



## Department of Primary Industries

# Anchored water hyacinth

## *Eichhornia azurea*

**PROHIBITED MATTER:** If you see this plant report it. Call the NSW Biosecurity Helpline 1800 680 244



Anchored water hyacinth has roundish leaves above the water. (Photo: Jessica Grantley)

- This plant is a water weed
- This plant must not be sold anywhere in NSW

## Profile

### How does this weed affect you?

Anchored water hyacinth invades still or slow-moving freshwater bodies. It forms dense mats in and across the top of the water where it:

- obstructs irrigation channels
- causes water losses by increasing transpiration
- smothers native plants

- reduces food and habitat for fish and other aquatic animals
- reduces access for recreational activities such as swimming and boating
- harbours mosquitoes.

## What does it look like?

Anchored water hyacinth is usually rooted in soil under the water but can also be free floating. The leaves may be underwater, floating or above the water.

### Leaves:

Leaves growing above the water are:

- green
- often round but can vary in shape
- 5–16 cm long and 2–16 cm wide.

Leaves growing underwater or in heavy shade are:

- green
- elongated
- 6–20 cm long and 1 cm wide.

### Flowers are:

- mostly white or lavender-blue with deep purple centres and a distinct yellow spot on the top petal
- funnel-shaped with 6 toothed petals 1–3 cm long
- clustered along an erect hairy spike 8–12 cm above water
- open for only one day
- present in summer and autumn.

### Fruit:

- are a capsule 1 cm in diameter
- usually contain 10–13 seeds that are 1–2 mm long.

### Stems:

- underwater stems are smooth and branched.

## Similar looking plants

Anchored water hyacinth looks similar to:

- Water hyacinth (*Eichhornia crassipes*), which is also a weed and does grow in NSW. It has bulbous (swollen) leaf stalks and its petals do not have serrated edges.
- *Monochoria cyanea* - a native subtropical plant occasionally found in NSW. It has smaller flowers, with no yellow spot on the petals. The emergent leaves are more elongated and have a pointed tip.

## Where is it found?

Anchored water hyacinth is not currently known to occur in Australia. In 2005 it was removed from a retail outlet in northern Sydney and has not been reported since.

Anchored water hyacinth is native to Mexico, Central America, South America and Jamaica.

## What type of environment does it grow in?

Anchored water hyacinth grows in still or slow-moving freshwater such as wetlands, dams, irrigation channels and river banks. It usually has roots in mud or clay beneath the water. It can reach the surface even when rooted at depths of up to 10–15 metres. It can also survive free-floating in the water.

## How does it spread?

### By seed

Flowering occurs in summer and autumn and seeds germinate in spring. Seeds are spread in water and mud via vehicles, boats and birds.

### By plant parts

Anchored water hyacinth is able to reproduce vegetatively when new daughter plants grow from the stems of the parent plant. It spreads when daughter plants or pieces of stem break away and move downstream. Whole sections of an infestation can break off and move during floods and periods of high water flow.

It could be spread by dumping unwanted pond or aquarium plants.

## References

Burton, J. (2005) Water hyacinth *Eichhornia crassipes*. Agfact. P7.6.43 third edition. NSW DPI.

Department of the Environment (2011) Weeds in Australia, *Eichhornia azurea*, Australian Government. Available at [www.environment.gov.au](http://www.environment.gov.au)

Grantley, J., McPherson, F., & Petroeschevsky, A. (2009). *Recognising water weeds: plant identification guide*. Industry & Investment NSW.

## More information

- Anchored water hyacinth model by Rachel Klyve ([www.rachelklyve.com](http://www.rachelklyve.com)) (<https://sketchfab.com/models/12938dc34a474533aaa91ee63305c3ac/embed>)

## Control

*Please do not attempt to treat or dispose of this weed yourself. Report this plant if you see it anywhere in NSW by calling the helpline listed at the top of this page immediately.*

*NSW DPIRD, Agriculture and Biosecurity will lead an initial response for the treatment and disposal of the plant to stop it from spreading.*

### Early detection

Early detection of anchored water hyacinth is critical to keeping Australia free of this serious weed.

