

Help stop freshwater pests in Victoria's waterways



- ✓ Look.
- ✓ Act.
- ✓ Protect.

VICTORIA
State
Government

Freshwater pests in Victoria

Freshwater pests are non-native or native plants and animals that have been introduced into waterways where they do not naturally occur. They have entered Victoria from other parts of the world or even other Australian waters. Freshwater pests can harm our environments and biodiversity and can have a big impact on people's lives and their livelihoods. This brochure describes some species declared as freshwater pests under Victorian legislation, as well as other species not currently declared under Victorian legislation, but which pose a serious threat.

Freshwater pests can include a range of organisms, including species of plants, algae, fish, turtles, frogs, snails, leeches, crayfish and insects. They can live in natural environments, such as rivers, creeks, lakes and wetlands, and in man-made environments, such as channels, reservoirs, garden ponds and private dams.

Freshwater pests reproduce quickly and can rapidly spread to new areas. They are very difficult and expensive to get rid of once in a waterway, so it's more effective to prevent their introduction and detect new freshwater pests as early as possible, to avoid potentially devastating consequences.



Arrowhead © Tony Dugdale

Relevant legislation

Freshwater pests in Victoria are declared under the *Fisheries Act 1995* (Fisheries Act) or the *Catchment and Land Protection Act 1994* (CaLP Act) and are managed according to the related regulations.

Fisheries Act

Aquatic plants and animals (other than mammals, reptiles, amphibians and birds) can be declared as noxious aquatic species in Victoria under the Fisheries Act. People must not bring declared noxious aquatic species into Victoria, or take, hatch, keep, possess, sell or transport them, put them into any container or release them into protected waters (unless otherwise authorised by permit). The Fisheries Act requires people to report the possession, ownership, existence and location of any noxious aquatic species.

Catchment and Land Protection Act

Certain species of animals and plants are declared pest animals or noxious weeds in Victoria under the CaLP Act. The CaLP Act defines four categories of pest animals and four categories of noxious weeds:

- state prohibited weeds
- regionally prohibited weeds
- regionally controlled weeds
- restricted weeds
- prohibited pest animals
- controlled pest animals
- regulated pest animals
- established pest animals.

Prohibited, controlled and regulated pest animals are collectively called 'restricted pest animals'. Depending on the category, declared pest animals and noxious weeds have different management regulations that govern the importing, keeping, breeding and trading of pest animals, or the eradication, prevention of growth and spread, and trading of noxious weeds.



Alligator Gar © Greg Hume

Red Claw Crayfish © Gunther Schmida



Freshwater pests – state prohibited weeds

State prohibited weeds declared under the CaLP Act are invasive plants that either:

- do not occur in Victoria but pose a significant threat if they invade; or
- are present, pose a serious threat and can reasonably be expected to be eradicated.

If you think you've seen or purchased a state prohibited weed, please report it to the Victorian Government.



Alligator Weed

Alternanthera philoxeroides

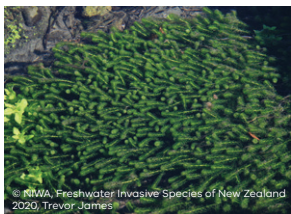
Isolated infestations in Melbourne, Bendigo and Warragul. Grows in water or on land. Free-floating plant that spreads from pieces. Forms large mats that block waterways and impact irrigation and recreational activities.



Horsetails

Equisetum species

Persistent in wetlands and low-lying areas. Spreads by root and stem pieces. Toxic to livestock.



Lagarosiphon

Lagarosiphon major

Submerged plant that prefers cooler waters. Spreads by root and stem pieces. Chokes still and slow-moving water. Reduces dissolved oxygen levels in water, resulting in fish death events. Impacts recreational activities.



Salvinia

Salvinia molesta

Ornamental and aquarium plant. Grows quickly in nutrient-rich waters and in temperatures $>20^{\circ}\text{C}$. Forms dense mats and blocks waterways.



Water Hyacinth

Eichhornia crassipes

Ornamental plant. Floating plant that spreads by daughter plants or seeds. Large, mauve flowers. Clogs waterways and affects water quality, native plants and fish.

Freshwater pests – restricted pest animals

Restricted pest animals include prohibited, controlled and regulated pest animals declared under the CaLP Act. These animals are not yet established in the wild in Victoria. Occurrences of restricted pest animals, in the wild or being illegally kept, should be reported to the Victorian Government.



© Brian Gratwicke flickr.com/photos/briangratwicke

Cane Toad

Rhinella marina

Not known to occur in Victoria. Predates on or competes with native species for food and habitat. Can carry diseases and parasites. Poison glands on head. Declared controlled pest animal.



