

Invasive plants and animals

## Limnocharis

*Limnocharis flava*

**DECLARED CLASS 1**



Limnocharis habit (Photo S. Brooks)

### Overview

Limnocharis (*Limnocharis flava*) is a perennial aquatic weed. It can grow to a height of 1 metre, has pale green leaves and small yellow cup-shaped flowers. In Asia it has become a serious weed of rice paddies, irrigation channels and drainage ditches leading to the abandonment of rice paddies. In northern Australia it has the potential to invade wetlands, rivers and dams displacing native aquatic plants and animals.

### Description

#### Habit

Limnocharis is an anchored, aquatic, erect clump-forming herb that is generally found growing in saturated, fertile and muddy conditions.

## Leaves and stems

Limnocharis can reach 1 m in height. The pale green, velvety leaves are up to 28 cm long and 20 cm wide with 11–15 parallel veins. The leaf blade shape varies with age. It is fairly narrow when young then becomes more oval as the plant ages. The triangular stem can be up to 85 cm long.

## Flowers and seeds

The yellow, cup-shaped flowers are borne on triangular stalks. Each stalk produces 2–15 flowers. The spherical capsules produced after flowering split into 12–18 crescent-shaped pieces called follicles, which may contain up to 115 small brown seeds.



*Limnocharis flava* flower (Photo by K. Galway)



Triangular stem in cross section (Photo by S. Pattison)



Fruit and fruit segments containing seed (Photo by P. Zborowski)

## The problem

Limnocharis is considered to be a major weed in many countries. This perennial aquatic plant colonises shallow wetlands and margins of deeper waterways. It can quickly grow to dominate native aquatic plants and affects the ecology of stream banks by displacing native flora and fauna.

Limnocharis can change the hydrology of water bodies by reducing the width of channels, thereby restricting water flow and becoming silt traps. It can also restrict human and livestock access to water and provide favourable breeding areas for disease vectors like mosquitoes.

In Asia, limnocharis hinders agricultural production by infesting rice paddies, irrigation channels and drainage ditches leading to the abandonment of rice paddies. Limnocharis infestation is a serious agricultural and biodiversity threat to northern Australia.

## Life cycle

Limnocharis can reproduce vegetatively and by seed. Seeds contained in the mature fruit capsules or the individual follicles are buoyant and can be distributed by running water.

To reproduce vegetatively, the ageing fruit capsule bends towards the water, allowing the seeds to escape. The empty capsule can then develop into a vegetative plantlet that either establishes beside the parent plant or floats away to establish elsewhere.

## Habitat and distribution

Limnocharis is found growing in saturated, fertile and muddy conditions. It grows as a perennial plant in areas with sufficient moisture but can act as an annual plant where moisture is seasonal. As a tropical species, limnocharis is frost sensitive.

The native range of limnocharis extends from Mexico to Bolivia, Paraguay and northern Argentina. From its native range, limnocharis has moved into parts of south-east Asia, Africa and the south Pacific. Limnocharis has now entered northern Australia.

Limnocharis was first identified in Australia in 2001. At present, infestations are found only in northern Queensland. However, there is potential for it to establish in northern regions of Western Australia and the Northern Territory and the northern and coastal regions of Queensland and New South Wales.

## Methods of spread

A change in hydrology, e.g. flooding, is the most effective method of spread. While many fruiting capsules disintegrate fairly quickly in the water some remain intact for a number of days allowing the seed to be dispersed from the parent plant.

It is possible for seed to be spread via mud sticking to vehicles, machinery, footwear, water birds and animals.

There have also been records of trade between gardeners for use in water features.

## Current status

Limnocharis infestations have been found in eight shires in north Queensland.

Limnocharis is the target of a national cost-shared eradication program, managed by Biosecurity Queensland (a business group of the Department of Primary Industries and Fisheries) with financial support from other states and the federal government, which commenced in 2001.

As of January 2007, 18 infestations of limnocharis have been recorded, although only three of these are defined as currently active.



Potential distribution of Limnocharis in Australia

## Declaration details

In Queensland, limnocharis (*Limnocharis flava*) is a Class 1 Declared plant under the *Land Protection (Pest and Stock Route Management) Act 2002*. A Class 1 pest is not commonly present in Queensland and, if introduced, would cause a serious economic, environmental or social impact. All landholders are required to keep their properties free of declared Class 1 weeds. It is a serious offence to introduce, keep or sell Class 1 weeds without a permit.

## Control methods

There are no chemicals registered to specifically control limnocharis. Small infestations are best controlled by removing plants by hand and Department of Primary Industries and Fisheries or local government pest officers may assist with control for larger infestations.

## Further information

If you think you have found this aquatic plant please contact your nearest local government pest officer or Department of Primary Industries and Fisheries office.

More information is available online at: <[www.dpi.qld.gov.au/](http://www.dpi.qld.gov.au/)> or <[www.weeds.org.au](http://www.weeds.org.au)>.



Limnocharis infesting a waterway (Photo by DPI&F ecology)



The small yellow cup-shaped flower (Photo by M. Setter)

Fact sheets are available from DPI&F service centres and the DPI&F Information Centre phone (13 25 23). Check our web site <[www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)> to ensure you have the latest version of this fact sheet. The control methods referred to in this Pest Fact should be used in accordance with the restrictions (federal and state legislation and local government laws) directly or indirectly related to each control method. These restrictions may prevent the utilisation of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, the Department of Primary Industries and Fisheries does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.