

Appendix 5 Fauna, Flora and Community Profiles



Photo: Ian Hutton

Masked Booby and chick

Lord Howe Island Gecko (*Christinus guentheri*)

Description

Pale olive-grey to dark brown gecko, peppered above with dark and light markings, to about 80mm length.

Conservation Significance

Endemic to the Lord Howe Island Group and Norfolk Island.

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Rare on Lord Howe Island, more common on Blackburn and Roach Islands. Possibly present on other large offshore islets.

Ecology

Nocturnal. During the day it shelters in places such as under rocks, in weathered tunnels in calcarenite rock and in splits in trees. It is occasionally seen sheltering under upturned boats on the beach margin. This species feeds on beetles, spiders, moths, ants and other insects amongst the leaf litter. It also hunts in trees and can be seen climbing along the branches where it has been observed feeding on the nectar of the Sallywood flowers (*Lagunaria patersonia*) Lays a clutch of one to three eggs: incubation is about 80 to 90 days.

This species is larger on Ball's Pyramid than on the main island, possibly due to an increased length of survival.

Population data/health

During invertebrate surveys in December 2000 by the Australian Museum no locations were recorded for this species. This species appears to have been abundant on the main island until the mid-1930s, after which it declined dramatically, most likely due to predation by rats. It now occurs only in relatively low numbers at few localities, although remains common on Blackburn and Roach Islands and probably occurs on other vegetated islands in the Admiralty group and on some other vegetated rocky islets.

Habitat

Wide range of forest types from lowland rainforest to montane rainforest to *Poa poiformis* islet.

Threats

Rats are likely to be the main reason for the decline of this species on the main island.

In the past, Cats were reported as preying on this species. No Cats remain on Lord Howe Island.

The introduced skink *Lampropholis delicata* which arrived in the early 1990s has spread from the settlement to the northern hills and Intermediate Hill and may compete for food with this species.

Impact on other species

Unknown.

References

Cogger, H.G. 1971. The Reptiles of Lord Howe Island. *Proc. Linn. Soc. NSW* 96(1):23-38.

Cogger, H. G. 2004. *Draft Recovery Plan for the threatened lizards Christinus guentheri and Oligosoma lichenigera on the island complexes of Norfolk and Lord Howe Islands*. Department of Environment and Heritage, Canberra.



Photo: Ian Hutton

Lord Howe Island Gecko (*Christinus guentheri*)

Lord Howe Island Skink (*Cyclodina lichenigera*)

Description

Rich metallic bronze or olive above with numerous small brown longitudinal flecks or streaks, to about 80mm in length.

Conservation Significance

Endemic to the Lord Howe Island Group and Norfolk Island.

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Rare on Lord Howe Island, more common on offshore islets – Blackburn Island, Roach Island and Ball's Pyramid, possibly other large offshore islets.

Ecology

Nocturnal. During day shelters under rocks, in cavities on boulder beaches, in weathered tunnels in calcarenite rock, in splits in trees and in holes in volcanic rock cliffs. Eggs of this species have been noted in these locations. Occasionally seen sheltering under upturned boats on beach margin. They feed on beetles, spiders, moths, ants and other insects amongst the leaf litter. Lay a clutch of one to three eggs and incubation is about 70 days.

This species is larger on Ball's Pyramid than on the main island, possibly due to an increased length of survival.

Population data/health

Rare on main Lord Howe Island due to predation by rats. During invertebrate surveys in December 2000 by Australian Museum Centre for Biodiversity and Conservation Research only two locations were recorded for this species on Roach Island and The Saddle. Previously it had been

recorded across the whole island

Habitat

Wide range of forest types including lowland rainforest, montane rainforest and *Poa poiformis* islets.

Threats

Rats prey upon this species and are probably the main reason for its decline on the main island.

In the past, Cats were reported as preying on this species. No Cats remain on Lord Howe Island.

The introduced skink *Lampropholis delicata* which arrived in the early 1990's has spread from the settlement to the northern hills and Intermediate Hill and may compete for food with this species.

Impact on other species

Unknown.

References

Cogger, H.G. 1971. The Reptiles of Lord Howe Island. *Proc. Linn. Soc. NSW* 96(1): 23-38.