© Jane Melville Museums Victoria

Asian Black-spined Toad

Duttaphrynus melanostictus

Not known to occur in Victoria. Greater cold tolerance than cane toads. Declared prohibited pest animal.



© Museums Victoria

Smooth Newt

Lissotriton vulgaris

Illegal pet. Established in a waterway in Melbourne and spreading. Predates on and competes with small native animals. Neurotoxin on skin. Can carry disease. Declared prohibited pest animal.



© Debbie Koenigs/USFWS

Red-eared Slider Turtle

Trachemys scripta elegans

Illegal pet. Isolated sightings in waterways in Melbourne and Geelong. Adaptable and very aggressive. Competes with native turtles for food and habitat. Declared controlled pest animal.

Prevention and early detection are key to stopping the introduction, establishment and spread of freshwater pests.

Freshwater pests – noxious aquatic species

Noxious aquatic species declared under the Fisheries Act may:

- not be known to occur in Victoria
- be widely established in Victoria
- not be widely established in Victoria.

The Fisheries Act requires people to report the possession, ownership, existence and location of noxious aquatic species to the Victorian Government.



Alligator Gar

Atractosteus species

Large freshwater species, commonly two metres long. Not yet found in Victoria. Ambush predator, potentially preying on native fish, birds and mammals. Can breathe air.



Cichlid species

Family Cichlidae

Popular aquarium fishes. Isolated infestations in Hazelwood pondage. Highly aggressive during breeding season. Compete with native species for food and habitat.



Snakehead

Channa species

May grow very large. Apex predator. Large mouth, sharp teeth. Not yet found in Victoria, but risks of infestation from the aquarium trade. Can breathe air and move across land.



Red Claw Crayfish

Cherax quadricarinatus

A crustacean native to Queensland that may compete with native species for food and habitat. Not yet found in Victoria.



Smooth Marron

Cherax cainii and

Hairy Marron *Cherax tenuimanus*

Crayfish native to Western Australia that compete with native species for food and shelter. Not yet widely established in Victoria – mainly found in a reservoir on the Mornington Peninsula.



Common Carp

Cyprinus carpio

Widespread throughout Victoria. Degrades waterways and competes with native fish for food and habitat. If caught, Carp should be killed immediately; live Carp should not be returned to the water. *Since widely established, the focus is on preventing increased spread and on reporting sightings if outside its known locations.*



Eastern Gambusia

Gambusia holbrooki

Widespread throughout Victoria. A small live-bearing fish. Usually found in large numbers. Competes with and attacks native fish. *Since widely established, the focus is on preventing increased spread and on reporting sightings if outside its known locations.*



Oriental Weatherloach

Misgurnus anguillicaudatus

A medium-sized aquarium fish that is not yet widely established in Victoria but is spreading. Currently found in waterways around Melbourne, Traralgon and the Murray system. Potential for competing with native fish. Broad environmental tolerance. Can survive dry periods.

Other freshwater pests

These other species are not currently declared under Victorian legislation but pose risks to our waterways. Some species are not known to occur in Victoria and others are already established. We must work together to prevent the establishment or spread of these species. Please report species not known to occur in Victoria to the Victorian Government.



Redfin Perch

Perca fluviatilis

Widely established across Victoria. Aggressive species that preys on native fish and invertebrates. People are encouraged not to return Redfin Perch to the water.



Goldfish

Carassius auratus

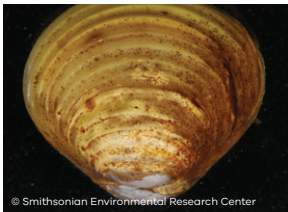
A common aquarium fish found in waterways and lakes throughout Victoria. Competes with native fish. People should not release Goldfish into waterways.



Apple Snail

Pomacea species

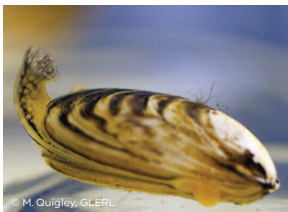
Popular aquarium pet. Not known to occur in Victoria. Broad habitat range. Completely consumes all water plants. Makes water turbid. Clogs infrastructure. Carries parasites that affect humans.



Asian Clam

Corbicula fluminea

Highly adaptable, burrowing mollusc. Not known to occur in Victoria. Competes with native species for resources. Clogs infrastructure. Carries many parasites



Quagga Mussel *Dreissena bugensis* and **Zebra Mussel** *Dreissena polymorpha*

Freshwater bivalves. Not known to occur in Victoria. Broad habitat range. Occur in large numbers. Attach to and impede native molluscs, crayfish and turtles. Compete with native mussels and invertebrates. Concentrate heavy metals and toxins.



