DISTRIBUTION AND STATUS OF AUSTRALIAN WATER-RATS (*Hydromys chrysogaster*) IN THE GIPPSLAND LAKES

A REPORT TO THE GIPPSLAND LAKES MINISTERIAL ADVISORY COMMITTEE

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NOVEMBER 2014
DISTRIBUTION AND STATUS OF AUSTRALIAN WATER-RATS (*Hydromys chrysogaster*) IN THE GIPPSLAND LAKES

**SUMMARY**

Relatively little has previously been recorded about the distribution and status of the Australian water-rat or rakali* (*Hydromys chrysogaster*) in the Gippsland Lakes system. In turn, this has contributed to a lack of public awareness about the presence of this attractive native rodent in Gippsland’s waterways.

The results of the current study demonstrate that Australian water-rats are found through most of the Gippsland Lakes region. However, population density appears to be low in Lake Wellington and the western end of Lake Victoria as well as in Lake Tyers.

Anecdotal evidence collected during this study suggests that water-rat numbers have declined in the last five decades. A number of purported threatening processes were identified by members of the local community including the impact of commercial eel-fishing, predation, loss of habitat to development and possible poisoning during baiting programs for pest species. However, there is no reason to believe that the Gippsland Lakes water-rat population is substantially threatened or at risk.

GLMAC and other agencies can probably best support the species’ long-term conservation by developing public awareness of the occurrence of water-rats in the Lakes.

*Hydromys chrysogaster* is a very attractive native mammal that has many otter-like features and feedback received from the community regarding their support for the species’ presence in the region was very positive. The Australian water-rat could easily be promoted both as a desirable resident of the Lakes ecosystem and as an eco-tourism attraction. Community interest in local water-rats can also be harnessed to highlight and address management problems in the Lakes, including litter, pollution and illegal or irresponsible fishing practices.

Accordingly, the major recommendation of this report is that GLMAC (in conjunction with other relevant management agencies) initiate a community education program about Australian water-rats.
DISTRIBUTION AND STATUS OF AUSTRALIAN WATER-RATS (*Hydromys chrysogaster*) IN THE GIPPSLAND LAKES

BACKGROUND INFORMATION ON THE SPECIES

The water-rat or rakali* (*Hydromys chrysogaster*) is the largest and possibly the most specialised of all Australian rodents. An attractive animal weighing up to 1.3 kilograms – as big as a medium-sized platypus - the water-rat’s ancestors are believed to have arrived in Australia around 5-10 million years, after swimming (or possibly rafting) from New Guinea.

The Australian water-rat is an aquatic predator which resembles a small otter in many ways:

- Muzzle is blunt and furnished with a dense set of whiskers (below left).
- Hind feet are broad, partly webbed and paddle-like (below centre).
- Tail is well-furred and thick to help serve as a rudder when swimming (below right).
- Body is elongated and streamlined.
- Ears are small and can be folded flat against the head for a streamlined profile
- Fur is soft and lustrous, drying quickly and helping to keep the animal warm in the water.

The species occupies rivers and lakes throughout mainland Australia and Tasmania. Although often considered to be mainly a freshwater species, it also occurs in a range of brackish and saltwater environments including beaches, estuaries and smaller offshore islands (Watts and Aslin 1981). It also can travel long distances over dry land in search of food (McNally 1960, Harrison 1962). In Victoria, the animals have been recorded up to an elevation of at least 1500 metres at Lake Catani in Mount Buffalo National Park (Menkhorst 1995).

The results of trapping studies indicate that population density may vary considerably, with the greatest numbers of animals often associated with human-modified habitats such as irrigation channels or fish farms (McNally 1960, Watts and Aslin 1981, Smales 1984) although Williams and Serena (2004) noted that it was an over-simplification to conclude that water-rat populations around Melbourne had been broadly favoured by urban development.
The water-rat’s diet primarily comprises fish (including eels) and large aquatic invertebrates (insects, crustaceans and molluscs). Frogs, turtles, birds’ eggs, semi-aquatic spiders, bats, mice and even fully grown water-birds are also eaten, along with edible domestic refuse, pet food, and offal generated by fishermen gutting their catch (Woollard et al. 1978, Smales 1984, Fleay 1990).