Cogger, H. G. 2004. *Draft Recovery Plan for the threatened lizards Christinus guentheri and Oligosoma lichenigera on the island complexes of Norfolk and Lord Howe Islands*. Department of Environment and Heritage, Canberra.



Photos: Ian Hutton

Lord Howe Island Skink (*Cyclodina lichenigera*)

White-faced Heron (*Ardea novaehollandiae*)

Description

Large blue-grey wader with a white face and long “S”-shaped neck.

Conservation Status

Protected under the *Lord Howe Island Act* 1953.

Distribution

Widely distributed throughout Australia.

First recorded breeding on Lord Howe Island in 1938. Most commonly found on grassy areas around the settlement and on rocky shores at low tide. Also often observed foraging on the outer islets.

Ecology

Breeding: Mainly October to December.

Eggs: 2-7, usually 3-4; oval; lustreless; light blue-green. Incubation 25 days, fledging c. 40 days.

Nest: Unlined; a small, shallow and untidy structure of sticks and twigs in a tree, often in a leafy branch 5-20 m off the ground.

Diet: Extremely varied – almost any small animal, but mainly small fish, amphibians and aquatic insects. Observed catching and eating mice at the Island dump (pers obs.).

Foraging Behaviour: Sedentary or nomadic. Mainly diurnal. Usually forages singly; territorial when feeding, though often congregates when food is abundant.

Population Data/Health

Population estimated at less than 10 pairs.

Habitat

Shallow water almost anywhere: reefs and offshore islands, lagoon, wet paddocks, golf course.

Threats

Unknown

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Australian Kestrel (*Falco cenchroides*)

Description

Light brown falcon with fine black spotting to about 35cm in length. Underparts white, head rufous.

Conservation Status

Protected under the *Lord Howe Island Act 1953*.

Distribution

Widely distributed throughout Australia.

Recent coloniser of the island, probably arriving in the 1940's. Ranges widely over the island and some offshore islands (Harden 1993).

Ecology

Breeding: July-December, peaking September-October.

Eggs: 3-7, usually 4; very pale buff or pink with blotches of brown-red; round. Incubation 26-28 days by female only, fledging c 26 days.

Nest: No nest built; uses tree hollows or ledges on cliff faces.

Diet: Insects, rodents and other birds.

Foraging Behaviour: Sedentary or nomadic. Hovers for extended periods of time, dives and seizes its prey.

Population Data/Health

Population estimated at 10 pairs.

Habitat

Seen over remote paddocks and cliffs.

Threats

Use of rodent poisons other than warfarin may result in secondary poisoning.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Harden, R.H. 1993. Fauna Impact Statement. The impact of domestic dogs on protected and endangered fauna on Lord Howe Island. NSW National Parks & Wildlife Service. Report prepared for the Lord Howe Island Board.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Pacific Black Duck (*Anas superciliosa*)

Description

Large dark duck with two dark lines on buff face; green or purple speculum and white underwing lining.

Conservation Status

Self-introduced species.

Protected under the *Lord Howe Island Act 1953*.

Distribution

Distributed throughout Australia and common throughout the Pacific.

Thought to have commenced breeding on the Island in 1972.

Ecology

Breeding: July-November.

Eggs: 5-16, usually 8-10; uniform oval; coarse, slightly lustrous; creamy white. Incubation 26-28 days.

Nest: Highly variable, both in site and construction.

Diet: Mainly vegetarian; seeds of a wide range of aquatic and swamp plants, also aquatic insects and their larvae.

Forage at Ned's beach feeding on bread and other scraps given to them by visitors.

Observed feeding on small white-bait in the lagoon.

Foraging Behaviour: Nomadic and dispersive. Gregarious when not breeding. Usually dabbles and upends in shallows, occasionally forages ashore in wet pastures.

Population Data/Health

Population estimated at c 20 pairs (including hybrids).

Habitat

Swampy paddock areas, Ned's Beach and lagoon.

Threats

Masked Owls and Currawongs predate on chicks.

Impacts Upon Other Species

Unknown.

Other Comments

The majority of the ducks on the island are hybrids between this species and the Mallard, an exotic species introduced to Australia. The collective population has increased significantly in the past 20 years and may number 20 breeding pairs, of which only a minority are Pacific Black Duck.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
- Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.
- Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.
- Pringle, J.D. 1987. *The Shorebirds Of Australia*. The National Photographic Index Of Australian Wildlife. Angus & Robertson, UK.

