

# UNDERSTANDING RIPARIAN AREAS

Why do some streams show rapid improvement after riparian restoration while others take much longer? What are the most important things to consider when planning to restore a riparian area? NIWA's National Riparian Restoration Database sets out to capture information generated by citizen scientists like you to provide answers.

## Snapshot

- Farmer and community resource
- National Riparian Restoration Database (NRRD)
- Created by NIWA
- Research programme aimed at improving knowledge around riparian restoration
- Available online from NIWA website: <https://riparian.niwa.co.nz>

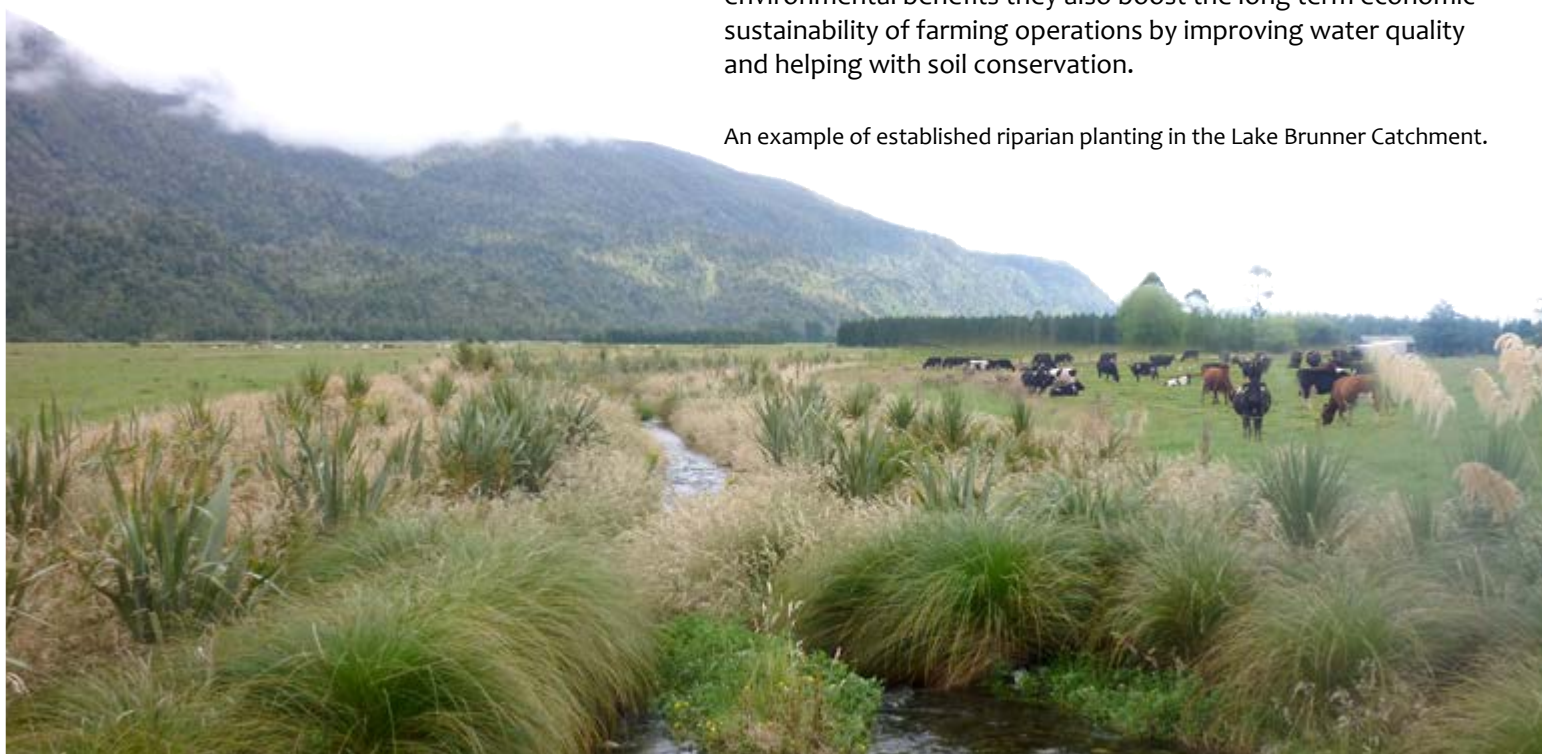
## Riparian Zones

Sometimes described as the interface between the land and a river, riparian zones can vary considerably but are typically greater than three metres wide, located on either side of a waterway and follow its meandering course. When riparian zones consist of a diversity of trees and plants, they provide valuable habitat for aquatic and terrestrial animals - birds, insects and fish. In New Zealand several species of native fish are totally reliant on riparian plants in order to spawn, while many others benefit from the shade generated by bank-side trees and vegetation.

Farmers are increasingly choosing to restore riparian zones in order to reduce the negative impacts of farm activities on water quality - healthy riparian zones create a buffer, with the capacity to capture and filter farm run-off. Fencing off these areas is very important to prevent stock from damaging riparian plantings and directly accessing waterways. Riparian areas also help stabilise river banks and moderate flow, consequently offering protection for surrounding land during periods of high rainfall.

Therefore not only do healthy riparian areas deliver significant environmental benefits they also boost the long term economic sustainability of farming operations by improving water quality and helping with soil conservation.

An example of established riparian planting in the Lake Brunner Catchment.



## National Riparian Restoration Database

With the shift towards protecting and restoring valuable riparian areas, farmers in particular need the best possible information so they can make informed decisions.

The National Riparian Restoration Database (NRRD) sets out to increase understanding of the investment farmers and others have made in riparian restoration so better support can be provided in the future. The NRRD also aims to generate information that will allow NIWA scientists to learn more about how stream ecosystems recover after riparian restoration, so better guidance can be given on how to design restoration projects in order to give the best results for water quality and aquatic animals.

It is hoped that over time the NRRD will become the main source of information about riparian restoration work around New Zealand.

### Initial Survey

The starting point is the NRRD online survey, which should take approximately five minutes to complete. The aim is to encourage as many people as possible to share information about a diverse range of riparian restoration projects. It does not matter how old they are - in fact when it comes to riparian restoration "old is gold."

### Improve Understanding of Riparian Restoration

- What is the total value of the investment?
- Who is doing the work?
- What are the motivations, and what do people hope to achieve?
- How is the work being supported?
- What is a typical riparian restoration project like?

Mangawhai riparian planting group.



Protection of native plants from animal pests.

### Effective Riparian Restoration

Only a few current riparian restoration projects include ecological monitoring, and a small percentage of those have long-term monitoring on the right time scales to detect the often slow ecological effects associated with replanting riparian areas. Local people with a keen interest in their particular restoration project could make a big difference, helping to develop a more detailed picture of what's happening around the country.

Once NIWA scientists have gathered sufficient information from the NRRD survey they will identify specific examples to study in greater detail. This is where 'citizen science' will play a key role. The great thing about a citizen science approach is everyone benefits - not only will this large scientific study benefit from more data, but local communities gain increased technical skills and a greater insight into the ongoing improvements generated by their restoration work.

NIWA will train, equip and support the volunteer citizen scientists who are working on selected riparian restoration projects. In return the volunteers will need to commit to regular freshwater monitoring work which will include sampling, measuring and submitting data.

### Further information

NRRD

<https://riparian.niwa.co.nz>

Short video about the project

<https://vimeo.com/236661502/9efc61c357>

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