The water-rat is one of the few Australian rodents that is commonly diurnal, possibly reflecting the fact that its body temperature tends to drop progressively in water colder than 25°C (Fanning and Dawson 1980, Dawson and Fanning 1981). Little is known of the species’ social organisation in the wild, although Harris (1978) has suggested that adults are intrasexually aggressive, given that the home ranges of adults of the same sex appear to overlap less than those of other sex and age classes. In captivity, individuals kept in groups form hierarchies in which only the dominant females usually reproduce successfully (Olsen 1982).

Water-rats mainly breed in spring and summer (September-March), with most females producing two or three litters per year. Litters can comprise up to seven young, though litters of three to five young appear to be more typical (McNally 1960; Olsen 1982). In captivity, juveniles are weaned at the age of about 4 weeks, with females first capable of reproducing when 4-8 months old (Olsen 1982). It is believed that water-rats normally survive for a maximum of about 3-4 years in the wild.

Based on information gleaned from radio-tracking, water-rat home ranges typically comprise in the order of at least 1-4 kilometres of waterway, with animals observed to range several hundred metres to more than one kilometre in a given night (Harris 1978, Gardner and Serena 1995). When not engaged in foraging, the animals may rest either in burrows or hollow logs located near the edge of a waterway (McNally 1960, Harris 1978, Watts and Aslin 1981, Gardner and Serena 1995).

In places where populations are dense there is considerable fighting, as evidenced by a high frequency of bite marks on tails and hind feet. This suggests that juveniles have to disperse from their mother’s home range fairly soon after becoming independent; however, nothing is known about this process.

* In an attempt to foster positive public attitudes towards Australia’s native rodents, new names for these species were proposed by Environment Australia in the early 1990s. The designated common name for the Australian water-rat Hydromys chrysogaster is the aboriginal word "Rakali". However, reflecting the fact that most published literature (both scientific and popular) employs the name “water-rat” rather than Rakali, this report utilises the traditional nomenclature for the species.
INTRODUCTION

A major problem in investigating the status and distribution of water-rat populations relates to limitations in live-trapping techniques. Most surveys have relied on the use of cage traps positioned on the water’s edge. Because the water-rat spends much of its time in the water and is an alert and intelligent species, capture rates for land-based traps are typically very low.

For instance, a study in central Gippsland succeeded in capturing only five water-rats in 319 trap-nights (Smales 1984). An extensive trapping program at St Kilda in 1998-99 caught only three water-rats, despite the fact that other evidence suggested that at least 15-20 animals resided in the survey area (Earthcare St Kilda 2004). Various surveys in and near Healesville Sanctuary recorded 24 captures in 1059 trap-nights (Pamment 1986), three captures in 78 trap-nights (Thomas et al. 1987) and 38 captures in 470 trap-nights (including two captures made opportunistically in fyke nets set for platypus) (Gardner and Serena 1995). A 1988 survey program at the Werribee Sewerage Treatment Farm/Little River - an area where the species was believed to be particularly abundant - achieved the highest known capture rate for surveys using cage traps: 15% (62 captures in 423 trap-nights) (Seebeck 1999).

Water-rat capture rates as a by-product of platypus live-trapping using fyke nets are typically higher than for land-based traps since this method intercepts animals as they are swimming. For example, in the period 1995-2003, fyke nets were set to assess the occurrence of platypus for 1470 trap-nights in the greater Melbourne metropolitan and water-rat capture rates of 50% were recorded for the Western catchment, 42% for the Westernport catchment, 24% for Yarra catchment and 13% for the Dandenong catchment (Williams and Serena 2004). However, fyke-netting surveys can only be carried out safely and effectively in fairly shallow water and this methodology is limited by the propensity of water-rats to chew through nylon nets and escape, meaning capture frequency must often be inferred from the occurrence of holes in netting.

The inherent difficulties in developing effective live-trapping methods have resulted in a conspicuous lack of wide-scale research into Australian water-rat populations. Reflecting this, very little is known about the current status and distribution of this native rodent in the Gippsland Lakes system and relatively few persons living in the region are even aware of the species’ existence. Likewise, the conservation needs of the water-rat have largely been ignored in catchment and coastal management plans and this attractive native species has to our knowledge never served as a focal “flagship” to help generate community support for environmental protection and rehabilitation programs.
METHODS

In view of the difficulties involved in capturing water-rats in standard traps or nets (see previous section), systematic recording of visual observations of water-rats was identified as the most practical and cost-effective method of obtaining an overview of the status and distribution of the water-rats in the Gippsland Lakes.

