



# Rakali: the Aussie otter

**T**he native aquatic rodent, the rakali (*Hydromys chrysogaster*), is found throughout Australia and New Guinea in lakes, rivers, dams and coastal and estuarine habitats. Also commonly referred to as the water rat, the rakali has dark, lustrous and dense water-repelling fur and grows up to one kilogram in weight. It also possesses highly specialised features that enable it to swim underwater for long periods and seek out food in dark, murky waters. It is distinguishable from introduced brown and black rats by a white tip at the end of its tail.

The rakali's primary diet appears to consist of fish and invertebrates such as mussels; however, the animal also has a taste for important secondary items such as waterbirds, bush birds and crustaceans. Young tortoises, frogs, bats, turtles and small terrestrial mammals have also been recorded as prey species.

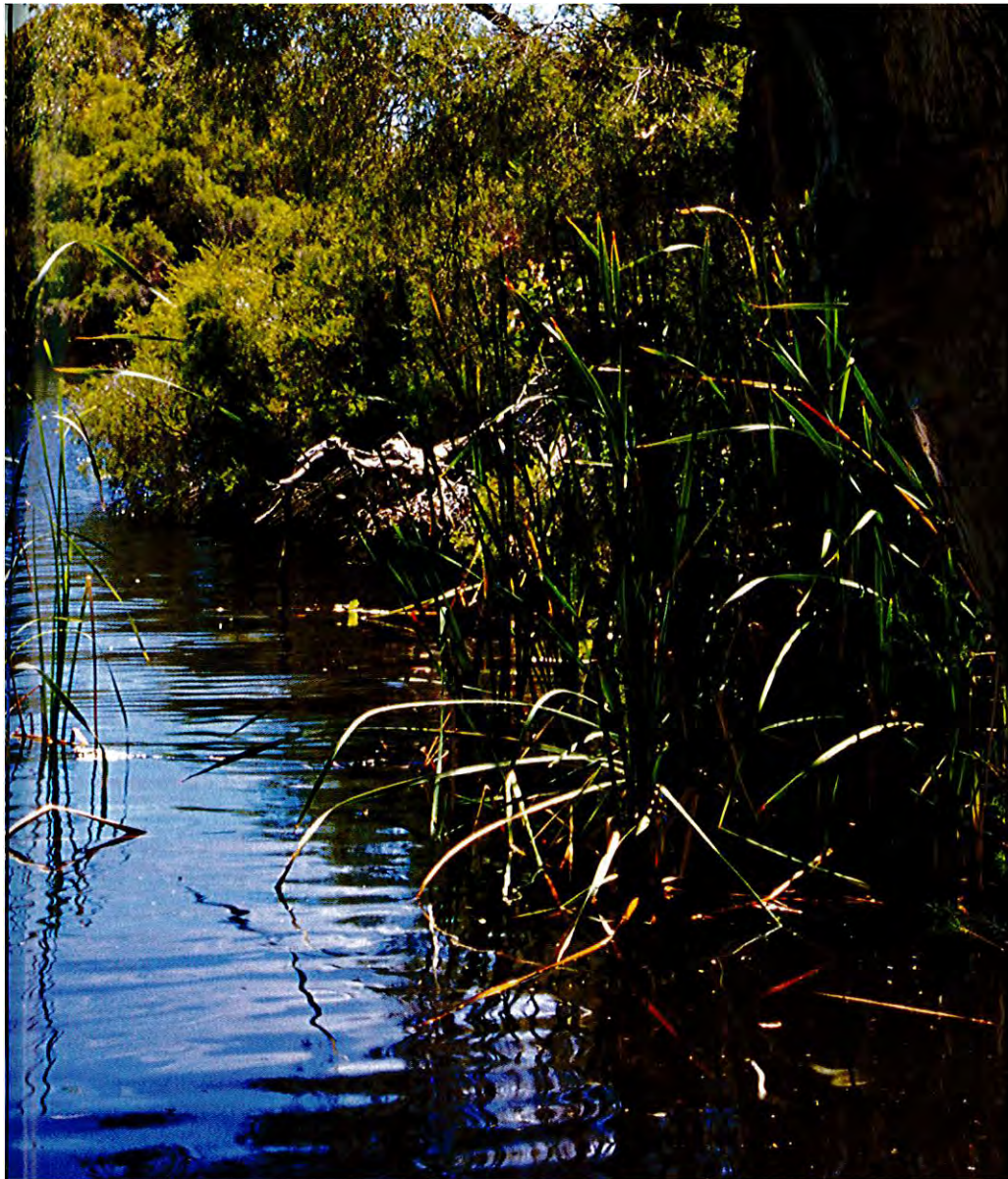
Two or more litters of three to four young rakali are produced each year and are raised in burrows dug into dam walls and riverbanks. The entrances to these are often located underwater so they can be very difficult to spot. The young leave the den at about eight weeks old to seek out their own territory.

