

Riparian (streamside) vegetation and flooding

Land that adjoins rivers, creeks, estuaries, lakes and wetlands is known as riparian land (often called 'streamside' or 'frontage').

It is the land along and that adjoins the top of the bank of the waterway, but not the bank itself. In the landscape, the riparian land and bank of the waterway grade into each other but their distinction has implications for the approvals discussed in this brochure.

In Victoria, about 30,000 kilometres of riparian land is 'Crown frontage'. Much of this land is licensed to adjoining landholders for grazing, and increasingly

for riparian management. More information about Crown frontages and licensing can be found on the [DELWP Crown land licensing](#) web page.

In Victoria, early settlers typically removed (or 'cleaned up') riparian vegetation to increase available land for grazing and to enhance livestock access to water.

However, it is now well recognised that healthy riparian land provides significant benefits to landholders, communities and the environment. More information about riparian land and its management in Victoria is available on [DELWP's riparian land](#) web pages.



Healthy riparian land has many benefits for landholders, local communities and the environment. Gellibrand River. Photograph: Corangamite CMA



*There are many benefits from replanting vegetation on riparian land. On a tributary of the Glenelg River.
Photograph: Glenelg Hopkins CMA*

Riparian vegetation and flood risk

The concern

Riparian vegetation in and around waterways can make flooding worse.

What we know

Riparian vegetation has a minor impact on where floodwaters go. In fact, a good distribution of vegetation along waterways helps to slow floodwaters and reduce the height of downstream flood peaks.

Furthermore, recent research¹, shows that:

- the absence of high quality native riparian vegetation increases the occurrence, extent and scale of flood related channel change and associated flood related recovery costs
- the establishment of high quality native riparian vegetation, through revegetation programs such as those undertaken by catchment management authorities (CMAs), can be effective in reducing the occurrence, extent and scale of flood related channel change.

¹ Alluvium, 2011. An assessment of the impact of riparian vegetation on stream erosion during floods in Victoria. A report commissioned by the Department of Sustainability and Environment and North East CMA. The report can be found on the [DELWP riparian land](#) web pages.

Types of riparian vegetation

Native riparian vegetation

Native riparian vegetation is important for waterway health. It provides habitat for plants and animals, improves water quality, stabilises stream banks, supplies food for fish and other in-stream organisms and provides a corridor for the movement of native plants and animals.

Native riparian vegetation also benefits landholders. Based on well-documented evidence², there are some very clear benefits to a landholder from the management of riparian vegetation through works such as weed management, fencing and off-stream stock watering infrastructure. These benefits include:

- reduced costs to landholders through increased ease of mustering when the waterway is fenced off
- access to high quality water for stock from off-stream stock watering leads to increased water and forage intake which leads to increased weight gain or milk production
- the presence of on-farm native vegetation increases the land value of the farm
- the presence of healthy riparian land leads to a sense of farmer well-being and contribution to nature conservation.

As such, the removal of native riparian vegetation is generally not supported.

Exotic riparian vegetation

Weeds are a key threat to the condition of riparian land. Riparian land is particularly prone to weeds spread by water and from stock access. Unless properly managed, high risk agricultural and environmental weeds (such as willows, bridal creeper and blackberry) will progressively degrade riparian land and spread downstream and into neighbouring farmland.

The deliberate planting of exotic species (including ash, elm, poplar and particularly willows) for erosion control and aesthetic purposes has led to degradation of riparian environments. Planting exotic species on riparian land has been actively discouraged for the last twenty years or more and activities to contain or remove weed infestations will continue to be implemented through regional waterway management programs.

² More information about the benefits of riparian vegetation to landholders can be obtained on the [DELWP riparian land](#) web pages.



Willow removal on the Mitchell River. After removal, the site was fenced to prevent stock access and revegetated with native plants. (Photograph: East Gippsland CMA)

Landholders are currently required to manage certain weeds (and pest animals), under the *Catchment and Land Protection Act 1994* for private riparian land and through licence conditions for Crown frontages.

Further information about managing weeds is available [Agriculture Victoria weeds](#) web pages.

More information on managing willows is available on the [DELWP managing willows](#) web pages.