Reliable sightings of water-rats (submitted by staff of management agencies and members of the public) were recorded by the Australian Platypus Conservancy from 1 November 2013 to 31 October 2014. Reports were categorised as ‘one-off’ (i.e. a single sighting), ‘occasional’ (2-6 sightings in the reporting period) or ‘frequent’ (> 6 sightings in the reporting period).

Sightings reports were elicited in a number of ways, including:

- An information leaflet circulated widely through the region (see Appendix A).
- Media features (including radio interviews and articles in local newspapers and community newsletters (see Appendix B for selection of print media coverage).
- Illustrated public talks presented at key locations (see Appendix C).
- Special classes for schools about water-rat ecology and conservation issues (see Appendix D).
- APC Facebook and newsletter articles.

In addition, three Group Watch sessions were respectively conducted at Picnic Point, Paynesville and Lakes Entrance when training was given to volunteers who were potentially interested in monitoring water-rats on a systematic basis in their local area.

RESULTS

Sixty-five informants contributed water-rat reports for the Gippsland Lakes region (Table 1). Of these records, 49% related to ‘one-off’ sightings, 20% to ‘occasional’ observations and 31% to ‘frequent’ sightings.

Fifty persons supplied information for the Lakes themselves. These included 17 reports for the Paynesville area (including one from Duck Bay), 6 for Eagle Point area (including one from near the mouth of the Nicholson River), 11 for Metung and 12 for Lakes Entrance (Figures 2-5). In addition, two persons reported sightings from Lake Wellington, one from Loch Sport on western Lake Victoria, and one from Lake Tyers (Figures 1 and 6).

In addition, fifteen records were received from the lower reaches of the main waterways entering the Gippsland Lakes, including the Thomson/Latrobe system (1), Avon (2), Mitchell (including Macleod Morass) (6), Nicholson (4) and Tambo (2).

For the three township areas where 10 or more reports were received, the percentage of reports which noted seeing water-rats ‘occasionally’ and ‘frequently’ (as opposed to ‘one-off’ sightings) was 67% in Lakes Entrance, 53% in Paynesville and 37% in Metung.
In instances where a specific date was reported for a sighting (n = 39), 23% occurred in summer (December-February), 23% in autumn (March-May), 28% in winter (June-August) and 26% in spring (September-November). When a reasonably specific time of day was reported (n = 28), 11% of sightings were in the early morning, 37% in the mid-afternoon, 33% in the late afternoon-dusk period and 19% at night. No sightings were reported for the late morning-early afternoon period (i.e. approximately 10am-2pm).

Of respondents who gave details of the activity they were engaged in when they spotted water-rats (n = 26), almost half indicated they were walking or jogging along the foreshore. Others were riding the Paynesville ferry, camping, fishing from the shore, boating (including commercial and recreational fishing from boats) or working near the water (including on their own properties).

Along with sightings records, a considerable amount of anecdotal information was obtained in this study. Several long-term residents of the area claimed that water-rats were much more abundant in the past with a decline commencing in about the 1960s. Various explanations were postulated for this apparent reduction in numbers including:

**Trapping.** One respondent reported trapping considerable numbers of water-rats approximately 70 years ago using baited tin cans; the skins were sold to Jackson’s Tanners in Bairnsdale. Another person reported catching water-rats in rabbit traps in the 1960s in the lower Avon River area.

Two independent sources claimed that commercial eel-fishing had caused a large number of water-rat mortalities from the 1960s onwards. One of these persons reported finding a dead water-rat in an eel-net as recently as the early 2000s.

**Development.** One local naturalist reported that water-rats were once very common in the drainage channels around Lakes Entrance township but declined once new housing estates were developed in these areas.

**Predation.** One report referred to a water-rat being killed by a domestic cat.

**Poisoning.** One person reported seeing a dead water-rat shortly after poison bait had been laid as part of rabbit eradication work along the lower Nicholson River.

A number of informants noted that water-rats often leave piles of food scraps on moored boats after using such vessels opportunistically as feeding platforms. Reports from others regions, such as the Murray River at Mildura, indicate that some boat owners deliberately kill water-rats because of this perceived problem (APC unpub. data). Interestingly, feedback from the Gippsland Lakes was uniformly positive in the sense that boat owners enjoyed having the animals around but were generally aware of the need to rat-proof vessels to prevent entry to the bilges and key storage areas. However, the possibility that some boat owners are taking illegal action to eliminate problem rats cannot be totally dismissed.
DISCUSSION

The results of this study indicate that Australian water-rats are widespread in and around the Gippsland Lakes system.

