

Gambusia or mosquito fish

Gambusia spp.



Gambusia were first introduced into Australia from North America as a biological control for mosquitoes; however, this was unsuccessful. Instead, they have had a detrimental effect on native fish through competition for resources and their aggressive behaviour. They have a habit of nipping the fins of other fish, regardless of size differences. Also, they prey on the eggs and larvae of native fish and frogs.

Legal requirements

Gambusia are a category 3, 5, 6 and 7 restricted invasive fish under the *Biosecurity Act 2014*. They must not be kept, fed, given away, sold, or released into the environment without a permit. If caught, gambusia must be humanely destroyed immediately and disposed of as soon as practicable by burying a suitable distance from the waterway where it was caught or placing it in a rubbish bin.

The Act requires everyone to take all reasonable and practical steps to minimise the risks associated with noxious fish under their control. This is called a general biosecurity obligation (GBO). This fact sheet gives examples of how you can meet your GBO.

There have been isolated reports of people keeping and selling gambusia around the State – this is an offence and the fish must be removed.

Description

Gambusia have a stout body up to 6 cm long with large, round scales. Females grow larger than males and have a deeper body and have a large, dark spot near the vent. Males are slimmer and have a slender, elongated anal fin.

Their colour is usually olive-brown on the back, blue-grey on sides and white-silver on the underside. Some fish have small dots on the caudal fin, dorsal fin and body. Their caudal fin is truncate or rounded. Their head is flattened and mouth upturned. Their single dorsal fin is short, originates well back on the body and has soft rays.

Gambusia have adapted to living and feeding at or near the surface of the water.



Life cycle

Gambusia females mature at about 18–20 mm, which is 4–6 weeks of age. They can produce up to 315 young per season. Gambusia produce small broods at frequent intervals, thereby increasing reproductive output and survival of the young. Their breeding season varies between 2–9 months.

Habitat

Gambusia are commonly found in lakes and still or slow-flowing streams. They are frequently around the edges or among freshwater plants. They generally inhabit warm, fresh and brackish waters at low elevations. Gambusia can withstand environmental conditions that native fish cannot, such as high temperatures and low oxygen, but they are sensitive to high salinity.

Impacts

Gambusia can have a detrimental effect on native fish through competition for resources and their aggressive behaviour. They have many traits which make them a good invader such as high reproductive potential, flexible diet, broad environmental tolerances and low vulnerability to predation due to the ability to burrow and hide from predators. Favourite fishing locations can be impacted due to high numbers of gambusia.

Control

Managing gambusia

The GBO requires a person to take reasonable and practical steps to minimise the risks posed by gambusia. This fact sheet provides information and some options for controlling gambusia.

There is currently no single, effective broad-scale gambusia control method. Most (if not all) control methods only remove a part of the population with each attempt and gambusia have a very high reproductive rate, so they will quickly repopulate the area or new gambusia will soon move in to replace those removed.

Fishing using legal recreational fishing methods is the only option available to the public. Intensive fishing with sustained effort over time may have the potential to reduce gambusia numbers in small enclosed waterbodies, but it is very unlikely that fishing alone is an effective long-term control measure.

If you catch a gambusia, you must destroy the fish as quickly and humanely as possible.

Biosecurity Queensland advocates the ethical euthanasia protocols recommended by the 2001 ANZCCART publication: Euthanasia of animals used for scientific purposes which

states:

- the most appropriate method may involve stunning the fish via a sharp blow to the back of the head just above the eyes. When applied correctly, this causes brain destruction—the fish's gill covers should stop moving and its eyes should remain still.

After destroying the fish, you need to dispose of it as soon as practicable by burying it a suitable distance from the waterway where it was caught or placing it in a rubbish bin.

Banned as bait

You cannot use gambusia or any other noxious fish as bait. These fish must not be returned to the water dead or alive.

How to stop the spread

Recreational fishers

- Don't return noxious fish to the water. If you catch a noxious fish, kill it humanely and dispose of it appropriately.
- Don't transfer noxious fish between waterways—don't use noxious fish as bait.
- Obtain a permit to stock fish. Buy fingerlings from a registered hatchery to minimise the chance of contamination with undesirable species.
- Prevent unwanted hitchhikers—check, clean and dry your boats and gear between waterways to prevent spread of weed with gambusia eggs or juveniles attached.

Ornamental fish enthusiasts and backyard pond owners

- Don't dump fish—give unwanted aquarium fish to friends or a pet shop instead of letting them go in the wild.
- Don't keep prohibited or restricted fish.
- Prevent accidental escapes—screen outdoor ponds to prevent overflow during heavy rains.
- If possible, keep native fish instead of exotics—contact your local aquarium or the department on 13 25 23 for information on local native fish species.

Fish farmers

- Prevent accidental escapes—comply with aquaculture permit conditions designed to prevent the escape of fish (e.g. screened water outlets).
- Don't experiment with exotics—keep to the prescribed species list.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland on 13 25 23 or visit biosecurity.qld.gov.au.