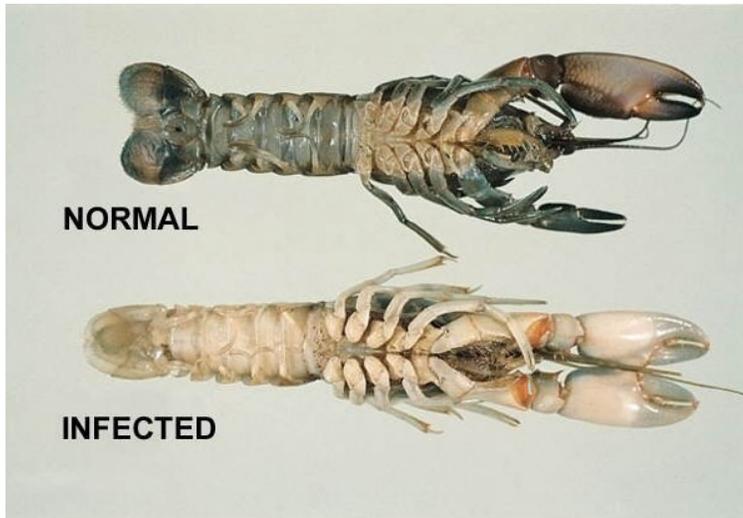




***Thelohania* - a threat to marron and yabbies**

Freshwater crayfish in danger

We are urging farmers and recreational fishers to adhere to the yabby zoning system detailed below and to stop using yabbies as fishing bait. These important measures will help protect wild marron, as well as the yabby and marron farming industry, from the threat of *Thelohania*.



What is *Thelohania*?

Thelohania is a freshwater crayfish infection that has been found on a number of farms across the State. It is a microscopic parasite that invades the muscle tissue and may eventually cause the death of an infected freshwater crayfish. No treatments are available to kill the parasite.

Thelohania is not a threat to human health if infected crayfish are consumed. However, the infection is an important issue for the management of WA's yabby and marron aquaculture industries, and to the future of the State's recreational marron fishery.

Over 8,000 West Australians fish for marron every year. Everyone must take responsibility for their own actions, in order to protect freshwater crayfish aquaculture industries and conserve WA's wild marron populations.



How is *Thelohania* spread?

Thelohania is passed on by healthy marron or yabbies feeding on an infected animal. It could only take one crayfish infected with *Thelohania*, or parts of it used as bait, being placed in a waterway to infect wild crayfish populations. It is spread by infected crayfish being moved from one dam to another, or from one property to another.

Infected crayfish are sometimes difficult to tell from healthy ones. For this reason, it is essential that captive crayfish are never released into the wild. It is important to protect our unique wild marron populations for future generations.

Zoning system to protect marron and yabbies

A zoning system has been established to minimise the further spread of *Thelohania* (see map below). It is essential that all sectors of the WA community cooperate in operating within the new zoning system.

As *Thelohania* has been mainly identified in yabbies, the recommendations associated with each zone primarily relate to their movements. However, it should be noted that care must also be taken with the movements of marron and other freshwater crayfish.

Zone 1

This zone is located south of Perth and west of the 'yabby boundary', which roughly follows the Albany Highway from Perth to Albany. This south-west area of WA is home to wild marron populations and some high conservation value river systems that need protection.

Zone 1 is also an important area for marron aquaculture. It is essential to exclude yabbies from this area, not only because of *Thelohania*, but if healthy yabbies escape into rivers they may damage wild marron populations.

Yabbies are not permitted to be moved into this area under any circumstances, including the stocking of dams, for fishing bait or the aquarium trade.

In addition, no movements of yabbies within or out of Zone 1 is permitted. This approach has been adopted to protect wild marron populations in the zone.

We strongly recommend that any person with yabbies on their property within this area destock their dams and restock with marron.

Zone 2

Zone 2 is the area between the 'yabby boundary' and the Great Eastern Highway. The majority of yabbies infected with *Thelohania* have come from within this area. For this reason, the strictest controls on yabby movements apply in this zone.