## Water rat whereabouts

Most Western Australian Museum records of the species are from the south-west of the state, although historically the species also occurred further inland to the wheatbelt. A number of records of the rodent also come from the Kimberley and Pilbara regions. The population hot spots from the museum's records are the Swan and Canning rivers in Perth and around Albany. Gingin and Ellen brooks, just north of Perth, once

boasted large numbers of rakali, but hunting for the fur trade up to the 1950s saw the population decimated. While few sightings are made around Perth today, rakali may continue to reside in watercourses in less developed and more natural habitats around the metropolitan area. Their presence is often indicated by middens of mussels and crustaceans on riverbanks.

Rakali's listing as 'secure' in the *Action Plan for Australian Rodents* came about primarily due to its Australia-wide distribution. But the listing came with the qualifying statement that there had been "a substantial decline in south-west Australia ...". This species is on WA's priority fauna list, meaning it is in need of further study before being regarded as secure. However, there is some evidence that the species is under threat and deserves closer attention.



Hunted to local extinction in some places for their fur, removed by marron farmers due to a liking for the succulent crustacean and suffering from a drying climate and degradation of waterways, rakali is certainly a special Australian mammal with difficult times ahead.

**by Brent Johnson**

### Species in decline

As the top-order mammal predators in their aquatic environment, rakali might be considered a 'keystone species' when considering the environmental health of aquatic ecosystems; that is, if rakali exist in an area, the whole ecosystem must be intact to support them. But in a worrying indication for wetland ecosystem health, recent studies by Department of Environment and Conservation (DEC) staff and university students have revealed that many of the wetlands on the Swan Coastal Plain no longer contain rakali. These wetlands have been in decline for many years and their ability to hold water, support aquatic and fringing vegetation and provide sufficient food for rakali have been greatly diminished. Nutrient and salinity levels have risen, some toxins and pollutants have entered

**Above** Rakali habitat, Canning River.

*Photo - Marie Lochman*

**Inset** Rakali.

*Photo - Hans and Judy Beste/Lochman  
Transparencies*

**Right** Rakali are also known as water rats.

*Photo - Jiri Lochman*

the waterways and declining rainfall has greatly amplified the destructive influence of these factors. In addition, many other wetlands in this area have been drained and filled to allow for urban development. Elsewhere in the state's south-west, rising salinity levels from over-clearing have completely destroyed wetland ecosystems. This severe reduction in suitable habitat has created too few places for rakali to live and the large distances between those that do remain make it difficult for





young rakali to seek out new territories. The genetic diversity of the population may also suffer from limited breeding opportunities. Despite declines in some areas of the south-west, some marron farmers consider rakali to be a pest as their commercially raised crustaceans are a desirable food source for rakali. More work is needed to quantify the

extent of predation and to develop management tools that enable rakali and marron to co-exist.