Higher densities of water-rats are often associated with human-modified habitats (e.g. Watts and Aslin 1981) and, in this study, the majority of sightings were reported from four townships: Paynesville, Eagle Point, Metung and Lakes Entrance.

Several reports from these areas mentioned that the species is taking advantage of artificial features for shelter, both on land (e.g. in rock banks used for stabilisation purposes and in drainage pipes) and water (e.g. in the exhaust pipes of moored boats and in rubber tyres mounted as boat fenders). In addition, the species was often described as scavenging for fish scraps and other food debris on and around boats and jetties.

The paucity of sighting reports from other parts of the Lakes system (i.e. Lake Wellington, western Lake Victoria and Lake Tyers) may partly reflect the relative lack of permanent human settlement and hence reduced numbers of potential observers. However, the substantial level of boating, fishing and other activities conducted across the entire Gippsland Lakes system should generate ample opportunities for animals to be spotted and reported if they are present. The fact that only two sightings came from the entire Lake Wellington area and only one from the settlement at Loch Sport suggests that water-rat numbers are genuinely lower in the western end of the Lakes system. This hypothesis is further supported by the fact that only one report was received for the lower Thomson/LaTrobe system and two for the Avon, the main rivers flowing into Lake Wellington, as compared to a total of 12 reports for the three rivers flowing into the eastern end of the Lakes (i.e. Mitchell, Nicholson and Tambo Rivers).

Similarly, only one record was received from Lake Tyers, near Burnt Bridge on the Toorloo Arm. No sightings were received from the populous Lake Tyers Beach area, again suggesting that this particular water body supports only a relatively small water-rat population.

CONCLUSIONS and RECOMMENDATIONS

Water-rats appear to occur throughout the Gippsland Lakes system. However, the results of this study indicate that population density may be low in Lake Wellington and the western end of Lake Victoria as well as in Lake Tyers. It is recommended that consideration be given to additional research to further investigate this issue.

Although some anecdotal evidence collected during this study suggests that water-rat numbers have declined over the last 50 years or so, there is no reason to believe that the Gippsland Lakes water-rat population is currently threatened or at risk. However, some purported threatening processes identified by members of the local community (including the impact of commercial eel-fishing, predation, loss of habitat to development and possible poisoning during baiting programs for pest species) should be noted and may warrant further investigation in future.

Given what is currently known about water-rat ecology and the species’ distribution around the Lakes, several types of habitat restoration activity currently undertaken by East Gippsland CMA and other management agencies are predicted to benefit these animals.
These include:

- Stabilising banks (including use of large, unconsolidated rocks for this purpose), to provide suitable burrow habitat.

- Encouraging shrubby vegetation to become established along the edges of waterways, to promote the development of a productive food supply and help to protect water-rats from predators (particularly dogs and cats in township areas).

However, it is probably through developing public awareness of the positive features of water-rats in the Lakes that GLMAC and other agencies can best support the long-term conservation of this species.

Most feedback received from the community during this study was overwhelmingly positive. Some representative comments included the following:

Locally, those of us who are fond of water-rats refer to them affectionately as Rattus wettus or Rattus paynesvillii.

I was thrilled to see it as I just love living here and seeing our precious wildlife.

Good luck with your care and attention of this beautiful creature – they add colour and interest to the marine environment.

They certainly do look like otters. Lovely to watch.

This suggests that water-rats could easily be promoted as a very desirable component of the Lakes ecosystem and as an eco-tourism attraction. Community interest in local water-rats could then be harnessed to help highlight and address problems in the Lakes, such as litter, pollution and illegal or irresponsible fishing practices.

Accordingly, the major recommendation of this report is that GLMAC (in conjunction with other relevant management agencies) should initiate a water-rat community education program that ideally includes the following elements:

- Installing signage about the biology, status and distribution of water-rats (and threats to the species such as litter and illegal and irresponsible fishing practices) at key locations around the Lakes.

- Developing a section on the GLMAC website to describe what water-rats look like and where they can be easily seen around the Lakes, and to provide advice on “Living with water-rats” e.g. how boat owners can take action to prevent water-rats taking up residence on board.

- Inserting references to water-rats (together with images of the species) in relevant GLMAC publications, stressing that the species is an interesting and highly desirable component of the Lakes aquatic ecosystems.

- Promoting continued reporting of community sightings of water-rats in the region to the APC.