### Herbicide options

#### WARNING - ALWAYS READ THE LABEL

Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this information. To view permits or product labels go to the Australian Pesticides and Veterinary Medicines Authority website [www.apvma.gov.au](http://www.apvma.gov.au)

See Using herbicides (<http://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control>) for more information.

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#### Amitrole 250 g/L (Various products)

Rate: 280 mL to 100 L of water

Comments: Apply immediately prior to flowering. For use in aquatic areas including drains, channels, margins of streams, lakes and dams. Follow the label instructions as per water hyacinth.

Withholding period: Nil except check for label for orchards and vines.

Herbicide group: 34 (previously group Q), Inhibition of lycopene cyclase

Resistance risk: Moderate

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#### Diquat 200 g/L (Reglone®)

Rate: 400 mL /ha plus 150 mL Agral / 100 L water

Comments: Small areas: spray to wet weeds thoroughly. About 1 mL of product should be sufficient to treat 1 square metre of weeds. Follow the label as per instructions for water hyacinth.

Withholding period: Do not use treated water for human consumption, livestock watering or irrigation purposes for 10 days after application. Do not graze or cut sprayed vegetation for stock food for 1 day after application. See label for harvest withholding periods.

Herbicide group: 22 (previously group L), Inhibition of photosynthesis at photosystem I via electron diversion (PSI electron diversion)

Resistance risk: Moderate

### **Diquat 200 g/L (Reglone®)**

Rate: 5.0 to 10.0 L/ha

Comments: Apply as overall spray, wet foliage thoroughly. Use higher rates for heavy infestations or for deep or dirty water. Do not spray more than a 1/4 of the area at a time to prevent oxygen depletion. Follow the label instructions as per water hyacinth.

Withholding period: Do not use treated water for human consumption, livestock watering or irrigation purposes for 10 days after application. Do not graze or cut sprayed vegetation for stock food for 1 day after application. See label for harvest withholding periods.

Herbicide group: 22 (previously group L), Inhibition of photosynthesis at photosystem I via electron diversion (PSI electron diversion)

Resistance risk: Moderate

### **Glyphosate 360 g/L (Only products registered for aquatic use)**

Rate: 150 to 200 mL per 15 L of water

Comments: Spot spray application. Follow label instructions as per water hyacinth. Apply when actively growing and at or beyond the early bloom stage. Use the higher rate on dense infestations.

Withholding period: Nil.

Herbicide group: 9 (previously group M), Inhibition of 5-enolpyruvyl shikimate-3 phosphate synthase (EPSP inhibition)

Resistance risk: Moderate

## **Biosecurity duty**

The content provided here is for information purposes only and is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia.

<b>Area</b>	<b>Duty</b>
<b>All of NSW</b>	<b>General Biosecurity Duty</b> <i>All pest plants are regulated with a <b>general biosecurity duty</b> to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.</i>
<b>All of NSW</b>	<b>Prohibited Matter</b> <i>A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries</i>



Flowers are light blue with a deep purple centre and a distinct yellow spot on the upper petal. The edges of the petals are toothed. (Photo: Rebecca Coventry)



The underwater leaves are long and thin (up to 20 cm long). (Photo: Kurt Stuber, Max-Planck Institute for Plant Breeding Research, [www.forestryimages.org](http://www.forestryimages.org))



Anchored water hyacinth leaves are on cylindrical stems. (Photo: Rebecca Coventry)



Anchored water hyacinth emergent leaves are alternate along the stem. (Photo: Rebecca Coventry)





Anchored water hyacinth forms dense mats on the surface of the water (Photo: Fred Husa, California Department of Food and Agriculture [www.invasive.org](http://www.invasive.org))

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