There must be no movements of yabbies within or out of this zone, except for the purpose of direct human consumption.

The ban on yabby movements includes those for stocking purposes, for fishing bait and the aquarium trade. Property owners where *Thelohania* has been detected must decide whether to destock and restock with healthy animals, or to manage *Thelohania* through good husbandry techniques.

Zone 3

The third zone is in the area north of the Great Eastern Highway. The area is thought to be largely free of *Thelohania*, but this is yet to be confirmed. No movements of yabbies into this zone should occur without the specific approval of our Director General.

Due to the possible low prevalence of *Thelohania*, it is hoped that some properties from this area may be able to attain 'disease-free' certification. These properties will then supply clean juveniles for the stocking of dams across Zones 2 and 3.

Certification of properties will require testing for disease. Interested farmers should contact our Aquatic Animal Health section.
T: (08) 9368 3357

Destocking

Farmers with a confirmed *Thelohania* problem may wish to remove all crayfish from their dams and restock with a supply of clean juveniles.

Those who are wishing to destock should note that it is illegal to use chemicals that are not approved for the purposes of killing crayfish in dams.

It is essential you seek advice on safe chemicals, as the use of chemicals not registered for this purpose is not only illegal, but dangerous. For further information contact the Aquaculture Council of Western Australia.
T: (08) 9432 7711

Some chemicals can be persistent in dam water. Using unregistered chemicals to destock may result in residual levels of chemicals being found later in the animals restocked into the dams, which may pose a risk to human health.

Some unregistered chemicals may leach into the groundwater and nearby rivers, polluting these water sources for other users. Either of these outcomes would be very detrimental for freshwater crayfish aquaculture industries.



The suggested approach to destocking is through one, or a combination of, the following methods:

- Trapping to remove as many animals as possible from the dam for consumption or appropriate disposal;
- Draining dams to harvest animals (if competing demands on water use permit); and
- If legally permitted, through chemical treatment.

Animals collected through trapping and drain-downs should be carefully examined for signs of *Thelohania*.

How can I avoid or minimise the impacts of *Thelohania*?

The best way to attempt to avoid *Thelohania* is not to bring any new freshwater crayfish onto your property. Animals that need to be brought in should, where possible, be from a property with a sample of animals tested and certified by us as being free from *Thelohania*.

For further information contact our Aquatic Animal Health section.
T: (08) 9368 3351

Importing yabbies for any purpose from the eastern states of Australia is not permitted unless prior written authority has been obtained from our Director General.

Farming techniques

If *Thelohania* is present on your property, individual crayfish will be more susceptible to infection if they are stressed by poor water quality. Ways to minimise the incidence of *Thelohania* include: ensuring regular harvesting; monitoring stocking density; appropriate feeding regimes; and optimum dissolved oxygen, salinity and temperature levels.

The movement of crayfish from one dam to another should be avoided.

It is also important to ensure traps and nets are cleaned and disinfected after use in one dam before using them for harvesting from another. After cleaning the equipment, soak for at least 10 minutes in a chlorine solution made with 200 ml of swimming pool chlorine (which is around 10 - 12 per cent chlorine) mixed with 100 litres of clean water. Clean water should then be used to rinse the equipment.

Wild marron and yabbies may walk from creeks along overflow channels that form a link to neighbouring ponds and dams. If these animals have *Thelohania*, they may infect the animals already in your pond/dam. To avoid possible contamination from this source, try to maintain a dry land buffer between your dams and nearby creeks or place screens over the inlet and outlet channels.



It is essential to use every opportunity to visually check your animals for signs of *Thelohania*. Animals may be inspected by examining their underside for white streaks in the tail flesh - in advanced cases of the disease the underside may have a solid white porcelain-like appearance.

If an animal suspected of having the disease is found, please contact us immediately. We can advise you of how and when to submit samples for testing. Never put unhealthy-looking animals back into dams.

Everyone has a responsibility to conserve WA's freshwater crayfish for future generations. By following these simple guidelines, the spread of *Thelohania* can be minimised to protect our unique wild marron and freshwater crayfish aquaculture industries.