- Including water-rats as a standard species for consideration in all GLMAC management plans and improvement programs.
ACKNOWLEDGEMENTS

The Conservancy gratefully acknowledges the support of staff at Gippsland Lakes Ministerial Advisory Committee, especially Heather Adams and Martin Richardson.

The APC also thanks Faye Bedford (DEPI) for her assistance in facilitating the project launch and talk at DEPI Bairnsdale in November 2013.

The many members of the community who provided sightings reports and other anecdotal information about water-rats are thanked for their contributions.

The cover photograph of a water-rat at Eagle Point is from a video by Dennis Saxton.

Line-drawing illustrations of water-rats used in this report are by Peter Marsack (copyright APC and P. Marsack).

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REFERENCES CITED


**Table 1.** Location of Australian water-rat sightings reports recorded in the period 1 November 2013 to 31 October 2014.

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<th>Location</th>
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<th>Frequent</th>
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**Figure 1.** Map of location of Australian water-rat sightings reports in Lake Wellington, lower Thomson/La Trobe River and western Lake Victoria in the period 1 November 2013 to 31 October 2014 (white stars = one-off sightings, black stars = frequent sightings)

**Figure 2.** Map of location of Australian water-rat sightings reports in Paynesville area in the period 1 November 2013 to 31 October 2014 (white stars = one-off sightings, grey stars = occasional sightings, black stars = frequent sightings)
Figure 3. Map of location of Australian water-rat sightings reports in Eagle Point area in the period 1 November 2013 to 31 October 2014 (white stars = one-off sightings, grey stars = occasional sightings, black stars = frequent sightings)

Figure 4. Map of location of Australian water-rat sightings reports in Metung area in the period 1 November 2013 to 31 October 2014 (white stars = one-off sightings, grey stars = occasional sightings, black stars = frequent sightings)
Figure 5. Map of location of Australian water-rat sightings reports in Lakes Entrance area in the period 1 November 2013 to 31 October 2014 (white stars = one-off sightings, grey stars = occasional sightings, black stars = frequent sighting)

Figure 6. Map of location of Australian water-rat sightings reports in Lake Tyers in the period 1 November 2013 to 31 October 2014 (white star = one-off sighting)
WATCHING FOR WATER-RATS

Australian water-rats are active during the day as well as at night. They are most often observed swimming on the surface, especially in the evening or early morning.

However, the animals also frequently emerge from the water to eat (sitting up and holding their meal in their forepaws) or run along the river bank or shore searching for food. A feeding “table” consisting of a pile of yabby claws or mussel shells on a rock or log (or boat deck) is often the best clue that the species is present.

Water-rats grow to about 50 to 70 centimetres in length (including their tail) and can weigh up to 1.3 kilograms. The colour of the head and back may be nearly black (with golden-yellow belly fur) or some shade of brown or grey (with fawn-to cream-coloured belly fur). In all cases, the tail has a conspicuous white tip.

PLEASE REPORT YOUR SIGHTINGS

Rakali is a very difficult species to study and little is known about its current status and distribution. However, there is considerable evidence that numbers have declined in many areas. Working in partnership with the Gippsland Lakes Ministerial Advisory Committee, the Australian Platypus Conservancy is conducting a study to find out how water-rat populations are faring in the Lakes region. Because rakali is a top predator, the information will also help to monitor the environmental health of the Gippsland Lakes.

You can make a vital contribution by reporting all sightings of water-rats (including if you find a dead one). Simply email the date and location of any sighting with any additional comments to platypus.apc@westnet.com.au (or phone 03 5157 5568). Sightings from the past are welcome (even if you can only provide an approximate date) as they often help to establish how populations may have changed over time. Reports from areas outside the Gippsland Lakes system are also welcome. All information is entered on a secure database and is only used for conservation purposes.

THE GIPPSLAND LAKES AUSTRALIAN WATER-RAT CONSERVATION PROJECT is generously supported by:
OUR NATIVE “OTTER”

Mention the word “rat” and images of two introduced pests - the black rat and brown rat - spring to mind. In fact, the Australian water-rat (*Hydromys chrysogaster*) is a native species that was a natural part of our environment long before its Eurasian rodent cousins arrived on ships carrying the early colonists.

The water-rat (also known as rakali) is an extremely attractive animal which is found in the Gippsland Lakes and many rivers and creeks in East Gippsland. Its ecological role is much the same as that of otters living on other continents. The water-rat also has many otter-like features, including a thick coat of soft fur, a blunt and densely whiskered muzzle, partly webbed hind feet and a furry, tapering tail.

