

Salvinia (*Salvinia modesta*)

Weed management guide

Weed type
Floater

February 2023

www.lls.nsw.gov.au/regions/central-west



In NSW, weeds are regulated by the NSW Biosecurity Act, 2015. All land managers have a General Biosecurity Duty to contain the spread of weeds.

“General Biosecurity Duty means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).”

The Regional priority for Salvinia is Prevention. In order to achieve this, Land Managers are asked to: *Mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.*

For further information, contact your local Biosecurity (Weeds) Officer via Central West Local Land Services or visit NSW WeedWise.

NSW WeedWise



Habit and description

Salvinia is a floating weed which can cover the entire surface of water bodies. Its round leaves (7-40 mm long and 2-25 mm wide) are arranged in opposite pairs and covered with water-repellent hairs. As it matures, the leaves become tightly folded and press into each other. The stems which are also covered with hairs, connect the leaves with its long roots (up to 30 cm).

It prefers growing in warm, stagnant or slow-moving waters with high nutrient levels.

During its primary growth stage, it can resemble Azolla (with alternate leaves) and Duckweed.



Photo: © NSW DPI



Photo: © B.A. Auld & R.W. Medd | NSW DPI

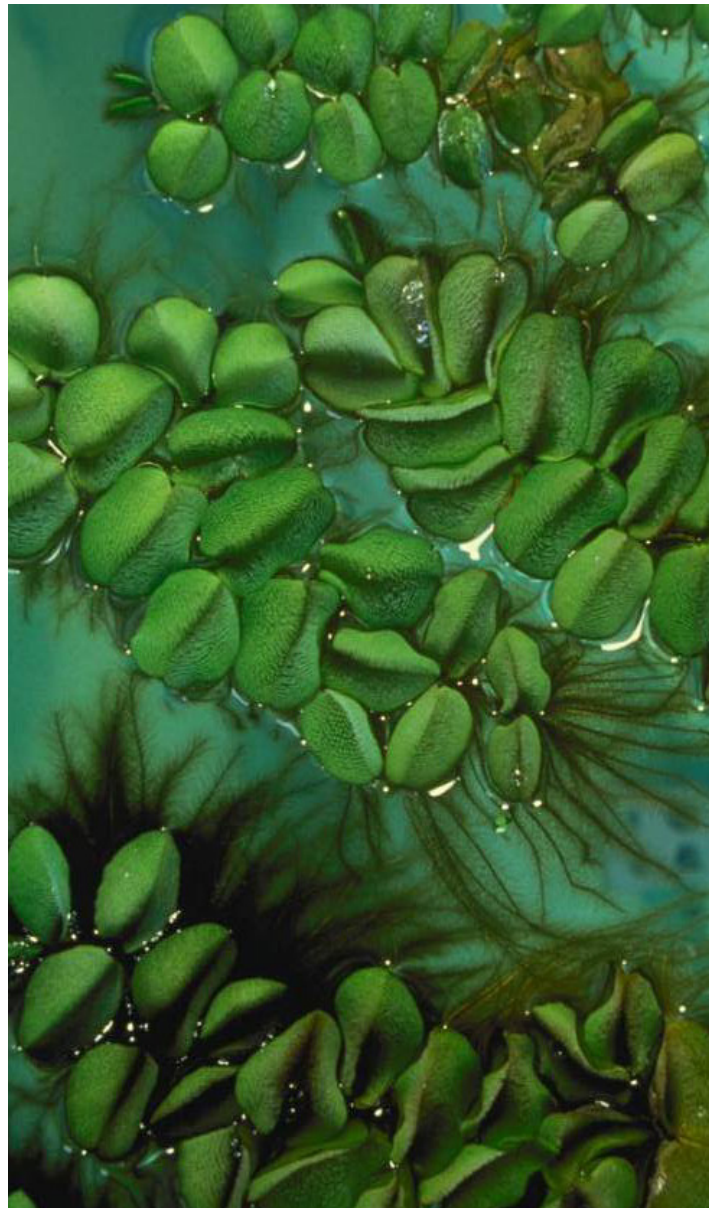


Photo: © Colin G. Wilson | NSW DPI

Reproduction and spread

While this plant produces spores as means of sexual reproduction, it was not observed to exhibit this behaviour in Australia. Instead, it reproduces through daughter plants which develop from buds produced by mature plants. Plant fragments which break off from the plant can also form new infestations.

Although its main mode of spread is through water flows, *Salvinia* can also spread to new areas by attaching to vehicles, boats, animals and birds, as well as through disposal of plant materials in waterways.

