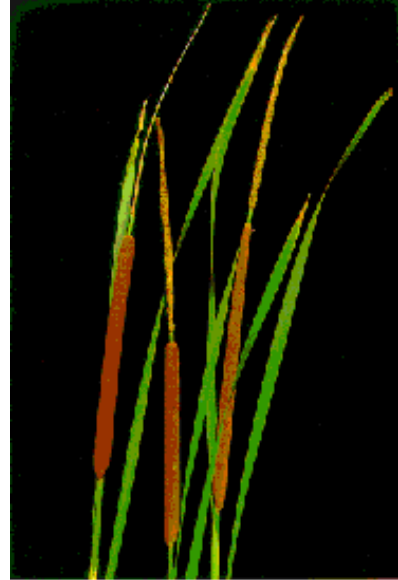


Weed control in Tasmania's forests: information sheet 3

Cumbungi/Bullrush (*Typha* spp Pers.)



Broad leaf cumbungi infestation



Narrow leaf cumbungi

Tasmanian Species

<i>Typha latifolia</i>	Cumbungi
<i>Typha orientalis</i>	Broadleaf cumbungi
<i>Typha domingensis</i>	Narrowleaf cumbungi

Identification

Cumbungi are robust semi-aquatic perennial plants that grow in fresh or slightly brackish water up to two metres in depth. All three species are found throughout the state in lakes, dams, irrigation channels, marshes and along the banks of rivers where the water flow is slow and dissolved nutrient levels are high.

From water level the plant may reach a height of 2-2.5m, depending on the species. The leaves reach lengths of up to 2m long and 20mm wide and are borne on either side of a stout, cane-like stem. The flower head of all three species is produced in summer. Each stem produces one flower head divided into two parts. The upper part consists of a loose spike of male flowers. Below this is a dense, cylindrical spike of female flowers.

Lifecycle

The grass-like leaves are thick and spongy in texture, and emerge in spring, summer and autumn. Growth slows and eventually stops in Tasmania at the onset of winter frosts. Leaves may be severely damaged by frost, but underground reserves permit Cumbungi to regrow quickly in spring. Seeds of cumbungi germinate when temperature, light and water requirements are satisfied. The main period of germination is from December to April.

Status under the Noxious Weeds Act 1964

All *Typha* species are Declared as Secondary Weeds in Tasmania. There are no prescribed control measures but PIWE officers are empowered, by the use of Enforcement Notices, to require landholders to undertake any control measures thought to be necessary.



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Control

Cumbungi quickly becomes a large and vigorous plant; therefore any new infestation should be treated as early as possible. Destroying the young plants at an early growth stage before they have become established or produce seed, is the most economical and effective method of control. If control is delayed until the infestation is established, eradication in one season is improbable and follow-up work over two or three seasons at least will be required.

Mechanical Control:

Manual removal works best with small plants. Any manual removal must aim to remove all pieces of the roots and rhizomes; otherwise the plant may quickly regrow.

Cutting all leaves off can be used effectively to control small infestations. This is done by subjecting the plants to repeated cuttings at 50-150mm below the water surface.

The first cut is made when the flowering period is well advanced, around January, and follow up cuts are made at 4 to 6 weekly intervals. In each case cutting must be below the water level. This removes the oxygen supply to the lower and underground parts of the plant. A high proportion of plants will die in the first year due to this method. A second year of treatment should finish off any plants that survived the first treatment.

Excavation

Mechanical removal of larger plants in their entirety is difficult as roots and rhizomes can extend very wide and deep from the parent plant, and may be missed during excavation. This method can however be useful at reducing the size of large infestations, allowing easier follow up by manual removal of small plants and regrowth.

Chemical Control:

Forestry Tasmania minimises the application of herbicides to stream side reserves or water ways. Permission must be granted by the Weeds Extension officer before chemical options can be considered.

Where a large area has been invaded, herbicides can be used to control cumbungi. This option can have disadvantages. The mass of decaying vegetation after spraying reduces the holding capacity of the dam and provides ideal conditions for invasion by other species or a re-invasion of cumbungi. Anaerobic decomposition of the dead plant material may render the water foul and unfit for use. In such cases mechanical cleaning by backhoe, bulldozer or dragline will be needed to restore the dam to its original state.

Herbicides such as glyphosate that are translocated through all parts of the plant, including the deep rhizomes, are ideal for cumbungi control. A complete coverage of all foliage is necessary, although avoid spraying to run-off stage. Great care must be taken to minimise drift to other areas such as the water surface.

Correct timing of application is essential. The spray should not be applied before the male flowers have started to open and treatment should not be continued beyond 6 weeks after the female flowers have opened. Generally this period runs from about Christmas to the end of February. Follow up applications 4 to 6 weeks after the first spray may be necessary.

Plants which have more than about one-third of their stems below water may not be killed by herbicide. Whenever practicable the water level should be lowered to give the maximum possible plant exposure before treatment, and kept down for at least 12 hours after application.

Cumbungi control in and around waterways

Type of Application	Herbicide (Active ingredient)	Commercial products (Content of active ingredient)	Rate of commercial product per L	Comments
Foliar Spray*	glyphosate	Roundup Biactive® (360g/L)	13 mL/L	Apply in period between male flowers opening, and 6 weeks after female flowers open (generally Christmas to end of February). Avoid run-off or spray drift entering water.

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