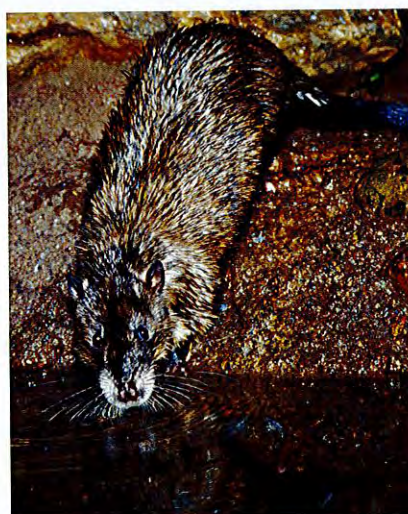
### Hanging on

But there is hope. Other recent investigations completed during fauna surveys on the area of the northern Swan Coastal Plain known as the

Gnangara Mound have revealed that small populations of rakali still exist in Yellagonga Regional Park. A band of wetlands stretching from Lake Goollelal in Kingsley to Loch McNess in Yanchep National Park continues to hold water for much of the year and, in places, the surrounding vegetation appears relatively healthy. Trapping surveys in these wetlands have shown that Lake Goollelal in particular has a significant population. Individuals radio-tracked at this site in 2009 provided a little more information about their behaviour. At Goollelal the presence of small islands and floating reed beds is considered important; introduced predators such as cats and foxes are implicated in the decline of many species of similar size to rakali and this type of habitat provides safe refuge. It may also act as a buffer from human interference.

### In the north?

Much of the local knowledge about rakali comes from the south-west, yet they have also been recorded along



**Above** DEC officers prepare to process a captured rakali.

*Photo - Janine Kuehs/DEC*

**Centre left** Rakali have long whiskers to help find prey in murky water.

*Photo - Brent Johnson/DEC*

**Centre right** Rakali are occasionally seen on wetland fringes and river banks.

*Photo - Hans and Judy Beste/Lochman Transparencies*

**Left** Lake Joondalup.

*Photo - Marie Lochman*



the northern coastline and on offshore islands in saltwater environments. Little is known about the ecology of these northern water rats, or their genetic relationships with the southern and the eastern states populations. Fauna surveys on Kimberley islands along with fauna monitoring on Barrow Island in the Pilbara have shown that rakali in the north inhabit zones close to the beach, but we have little more information. The permanent presence of DEC officers on Barrow Island (see 'Giant steps: industry and conservation make history through Gorgon', *LANDSCOPE*, Winter 2010) and the ongoing fauna translocation program here may now

provide the opportunity to undertake further investigation. If this work reveals a substantial population, rakali may be considered for translocation to the nearby Montebello Islands (see 'New island home', *LANDSCOPE*, Summer 2010–11).

Next time you visit your local lake or river, keep a lookout for this little Aussie otter swimming swiftly along the water's edge or foraging among the reeds. Rakali are a unique Australian mammal but, sadly, their habitat is under severe threat in WA and much more needs to be learned to ensure this species is not added to the threatened fauna list.

**Above left** DEC nature conservation officer Alice Reaveley prepares to release a male rakali.

*Photo - Kristian Pollock/DEC*

**Above** Healthy wetland ecosystems provide essential rakali habitat.

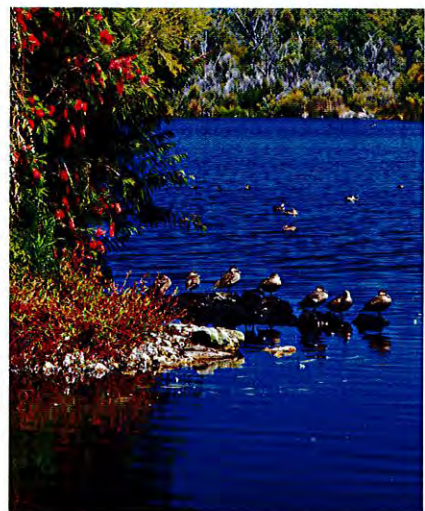
*Photo - Brent Johnson/DEC*

**Below** Loch McNess, Yanchep National Park.

*Photo - Peter Nicholas/DEC*

**Below left** Aquatic crustaceans are preferred rakali prey.

*Photo - Jiri Lochman*



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