Buff-banded Rail (*Gallirallus philippensis*)

Description

Short-billed rail with heavily barred underparts broken by buff patch on breast.

Conservation Status

Probably self-introduced species.

Protected under the *Lord Howe Island Act 1953*.

Distribution

Patchily distributed around, and inland from, most of the Australian coast. Also occurs in Indonesia, New Guinea and New Zealand.

Intermittently present on the Island since settlement. Population has increased significantly over the last 10 years. Now commonly observed throughout the settlement.

Ecology

Breeding: Spring and summer.

Eggs: 5-8, rounded oval; smooth, slightly lustrous; rich cream, liberally blotched reddish-brown, purplish-brown. Incubation 18-20 days.

Nest: Well concealed in dense vegetation, often well away from water; on ground, a depression lined with grass and leaves.

Diet: Insects, molluscs and plants.

Foraging Behaviour: Mainly diurnal or crepuscular. Very opportunistic, often stealing feed from fowl yards.

Population Data/Health

Population estimated at c. 15 pairs.

Habitat

Shy, common through settlement area.

Threats

Unknown.

Impacts Upon Other Species

Have temporarily expelled Woodhens from settlement territories (pers obs.). Often in conflict with Woodhens especially during breeding season.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
- Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.
- Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.
- Pringle, J.D. 1987. *The Shorebirds Of Australia*. The National Photographic Index Of Australian Wildlife. Angus & Robertson, UK.

Lord Howe Woodhen (*Tricholimnas sylvestris*)

Description

Brown flightless bird about the size of a bantam hen, with strong legs and feet and a brown-grey bill.

Conservation Status

Listed as Endangered under the NSW TSC Act 1995.

Listed as Critically Endangered under the Commonwealth EPBC Act 1999.

Protected under the *Lord Howe Island Act* 1953.

Distribution

Endemic to Lord Howe Island.

Populations on Lord Howe Island include: the summit of Mt. Gower; the lowlands at Big and Little Slopes; Grey face; Far Flats and throughout the settlement area. Lowland distribution closely follows that of *Howea forsteriana* palm forest. Approximately half the breeding population lives around houses in the settlement area where they are fed or find food in gardens.

Ecology

Breeding: August to January. Can breed all year if conditions are favourable (Hutton pers. obs.).

Eggs: 1-6, dull white, with tiny dots and irregular blotches of chestnut, red and blue-grey. Both parents assist with incubation, which is 20-23 days.

Nest: Woodhens construct a nest in a shallow depression on the ground, lined with dry grass and leaves. It is located under dense ferny vegetation, or in the unused burrow of the Providence Petrel (Woodhen Recovery Plan 2002).

Diet: Earthworms, molluscs and invertebrates. Woodhens readily scavenge food from walkers and residents. Bester *et al.* (2005) found that Woodhens took a number of Providence Petrel chicks. Woodhen will also kill and eat introduced rats and mice (Hutton pers obs.).

Foraging Behaviour: Woodhens forage during the day and occasionally at night on the ground.

They use their bill to sift among fallen leaves and rotten timber (Miller and Mullette 1985).

Population Data/Health

Population estimated at 220-230 birds and 71-74 pairs (Harden 1997). Population has remained relatively static over the last 10 years.

Habitat

Woodhens occur predominately in three vegetation types: Gnarled Mossy-Forest, Megaphyllous Broad Sclerophyll Forest, particularly the *Kentia* Palm association; and gardens around houses.

Threats

The current and potential threats to the Woodhen population are:

- Vulnerable to disease or natural disaster due to distribution being limited to Lord Howe Island.
- Introduced Masked Owls may take juvenile Woodhens.
- Increased rodent control may cause increased predation by Masked Owls.
- Introduced Blackbirds and Song Thrushes, together with Buff-banded Rails and Purple Swamphens, compete with the Woodhen for food.
- The introduction to the island of additional exotic flora or fauna species could threaten the Woodhen and its habitat.
- Existing weed species that degrade habitat.
- The risk of introduction of disease that may affect the food or health of Woodhens.
- Loss of habitat through clearing for agriculture or development.
- Consumption of rat bait by Woodhens.
- Impacts of domestic dogs.