© Trevor James Agresearch

Cabomba

Cabomba caroliniana

Submerged plant with floating white flowers. Isolated occurrences in Victoria. Prefers slow-moving, nutrient-rich water. Spreads by plant pieces.



© Trevor James Agresearch

Dense Waterweed

Egeria densa

Submerged plant that thrives in shallow, nutrient-rich, slow-moving water. Found in some waters around Melbourne, Warrnambool and Wangaratta. An aquarium and pond plant. Spreads by plant pieces.



© Tony Dugdale

Yellow Waterlily

Nymphaea mexicana

Floating leaves and bright yellow emergent flowers. Found in some Victorian waters, including Gunbower Creek and Goulburn River. Prefers still or slow waters. Grows rapidly and blocks waterways.



© NIWA, Freshwater Invasive Species of New Zealand 2020, John Clayton

Didymo

Didymosphenia geminata

Highly invasive, microscopic freshwater alga. Prefers cool, low-nutrient waters. Rapidly grows into a thick brown layer that smothers waterways.

Tips on how you can help stop freshwater pests

For everyone

- Learn about our local native freshwater species and look out for freshwater pests.
- Report suspected findings or sightings of freshwater pests to the Victorian Government.
- Adhere to rules in the *Fisheries Act 1995* and *Catchment and Land Protection Act 1994*.
- Do not move plants and animals between waterways.
- Never return freshwater pests to the water.

For people using waterways

- Check, clean and dry boats, kayaks, jet skis, other vessels, trailers, fishing gear, ropes, anchors, hiking boots and other gear between waterways and after every trip. Remove any attached plants, animals, water or sediment and put them in a bin (don't put them back into the water).
- Drain water from your vessels and gear onto the ground. Don't let it drain back into a waterway.
- Don't use live noxious aquatic species as bait.
- Dispose of unwanted live bait in a bin.

For people with aquariums, garden ponds or private dams

- Own permitted plants and animals only. Buy pets and plants from licensed retailers to help stop illegal import and trade.
- Use local native freshwater plants and animals in garden ponds and private dams.
- Never release aquarium pets or contents into or near waterways, or down toilets or drains.
- Take care when cleaning aquariums and garden ponds to prevent water, animals, plants and sediment from ending up in waterways.
- Don't use unwanted pets as fishing bait.
- Rehome or dispose of unwanted pets correctly and humanely – contact a veterinarian or pet retailer for guidance.
- Dispose of unwanted plants and cuttings in the bin.
- Don't give unwanted plants to friends or neighbours – it spreads the problem.
- Screen garden ponds and private dams to prevent accidental escapes in overflow.

For people with aquaculture businesses

- Obtain an aquaculture licence and comply with the licence conditions.
- Only farm species and conduct activities approved under your licence.
- Meet biosecurity requirements, for example, by preventing accidental escapes.



It's everyone's responsibility to protect Victoria's waterways

Community, industry and the Victorian Government are working together on freshwater biosecurity to protect and preserve our waterways for future generations.

How to report freshwater pests

Please report any unusual, strange or exotic plant or animal found or sighted in Victorian waterways to the Victorian Government, particularly if you suspect you've found or sighted a freshwater pest outside its known location in Victoria. Phone the Victorian Government on **136 186**.

When making a report, please include:

- your name, phone number and email address
- the name or a brief description of the plant or animal you wish to report
- the number of plants or animals found or sighted
- the date and time of the sighting
- the location where the plant or animal was found or sighted (GPS coordinates or specific references to streets or landmarks are helpful)
- photographs (critical for identification).

Further information

For further information about freshwater pests, please call the Victorian Government on 136 186 or visit:

Agriculture Victoria

www.agriculture.vic.gov.au/biosecurity

Department of Environment, Land, Water and Planning

www.delwp.vic.gov.au

Victorian Fisheries Authority

www.vfa.vic.gov.au

What about marine pests?

Marine pests in Victoria's estuaries, bays and inlets are also a problem. For information about marine pests, please call the Victorian Government on 136 186 or visit:

Agriculture Victoria

www.agriculture.vic.gov.au/biosecurity/marine-pests

Victorian Fisheries Authority

www.vfa.vic.gov.au/operational-policy/pests-and-diseases/noxious-aquatic-species-in-victoria

Parks Victoria

www.parks.vic.gov.au/get-into-nature/conservation-and-science/conserving-our-parks/marine-pests

Australian Government

www.marinepests.gov.au



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