

Tilapia in Queensland



What are tilapia and why are they a problem?

Tilapia is the common name for a group of cichlids originating from Africa. Currently, two species, the Mozambique tilapia (*Oreochromis mossambicus*) and the spotted tilapia (*Tilapia mariae*) have become established in Queensland.

Tilapia are now widespread in Queensland after first being discovered in our rivers in the late 1970s. Only the Murray-Darling Basin, Lake Eyre Basin and most of the Gulf of Carpentaria catchments are tilapia free. Tilapia have also been reported from coastal estuarine and marine waters.

Tilapia are highly adaptable and tolerant to a wide range of water quality conditions (such as water temperature, oxygen and salinity levels). They are opportunistic omnivores and can produce and rear large numbers of fry successfully due to extended parental care in the form of mouth brooding. Together, these characteristics have made tilapia a highly successful invasive fish in many parts of the world.

In the environment, tilapia aggressively outcompete native species for food and space leading to a decline in biodiversity and species abundance.



How is Biosecurity Queensland managing tilapia?

There are no effective methods of eradicating tilapia once they are established. Previous efforts to eradicate tilapia have not been successful in the long term. Instead, Biosecurity Queensland focuses on:

- preventing the spread of tilapia to new catchments by increasing public awareness of invasive fish
- tracking the occurrence and distribution of tilapia in Queensland
- developing responses for incursions of tilapia into new areas
- advising on control and containment measures for existing infestations
- increasing our understanding of how tilapia spread and how to detect tilapia in the environment through scientific research.

Under Queensland's *Biosecurity Act 2014* (the Act), tilapia are a restricted matter (Categories 3, 5, 6 and 7).

This means:

- tilapia must not be distributed, either by sale or gift, or released into the environment
- they must not be kept
- they must not be fed
- tilapia must be killed and disposed of as soon as practical.

Furthermore, everyone has a general biosecurity obligation to manage a biosecurity matter (e.g. tilapia) and any potential biosecurity risks (e.g. release of tilapia) that are:

- under their control and
- that they know about or should reasonably be expected to know about.

As part of your general biosecurity obligation, you must:

- take all reasonable and practical steps to prevent or minimise each biosecurity risk
- minimise the likelihood of causing a biosecurity event, and limit the consequences if such an event has occurred
- prevent or minimise the harmful effects of a risk, and refrain from actions that may increase any harmful effects.

By not allowing possession of either live or dead tilapia, Biosecurity Queensland aims to remove any 'value' associated with tilapia and reduce the incentive for the deliberate spread of these fish to create new 'fisheries'.

Can I fish for tilapia and what are my legal obligations?

There are no laws prohibiting you from targeting tilapia - in fact, Biosecurity Queensland encourages it. However, once caught, tilapia must be killed and disposed of by either burying above the high-water mark near the place of capture or placing in a nearby bin.

If you dispose or intend to dispose of the carcass as soon as practicable by one of these methods, you will not be in breach of any laws, despite being in possession of the fish for this brief period.

Under no circumstances can you take tilapia as a food fish, use it as bait or return it to the water either dead or alive.

Why can't we catch tilapia to eat?

Most new tilapia infestations are caused by people moving live fish to new locations; not by natural spread across catchment boundaries. Allowing tilapia to be caught and consumed promotes the keeping of tilapia, and their spread through the creation of new 'fisheries' (e.g. stocking in dams or releasing them into rivers).

Why is frozen tilapia sold as food then?

The importation of goods into Australia is controlled by the Australian government under Commonwealth legislation, not the States and Territories. Legally imported goods can be traded in Queensland under the *Mutual Recognition Act 1992*.

Imported frozen tilapia, either whole or part, are not restricted matter under the Act. The importation and sale of frozen packaged fillets or whole tilapia from overseas for human consumption is permitted in Queensland provided legitimate documentation can be produced for its importation and it is advertised for sale with its country of origin stated.

Tilapia cannot be caught from the wild or grown in aquaculture in Australia and sold in Queensland.

Doesn't this give people a taste for it?

Tilapia may be a popular table fish for immigrants who come from countries where it is part of the staple diet or culinary culture. However, in Australia this is not the case and consumers are less likely to incorporate known invasive species into their diets.

Wouldn't recreational fishing targeting tilapia reduce their populations?

Reducing tilapia populations through angling isn't straight forward. The eradication of invasive fish such as tilapia through fishing requires enough individuals at vulnerable life stages to be removed to effectively reduce the population. Additionally:

- populations of tilapia in warmer waters may exhibit 'stunting', which means they can reproduce at smaller sizes (9–10 cm). Removing larger tilapia may not be effective at reducing tilapia population numbers overall.
- large tilapia are cannibalistic and can eat small tilapia fry – removing the largest individuals through fishing may actually increase population size.
- tilapia often thrive when a population is significantly reduced; less fish means more resources for the survivors. Fishing for them can increase their numbers in some habitats.

Why are there invasive fishing competitions if recreational fishing doesn't work to reduce populations?

Invasive fishing competitions are often run by local governments or fish stocking groups to:

- educate the community about invasive fish and the impact they can have
- understand how to restore local environments to help native fish populations
- provide a great community-based family fun day, where everyone gets to wet a line, and identify and remove some invasive fish.

What about an incentive, like 50 cents per fish?

Unfortunately, there are many examples where providing a financial reward has not actually reduced the population levels of invasive fish. For example, carp have been fished commercially in New South Wales for many years without significant reductions in carp numbers.

Incentive programs or 'bounties' can also encourage people to spread and even breed them to create new fisheries and make money.

What about introducing a commercial tilapia industry?

By not allowing tilapia to be used for economic gain, there is no 'value' in these fish. This discourages people from keeping and moving tilapia, including translocating them to create new 'fisheries'.

Biosecurity Queensland maintains a strict no possession or use approach to managing all invasive fish including tilapia.

There are tilapia in the ornamental lake in my housing estate – who is responsible?

Generally, local governments are responsible for maintaining ornamental lakes in housing estates and parks.

I have tilapia in my dam – what can I do about it?

Unfortunately, if you live in a catchment where tilapia are established, it is likely that they will invade your dam, particularly if it is located on or near a watercourse or natural drainage. Efforts to eradicate tilapia may only be short term if there is a source of reinfestation up or downstream of your dam.

Manual removal, using nets or other fishing equipment, is the most effective way of managing tilapia. Draining the dam partially or entirely may assist in manual removal.

Chemical treatments (poisons) have been used in the past but are no longer recommended as they have additional regulatory requirements for use and pose a risk to native fish and the environment.

Your local government or catchment management group may have additional resources, suggestions for control or contacts that may be able to assist you.

Any tilapia removed from your dam must be euthanised and disposed of by burial or in a bin as soon as practical. You cannot keep tilapia (either dead or alive), move them, sell them or give them away.

Further information

For all food import rules and regulations contact the Australian Department of Agriculture and Water Resources at agriculture.gov.au/import/goods/food.

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



Female Mozambique tilapia



Male Mozambique tilapia



Juvenile Mozambique tilapia