Exotic vegetation, like willows, can have a significant impact on the condition of riparian land and also recreational use of waterways and riparian land. Willows choking the Ovens River near Bright. Photograph: North East CMA

Approvals

Several authorities are responsible for administering legislation and regulations for the management of vegetation in and around waterways.

Planning permits

In Victoria, planning approval is usually required to remove, destroy or lop native vegetation. The permitting is governed by the native vegetation removal regulations which are implemented through local planning schemes administered by local government. If you plan to remove native vegetation your first contact is local council which can help you understand the requirements involved. Information is also available on the [DELWP Native vegetation](#) web pages.

Works on waterways permits

CMAs have a regulatory role in authorising individuals and organisations to carry out works and activities in and affecting waterways³. Works and activities such as riparian vegetation removal may need a CMA works on waterways permit^{4,5}.

A works on waterways permit is typically not required from your local CMA to remove riparian weeds. However, under some circumstances and depending upon the CMA, a permit may be required. For example, willows often occur on the banks of waterways and on the riparian land. Their removal carries significant risks of transferring willow fragments downstream if not carried out appropriately. Therefore, willow removal will likely trigger the requirement for a works on waterways permit in most cases.

A permit may also be required depending upon the method of removal of the weeds. For example, large scale weed removal with heavy machinery on riparian land may require a permit because the removal may also be impacting on the bank of the waterway.

Talk with your CMA about what you are proposing to do. They can advise you on the requirements for a permit and appropriate techniques for weed removal. For some species, such as willows, removal works along a waterway should be staged to prevent excessive lengths of unprotected banks.

³ Melbourne Water is the manager of designated waterways for the Port Phillip region so should be contacted for advice about waterway and riparian management matters in that region. References to CMAs in this fact sheet mean Melbourne Water for the Port Phillip and Westernport region.

⁴ The Glenelg Hopkins CMA (GHCMA) does not issue works on waterways permits. It authorises works through issuing a licence under the Water Act. The types of works or activities that can be authorised by the GHCMA and the authorisation process differ from other CMAs.

⁵ Works on waterways permits are only required for 'designated' waterways. These are most waterways in a CMA's region, but your local CMA will be able to advise whether your waterway is designated.

If flood risk is the primary reason for wanting to remove riparian vegetation, a flood study may be required to assess the influence of the riparian vegetation (and its potential removal) on local water levels and flood duration. You would need to demonstrate that the flood benefits associated with removing the vegetation (i.e. in terms of reduced damage) are greater than any costs to waterway health. As a general principle, the onus of proof in removing vegetation to mitigate flood risk lies with those wanting to make the change.

If you would like further information on how to obtain a works on waterways permit, please contact your local CMA.

Other permits and approvals

The granting of a works on waterways permit does not exempt an applicant from the need to comply with other legislation, e.g. to comply with Aboriginal cultural heritage legislation. Further information about Aboriginal cultural heritage requirements can be found on the [Aboriginal Victoria](#) website.

The Department of Environment, Land, Water and Planning (DELWP) will also need to give approval if the proposed works and activities occur on Crown land. Most beds and banks of Victorian waterways and nearly 30,000 kilometres of riparian land are Crown land. If you are uncertain whether the riparian land is your private property or Crown land, you can contact DELWP, which can advise you if Crown land abuts your property.

The requirement to obtain other approvals is ultimately the responsibility of the applicant.

Further information

This is one of four fact sheets available to provide information about the relationship between waterway vegetation and flooding. The series includes information about managing the vegetation and approvals that may be required for its management:

- **Managing vegetation and large wood in and around waterways**
- **Large wood (snags) and flooding**
- **Instream vegetation and flooding**
- **Riparian (streamside) vegetation and flooding.**

CMAs and Melbourne Water, as the floodplain and waterway manager for their regions, are the key point of contact to assist with information in this fact sheet and to provide advice and information in relation to local waterways and floodplains.

East Gippsland CMA	5152 0600
West Gippsland CMA	1300 094 262
Corangamite CMA	5232 9100
Glenelg Hopkins CMA	5571 2526
Wimmera CMA	5382 1544
Mallee CMA	5051 4377
Melbourne Water	131 722
North Central CMA	5448 7124
Goulburn Broken CMA	5822 7700
North East CMA	1300 216 513

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