Impacts

Agriculture



- *Salvinia* can overwhelm waterways and make it difficult or impossible for recreational activities as well as transport.
- Pumping activities are also affected as the plants can block irrigation channels and equipment.
- The increased rate of transpiration caused by this plant also leads to water losses in storage areas.
- The structure of this plant also makes it a favorable breeding ground for disease-carrying mosquitoes (Queensland DAF, 2020).

Native vegetation



- As it stays on the surface of water bodies, light is blocked from reaching below. Underwater plants therefore struggle to grow and survive.
- It also reduces oxygen levels in the water leading to death of aquatic organisms.

Management

Chemical






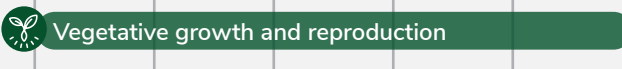


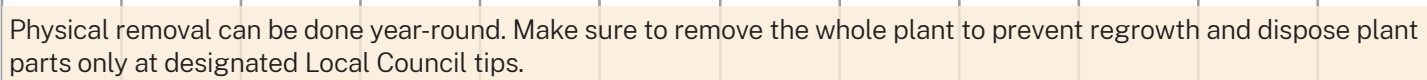
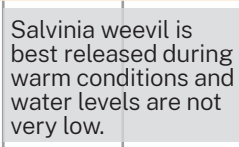
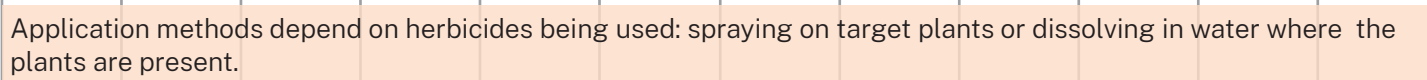
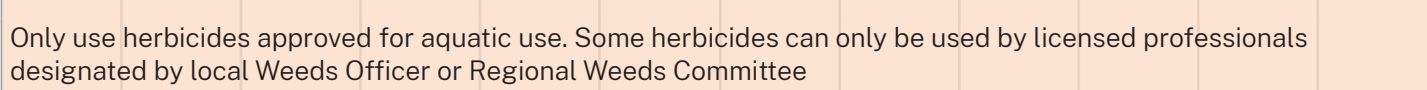
- There are multiple herbicides with varying application methods to treat against *Salvinia*.
- Seek the guidance of an experienced Weeds Officer for expert advice on herbicide use.
- Visit www.apvma.gov.au for a list of registered products, product labels and permit requirements.
- NSW DPI (2018) provides a list of recommended herbicides for the control of *Salvinia* at <https://weeds.dpi.nsw.gov.au/Weeds/Salvinia>

Non-chemical



- Measures to manage erosion as well as preventing runoff from fertilizers and agricultural waste from reaching water bodies will help reduce nutrient levels and in turn minimise the growth of *Salvinia*.
- To prevent *Salvinia* from moving to other areas, booms and nets can be installed to intercept the plant. Plants that accumulate behind these are easily removed or treated with herbicides.
- *Salvinia* weevil (*Cyrtobagous salviniae*) is a proven biological control agent against *Salvinia*.

Management calendar

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
 Life cycle												
 Vegetative growth and reproduction												
 Management tools												
Physical removal can be done year-round. Make sure to remove the whole plant to prevent regrowth and dispose plant parts only at designated Local Council tips.												
Salvinia weevil is best released during warm conditions and water levels are not very low.												
Application methods depend on herbicides being used: spraying on target plants or dissolving in water where the plants are present.												
Only use herbicides approved for aquatic use. Some herbicides can only be used by licensed professionals designated by local Weeds Officer or Regional Weeds Committee												

Optimal control options may vary depending on your location and climate. Consult an experienced Weeds Officer based in your local government area for control methods suited to your conditions.

All herbicides must be used in accordance with the herbicide label and permit requirements.

NSW WeedWise

Further information

For more information on your general biosecurity duties, visit www.dpi.nsw.gov.au/biosecurity.

For the best guidance on how to meet this duty on your property, contact your expert Weeds Officer at your local council or via Local Land Services www.lls.nsw.gov.au/regions/central-west.



References

NSW DPI. (2018). *NSW WeedWise*. <https://weeds.dpi.nsw.gov.au/Weeds/Salvinia>

The State of Queensland, Department of Agriculture and Fisheries. (2020). *Salvinia (Salvinia spp.)*. Queensland Government. https://www.daf.qld.gov.au/_data/assets/pdf_file/0003/65964/salvinia.pdf

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