Hairy marron (Cherax tenuimanus) and Smooth marron (Cherax cainii) – pictured
The scientific names for the two species of marron are currently under review.

Magnificent marron

Marron are the largest freshwater crayfish in Western Australia – and the third largest freshwater crayfish on Earth. Fishing for this tasty south-west crustacean has long been a WA tradition.

Uniquely Western Australian

Marron are endemic to south-west Western Australia, between Harvey and Albany. Another way of saying this is that their natural distribution is limited to this area. However they have since been introduced by people into water bodies elsewhere in the State.

Over the past century, marron were stocked into farm dams and waterways from Hutt River north of Geraldton inland to the WA Goldfields and east to Esperance on the south coast. Marron have also been introduced into water bodies in South Australia.

Family Parastacidae

Along with four other freshwater crayfish species that are native to southwest WA – gilgies (the widespread Cherax quinquecarinatus and less common Cherax crassimanus) and koonacs (the widespread Cherax preissii and less common Cherax glaber) – marron are Parastacids. Marron, gilgies and koonacs all belong to the Cherax genus within the Parastacidae family.

Decapod crustacean

As in other crayfish, a marron’s body is made up of a head and thorax protected by a hard shell (called a carapace) and a muscular abdomen and tail.

Marron are decapod crustaceans, which means they have 10 legs. These include large claws called chelipeds for grasping food, fighting and moving. The next pair of legs consists of two small pincers for picking up food particles and stuffing them into their mouths.

Marron have two eyes on the end of their eyestalks but also rely heavily on touch and taste, using one pair of large antennae and smaller antennules.
**River recyclers**

Marron prefer to live in parts of rivers and dams where there is permanent water and plenty of suitable habitat and food. This includes rivers and dams with large woody debris such as fallen trees and submerged leaves.

Within the river ecosystem, marron play a critical role as recyclers, breaking down animal and plant matter that sinks to the bottom. Marron are regarded as ‘benthic omnivores’. This means that they eat all kinds of living, dead and decaying plant and animal material found on the river or dam bed, including small invertebrates, fish eggs, fish larvae and algae. Large marron also attack and eat juvenile marron.

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1. Juvenile marron are rarely seen. They hide under rocks and in forest litter that has settled in the river. The speckled colouring that provides them with camouflage changes as they grow older.

2. Marron grow mostly in the summer months, when water temperature is warmest. They thrive in water that is 15 to 25 degrees Celsius. They grow by moulting. They shed their shell, exposing a larger shell, that had been forming underneath. During the short time that the new shell takes to harden, marron are especially vulnerable to attack. During the winter, with water temperatures below 12 degrees, marron are less active and their growth rate slows.

3. Marron usually reach sexual maturity at two-to-three years old. They spawn in early spring when water temperatures start to rise and in favourable seasons will produce more eggs (usually between 200 and 400, but sometimes large females may produce up to 800). The eggs take nearly half a year to develop inside the females. During mating, the males pass on a sperm packet that the females use to fertilise their eggs after laying.

4. Once the eggs are fertilised, the females then carry them in a large mass under their tails until they hatch in late spring. Females bearing eggs in this way are described as ‘berried’.

5. The hatched marron larvae then hang under the mother’s tail, clinging to fine hairs. The larvae remain this way for many weeks, feeding on nutrients from the yolk sac and moulting several times.

6. By summer, these tiny juveniles are ready to actively feed. They drop away from their mother and remain in waterways close to where they were hatched.

7. Small juvenile marron are highly vulnerable to predation from other fish and animals, and cannibalism by larger marron.
Blue, smooth, tiger, red and hairy marron

Marron range in colour from jet-black to striped (tiger) to red to brown and also stunning cobalt blue – a rare, natural variation now farmed for aquariaums.

Marron in most south-west river systems have smooth carapaces or shells. However, another type of marron found in the Margaret River has tufts of hair on its back.

Hairy marron are only found in the upper reaches of the Margaret River and are considered critically endangered.

Action is being taken to help hairy marron stocks recover, including removing smooth marron from the upper reaches of the Margaret River, revegetating stream banks where hairy marron still survive and re-stocking parts of the river with captive-bred hairy marron from the Department of Fisheries Pemberton hatchery.

Fishing has also been banned in areas where hairy marron are known to exist.

Predators

Marron are preyed upon by native water rats, tortoises, birds (such as cormorants), fish such as freshwater cobbler and introduced species such as redfin perch and trout – as well as bigger marron. Marron are crepuscular, meaning they are most active just after sunset.

Yabbies – NOT a WA native

Many people mistakenly think that yabbies (Cherax albidus) are native to WA because they are widespread in WA farm dams and have also formed feral yabby populations in south-west rivers.

However, yabbies were introduced to WA from eastern Australia in the 1930s. Yabbies grow fast, reproduce at a young age and can breed several times in one season. Feral yabby populations are therefore considered a threat to WA native freshwater crayfish because yabbies may out-compete them for food and habitat.

Threats to wild marron populations

Marron are fussy when it comes to water quality and do not tolerate high salinity, low oxygen or high temperatures. While other freshwater crayfishes such as koonacs and gilgies can survive in seasonally dry streams by burrowing into the banks and creating moist burrows, marron only live in permanent water bodies such as larger rivers and dams.

Unfortunately for marron, habitat loss (such as destruction of riverbank vegetation), increasing salinity, climate change and reduced river flow are affecting all of south-west WA’s freshwater systems.

In response to these environmental pressures, marron have reduced their range within rivers. The healthiest marron populations are generally found in rivers that are still largely in their natural state, with well-forested catchments and plenty of vegetation on the banks.

Other pressures on marron include feral yabbies, and legal and illegal fishing.
Marron management

Tools for managing marron fishing sustainably include seasonal and area closures; size, bag and possession limits; and restrictions on the type of fishing gear used. By managing fishing at sustainable levels, it’s hoped that the popular WA pastime of ‘marroning’ will continue for years to come.

Catching and eating marron

It has been illegal to sell wild captured marron since 1955. Wild marron stocks are therefore managed as a recreational-only fishery.

Marron are also grown in private farm dams or in commercial aquaculture farms. A licence is required for commercial production and strict conditions are placed on the transport of marron off farms.

Research

Decisions about managing wild marron stocks are based on research showing marron abundance, along with knowledge about their life history and biology. Department of Fisheries researchers assess the status of marron stocks by using both ‘fishery-dependent data’ (catch and effort data provided by recreational marron fishers) and independent data, such as samples from rivers and dams, and analysing these catches.

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Glossary

Antenna (plural: antennae) A sensory organ found in pairs on the heads of insects and crustaceans
Benthic Found in or near the river bed or dam bottom (or seabed)
Berried When a female marron carries eggs attached under her tail
Carapace Protective shell covering the marron’s head and thorax
Crepuscular Active at twilight, or just after sunset
Critically endangered A species that is at an extremely high risk of becoming extinct, or dying out
Crustacean Animals with hard, jointed external skeletons, such as crabs, shrimp, lobster, prawns and marron
Decapod Has 10 legs
Detritus Dead organic material

Distribution Geographic area within which a species is generally found
Effort Amount of time and quantity of gear used by fishers
Endemic Native to or only naturally found in one place
Moult Shed and discard an old shell in order to grow a new one
Omnivore An animal that feeds on both plant and animal matter
Range Geographic area, including all locations in which a species is recorded, even if only rare or single sightings
Thorax Part of the body between the head and the abdomen

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