Impacts Upon Other Species

Woodhens regularly kill the chicks of other land birds, especially the land rail (Hutton pers obs.). Bester *et al.* (2005). found that the greatest cause

of Providence Petrel mortality was attributed to Woodhen predation.

References

Bester, A., Klomp, N., Priddel, D. & Carlile, N. 2002. 'Chick-provisioning behaviour of the Providence Petrel, *Pterodroma solandri*' *Emu* 102, pp. 297-303.

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

NSW NPWS. 2002. Recovery Plan for the Lord Howe Woodhen (*Gallirallus sylvestris*). NSW National Parks and Wildlife Service, Coffs Harbour.

Miller, B. and Mullette, K.J. 1985. Rehabilitation of an endangered Australian bird: Lord Howe Woodhen *Tricholimnas sylvestris*. *Biological Conservation*. 34: 55-95.



Photo: Ian Hutton

Lord Howe Woodhen (*Tricholimnas sylvestris*)



Photo: Ian Hutton

Lord Howe Woodhen (*Tricholimnas sylvestris*)

Purple Swamphen (*Porphyrio porphyrio*)

Description

Large swamphen with stout red bill and red shield on head. They have a purple-blue breast and dark wings and tail.

Conservation Status

Protected under the *Lord Howe Island Act 1953*.

Distribution

Widely distributed in Eastern Australia. Also occurs in southern Europe, Africa, South-east Asia, New Zealand and the South West Pacific Islands New Guinea and Norfolk Island.

On Lord Howe Island, the Purple Swamphen is most common in the wet areas in the south of the settlement. This species has only begun to breed on Lord Howe Island since the late 1980's.

Ecology

Breeding: Mainly July-December.

Eggs: 4-11, oval, slightly lustrous, buff or sandy, liberally blotched and spotted. Incubation 26 days.

Nest: Reeds, rushes or grass, bent over and trampled to form a bulky platform.

Diet: Mainly vegetarian; succulent shoots of reeds and rushes. Also predate on eggs and chicks of other bird species (R. Shick, pers comm.).

Foraging Behaviour: Graze along margins of wetlands. When eating plants, Swamphens will often use.

Population Data/Health

Population estimated at c. 30 birds and c. 10 pairs (Hutton pers obs.).

Habitat

Edge of pasture around golf course and airstrip. Small population around Soldiers Creek area where there is a permanent supply of fresh water.

Threats

Unknown.

Impacts Upon Other Species

The Purple Swamphen is a well known egg thief and will kill the chicks of other bird species (R. Shick pers. comm.).

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
- Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.
- Hutton, I. 1991 *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.
- Pringle, J.D. 1985. *The Waterbirds Of Australia*. The National Photographic Index Of Australian Wildlife. Angus & Robertson, UK.

Masked Lapwing (*Vanellus miles*)

Description

Large plover with yellow facial wattles, white breast and underparts and light brown wings and tail.

Conservation Status

Protected under the *Lord Howe Island Act* 1953.

Distribution

Found throughout northern and eastern Australia and Tasmania. Also occurs in New Guinea, Indonesia and New Zealand.

On Lord Howe Island, they are commonly observed around the airstrip area. Birds move to more remote grazing paddocks when breeding. Started breeding on Lord Howe Island since 1990.

Ecology

Breeding: July-February. Birds may lay more than one clutch per year (Hutton 1990).

Eggs: c. 4, brownish olive, with spots and blotches of black and brown. Incubation c. 28 days.

Nest: Shallow depression lined with grass.

Diet: Insects, spiders, worms, beetles and their larvae.

Foraging Behaviour: Masked Lapwings stalk prey, then dart with bill down and poke into tussocks.

Population Data/Health

Population estimated at c. 45 birds and c. 20 pairs (Hutton pers obs.).

Habitat

Open grassland.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
- Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.
- Hutton, I. 1991 *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Emerald Ground-dove (*Chalcophaps indica*)

Description

Plump, ground-feeding dove with iridescent green wings, red bill, reddish-brown head and body with delicate purplish bloom.

Conservation Status

Protected under the *Lord Howe Island Act* 1953.