Water-rats are known to eat aquatic insects, yabbies, mussels, shrimps, and frogs (and even cane toads in northern Australia). Their formidable set of teeth can also be used to kill fish, tortoises and water birds, occasionally up to the size of small ducks.

LIVING WITH RAKALI

Although water-rats are fully protected by law, many continue to die in submerged opera house nets and similar enclosed traps set for yabbies and freshwater crayfish. Anglers are instead encouraged to use open lift-style nets or baited lines (without hooks) as inexpensive and effective methods for catching yabbies and crays.

Australian water-rats occasionally come into conflict with humans when they raid fish farms, devour pet food left on suburban porches, steal bait from anglers, and leave piles of mussel shells on the decks of moored boats or the remains of cane toads around the edges of swimming pools.

Killing or relocating a “problem” water-rat is both illegal and subject to hefty fines. In any case, such actions will almost certainly be ineffective given that dispersing juveniles are likely to occupy a vacant home range very quickly.

A better solution is to learn to live with water-rats by rat-proofing areas where you don’t want the animals to go, and not leaving fish scraps or other food around that will attract them.

If you are experiencing problems with rakali, please let the Australian Platypus Conservancy know the details and we’ll do our best to help. By sharing such information it should be possible to develop workable solutions to deal with unwanted behaviours.
Looking for water rats in the Lakes

Residents and visitors to the Gippsland Lakes can play an important role in a new study of the Australian water rat. Researchers are asking the community to help understand this little-known native mammal.

The Australian water rat (also known as a musky rat-kangaroo) is an important species of the Gippsland Lakes, with its black coat of soft fur, a blunt and densely whiskered muzzle, partly webbed hind feet and a furry tailing tail.

Geoff Williams, director of the Australian Patagonian Conservation, described how water rats have many other like features. They are often seen snaking on the surface, especially in the early morning or evening, he said. Native water rats range in colour from black to brown, brown or grey with light belly and size about 50 to 70 centimetres from nose to tail.

A conspicuous white tail tip distinguishes them from the introduced black and brown rats that arrived on the shores of the early colonists, Mr Williams said. Mr Williams encouraged everyone to get involved in this year-long study.

Water rats are top predators and eat aquatic insects, yabbies, mussels, shrimps, and frogs.

Mr Williams explained the species is difficult to study in the wild and its population is unknown in many areas.

The project, supported by the Gippsland Lakes Environment Fund, will collect information about the distribution of the water rat around the Gippsland Lakes.

Martin Richardson, executive officer of the Gippsland Lakes Marine Advisory Committee, said the information will help monitor the environmental health of the Gippsland Lakes.

The project will be launched today with a free illustrated talk at Bairnsdale Department of Environment and Primary Industries office, Main Street, Bairnsdale, at 11am (all welcome).

The community can make a vital contribution to this study by reporting sightings of water rats to the ARC. Simply email the date and location of any sighting to plagues@apcnet.com.au or telephone 5157 1099 (in lieu with any additional comments you think might be relevant). All information will assist, including reports of dead water rats. Sightings from the past are also welcome, even if you can only provide an approximate date, as they often help to establish how populations may have changed over time.

Sightings from areas outside the Gippsland Lakes are also of interest, as the ARC is tracking water-rat sightings across the country. All information is entered on a secure database and is only used for conservation purposes.
Help wanted in the study of our native water rat

The Australian water rat, known as rakali, should not be confused with the introduced black and brown rats.

RESIDENTS and visitors to the Gippsland Lakes can play an important role in a new study of the Australian water-rat.

Researchers are asking the community to help understand this little-known native mammal.

The Australian water-rat (also known as rakali) is an important species of the Gippsland Lakes, with its thick coat of soft fur, a blunt and densely whiskered muzzle, partly webbed hind feet and a furry, tapering tail.

They are often seen swimming on the surface, especially in the early morning or evening.

Native water-rats range in colour from black, brown or grey with light belly fur and measure about 50 to 70 centimetres from nose to tail.

A conspicuous white tail tip distinguishes them from the introduced black and brown rats that arrived on the ships of the early colonists.

Water-rats are top predators and eat aquatic insects, yabbies, mussels, shrimps, and frogs.

Australian Platypus Conservancy director Geoff Williams said the species was difficult to study in the wild and little was known about its population.

There is evidence that numbers have declined in many areas, and Mr Williams encouraged everyone to get involved in this year-long study.

