation reduces the risk of bank erosion. Root systems reinforce and stabilise soil, and some plants can create a protective matting on the surface which provides additional stability and erosion protection.

During high flow events (flooding), riparian vegetation creates friction, which helps to reduce erosion by slowing the flow of water; faster moving water causes more erosion.

Enhancing ecosystem health

Riparian zones have an important role to play in protecting and enhancing the health of aquatic ecosystems.

Healthy riparian vegetation stabilises the water temperature by providing shade. Regulating temperature is directly beneficial to aquatic plants and animals and can prevent low oxygen events from occurring. With less riparian vegetation, and therefore less shade, water temperatures and sunlight levels increase. This can promote excessive aquatic plant and algal growth which can decrease oxygen levels. Little to no oxygen in the water can make it difficult for animals to maintain function and will often result in mortalities.



Above: riparian vegetation before (top) and after (bottom) restoration efforts.

Habitat and corridors

The highly productive and diverse plants within riparian zones can support abundant ecosystems. Riparian vegetation is a habitat that provides food and shelter, as well as nesting and nursery sites to a myriad of aquatic and terrestrial animals.

Riparian zones also act as 'corridors', connecting remnant patches of habitat that have been fragmented by urban and agricultural development. These corridors support vital functions by allowing animals to move around for breeding and migration.

Economic and social value

Well managed riparian zones can be an asset to landowners as they:

- enhance water quality, benefiting livestock health;
- provide wind breaks and shelter that benefits livestock; and
- decrease bank and topsoil erosion.

Recreational and aesthetic values can also be enhanced through improved water quality, increased fish stocks, and providing pleasant surroundings. Popular activities including fishing, swimming, boating, walking, and bird watching all benefit from healthy riparian vegetation.

MANAGEMENT ISSUES

Riparian vegetation has been substantially reduced over time through clearing or livestock grazing and trampling.

Invasive weed species pose an additional threat to riparian vegetation. Weeds often out-compete native species for light and nutrients, growing faster than their native counterparts, which gives them the ability to take over an area.

GENERAL GUIDELINES FOR REVEGETATION

- Exclude livestock with fencing.
- A vegetation survey of nearby, existing riparian vegetation will assist with species selection for revegetation.
- Plant a range of native species found in the local area, including trees, shrubs, and ground cover.
- Prior to planting, reduce weed cover as much as possible.
- Protect newly planted seedlings against foraging animal using guards and/or spray.



Above: seedlings planted within the riparian zone at Summerlea Farm, protected with guards.