Since the project commenced last November numerous reports have been received from Lake King and Lake Victoria but very few for Lake Wellington and its catchment.

Accordingly, reports from the Sale region are particularly important.

The project, supported by the Gippsland Lakes Environment Fund, will collect information about the distribution of the water-rat around the Gippsland Lakes.

Gippsland Lakes Ministerial Advisory Committee executive officer Martin Richardson said the information would help to monitor the environmental health of the Gippsland Lakes.

The community can make a vital contribution to this study by reporting sightings of water-rats to the APC.

Simply email the date and location of any sighting to platypus.apc@westnet.com.au, or phone 5157 5568, together with any additional comments that you think might be relevant.

All information will assist, including reports of dead water-rats.

Sightings from the past are also welcome, even if you can only provide an approximate date, as they often help to establish how populations may have changed over time.

Sightings from areas outside the Gippsland Lakes are also of interest, as the APC is tracking water-rat status across the country.

All information is entered on a secure database and is only used for conservation purposes.
Paynesville’s otter talk

The Australian water rat, or rakali, is sometimes referred to as Australia’s answer to the otter because of its thick soft fur, densely whiskered muzzle, and partly webbed hind feet. This fascinating aquatic mammal will be the subject of a special talk at Paynesville Community Hall this Friday, June 20, at 2pm, organised by the Eagle Point Landcare Coastcare Group.

Geoff Williams, director of the Australian Platypus Conservancy, will explain the main features of this attractive native species and also outline some of the findings to emerge from the special research now under way to map the status and distribution of water rats in the Gippsland Lakes system. The project started late last year, thanks to the support of the Gippsland Lakes Ministerial Advisory Committee, and already much valuable information has been contributed by the community. The conservancy will also soon call for volunteers to help with group watch sessions to look for water rats at Paynesville and other locations around the Lakes.

In the interim, the community can make a vital contribution to this study by reporting sightings of water rats to the APC. Simply email the date and location of any sighting to platypus.apc@westnet.com.au together with any additional comments that you think might be relevant.

Water rat’s habitat and habits explained

The Australian water rat, or rakali, is just as attractive and fascinating as its better-known aquatic mammal counterpart, the platypus.

This was the message given by Geoff Williams, director of the Australian Platypus Conservancy (APC), at a talk attended by 40 land carers and wildlife enthusiasts at Paynesville Community Hall on June 20.

The talk was organised by the Eagle Point Landcare Coastcare Group. Mr Williams said that while the platypus was confined to freshwater environments, water-rats were capable of living in both freshwater and saltwater conditions.

“Water-rats are intelligent and resourceful animals which seem to do well around human settlements,” he said.

Mr Williams explained that the APC was now mapping the status and distribution of water-rats in the Gippsland Lakes system, with support from the Gippsland Lakes Ministerial Advisory Committee.

Local residents were invited to watch out for water-rats and report sightings to the APC. Contact information available from the Advertiser.
Look out for

East Gippland’s
“Otter”

Mention the word “rat” to most Australians and images of two introduced pests - the black rat and brown rat - immediately spring to mind.

In fact, the Australian water-rat (Hydromys chrysogaster) is a genuine native species that was a natural part of our environment long before its Eurasian rodent cousins arrived on the ships of the early colonists.

The Australian water-rat (sometimes also known as raka) is an extremely attractive animal which functions as a top predator in a variety of aquatic habitats. It is found in many rivers and creeks in East Gippsland as well as parts of the Gippsland Lakes. The ecological role of the species is equivalent to that of the otters found on other continents. The water-rat also has many otter-like features, including a thick coat of soft fur, a blunt and densely-bushed muzzle, partly webbed hind feet and a furry, tapering tail.

Water-rats grow to about 50 to 70 centimetres in length, including their tail. The colour of the head and back may be nearly black (with golden-yellow belly fur) or some shade of brown or grey (with fawn to cream-coloured belly fur). In all cases, the tail has a conspicuous white tip.

The water-rat is a particularly difficult species to study in the wild and, as a result, little is known about its current status and distribution. However, there is considerable evidence that numbers have declined in many areas. The Australian Platypus Conservancy (APC) (in partnership with the Gippsland Lakes Ministerial Advisory Committee) is launching a year-long study to try to find out how water-rat populations are faring within the Lakes system.

You can make a vital contribution to this study by reporting all sightings of water-rats (including if you find a dead one) to the APC. Simply email the date and location of any sighting to platypus.acp@westnet.com.au (or telephone 03 5157 5568) together with any additional comments that you think might be relevant. Sightings from the past are welcome (even if you can only provide an approximate date) as they often help to establish how populations may have changed over time.

Sightings from areas outside the Gippsland Lakes are also of interest, as the APC is tracking water-rat status across the country. All information is entered on a secure database and is only used for conservation purposes.

The APC will be presenting free illustrated talks on water-rats during 2014 and any Landcare group interested in hosting such an event is invited to contact the APC as soon as possible. The APC will also be co-ordinating a number of “Group Watch” sessions where volunteers scan for water-rats at a given location and, again, any Landcare group interested in participating in such an observation study should contact the APC for more details.

Line drawings by Peter Morseck
Written by Geoff Williams
– Bruthen Landcare and APC
Looking for "OTTERS" in the Gippsland Lakes

The Australian water-rat or rakali (Hydromys chrysogaster) functions as a top predator in a variety of aquatic habitats. It is typically thought of as a freshwater species but is commonly found in many coastal and estuarine locations. Its ecological role is equivalent to that of otters on other continents. Rakali also has many otter-like features, including a thick coat of soft fur, a blunt and densely bewhiskered muzzle, partly webbed hind feet and a furry, tapering tail. Adults grow to 50 to 70 centimetres in length, including their tail which has a conspicuous white tip.

Little is known about current status and distribution of the species. However, there is considerable evidence that numbers have declined in many areas. The Australian Platypus Conservancy (in partnership with Gippsland Lakes Ministerial Advisory Committee) is conducting a study to find out how water-rat populations are faring within the Lakes. The information will also help in monitoring the environmental health of the Lakes system.

You can contribute by reporting all water-rat sightings (including if you find a dead one) to the APC. Simply email date and location of a sighting to platypus.apc@westnet.com.au together with any additional comments. Reports from the past are welcome (even if you can only provide an approximate date) as they help establish how populations have changed over time. Sightings from areas outside the Gippsland Lakes are also encouraged. Information is entered on a secure database and only used for conservation purposes.

Water-rats are most often observed swimming, especially in the early morning or evening, as they hunt for prey such as aquatic insects, yabbies, mussels, shrimps, frogs, fish. However, they also frequently emerge from the water to eat (sitting up and holding their meal in their forepaws) or run along the river-bank or shore searching for food.

Photo by David Handley

Photo by Paul Berzins

Geoff Williams
Australian Platypus Conservancy
Bruthen & District Landcare
Australia's "Otter" Featured In Bruthen Talk

The Australian water-rat or rakali, is sometimes referred to as Australia's answer to the otter because of its thick soft fur, densely whiskered muzzle, and partly webbed hind feet. This fascinating aquatic mammal will be the subject of an illustrated public talk at Bruthen & District Landcare's AGM on Tuesday 12 August at Bruthen Community Health Centre. The meeting will start at 7.30pm and the talk will commence at about 7.45pm. Admission is free.

Geoff Williams, Director of the Australian Platypus Conservancy, will explain the main features of this attractive native species and also outline some of the findings to emerge from the special research now under way to map the status and distribution of water-rats in the Gippsland Lakes system. This project commenced late last year thanks to the support of the Gippsland Lakes Ministerial Advisory Committee, and already much valuable information has been contributed by the community.

The Conservancy will also shortly be calling for volunteers to help with "group watch" sessions to look for water-rats at various other locations around the Lakes region. In the interim, the community can make a vital contribution to this study by reporting sightings of water-rats to the APC. Simply email the date and location of any sighting to platypus.apc@westnet.com.au (or telephone 03 5167 5566) together with any additional comments that you think might be relevant.
Appendix C: Illustrated public talks and water-rat Group Watch sessions presented at key locations in 2013/14

Talks:
27 November DEPI Bairnsdale
2 May Picnic Point
20 June Paynesville
12 August Bruthen
2 September Nicholson

A talk will also be given to Bairnsdale Field Naturalists Club on 20 March 2015.

Group Watch sessions:
19 May Picnic Point
6 July Paynesville
15 September Lakes Entrance

Additional Group Watch sessions are being considered as part of the 2015 Bio-Scan event.

Appendix D: Special classes for schools about water-rat ecology and conservation in 2013/14

19 May Bairnsdale Primary School
20 June Lucknow Primary School
26 June Nagle College (postponed – to be re-scheduled)
29 July Lucknow Primary School