Distribution

Distributed throughout lowland coastal forests of eastern Australia from Narooma to Cape York.

On Lord Howe Island, it is most commonly found in lowland forests and around the settlement area.

Ecology

Breeding: Spring and summer.

Eggs: 2, white. Both parents assist with nest building, incubation and care of the young. Incubation c. 15 days.

Nest: Low platform of twigs and vines.

Diet: Seeds and fruit.

Foraging Behaviour: Feed on the ground; walk along the thick limbs of trees eating fruit that is within their reach.

Population Data/Health

Population estimated at c. 10-1 000 pairs (Fullagar *et al.* 1974).

Habitat

Solitary, mainly lowland forest, feeding on the ground, tame around settlement (Hutton 1990).

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Masked Owl (*Tyto novaehollandiae*)

Description

Large barn owl with blackish-brown to speckled buff upperparts.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Introduced to Lord Howe Island.

Distribution

Widely distributed in Australia usually in forests or woodlands, except for arid parts of Central and Western Australia.

This species ranges over the whole of the main island. It was introduced in the 1920's to control Ship Rats.

Ecology

Breeding: Breeds at any time.

Eggs: 2-3, off-white. Incubated by the female for 35 days, with the male feeding her at the nest. The young are fed by the female for the first few weeks, and then by both parents.

Nest: Hollow in a tree 40-500 cm deep, prepared by the male and used in successive years.

Diet: Rats, mice, and birds.

Foraging Behaviour: Nocturnal, hunts in all vegetation types on Lord Howe Island. Often observed flying low over forested and cleared areas, sometimes standing motionless on the ground.

Population Data/Health

Population estimated at c. 10-100 pairs (Hutton pers obs.).

Habitat

Forest within and outside of the settlement, nocturnal.

Threats

No natural threats.

Impacts Upon Other Species

Known to predate on several native and endemic species of Lord Howe Island including the Woodhen, White Tern, Black-winged Petrel, Providence Petrel, Sooty Tern and Black Duck.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Harden, R.H. 1993. Fauna Impact Statement. The impact of domestic dogs on protected and endangered fauna on Lord Howe Island. NSW National Parks & Wildlife Service. Report prepared for the Lord Howe Island Board.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991 *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Sacred Kingfisher (*Todiramphus sanctus*)

Description

Blue-rumped kingfisher with pale buff underparts, peacock blue and green upperparts and small buff spot before eye.

Conservation Status

Protected under the *Lord Howe Island Act 1953*.

Distribution

Widespread throughout Australia except for the arid centre. Also found in New Zealand and on islands from Timor to the Solomons.

This species may be a recent coloniser of Lord Howe Island.

Ecology

Breeding: Spring to summer.

Eggs: 2-6, glossy white. Incubation c. 16-17 days.

Nest: Mostly in the hollow of a tree, sometimes excavates a burrow in a rotting tree trunk.

Diet: Worms, insects, fish, crustaceans, chicks of other birds and adult white-eyes.

Foraging Behaviour: Dives swiftly down from its perch to grasp food in its bill. Food items are usually taken back to the perch to be eaten.

Population Data/Health

Population estimated at c. 10-100 pairs (Hutton 1990).

Habitat

Often feeds on reef flats, commonly seen throughout the settlement area. Often perches for extended periods of time on the edge of clearings searching for prey.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Welcome Swallow (*Hirundo neoxena*)

Description

Rusty-throated swallow with grey underparts and no breastband; white spots in tail.

Conservation Status

Protected under the *Lord Howe Island Act* 1953.

Distribution

Widely distributed throughout eastern and southern Australia and has recently colonised New Zealand.

Recent coloniser, thought to have commenced breeding on Lord Howe Island in the 1970's.

Ecology

Breeding: Spring to summer.

Eggs: 4-6, white, freckled. Incubation 15 days.

Nest: Cup shaped, constructed of mud and vegetation, often fixed under the eaves of buildings and in small caves on vertical cliff faces. On Lord Howe Island, it nests from sea level to c. 550 metres.

Diet: Insects-moths, flies and midges, often over water.

Foraging Behaviour: Flies low over pasture and swamps.

Population Data/Health

Population estimated at c. 10-100 pairs.

Habitat

Most commonly seen over open paddocks and water around settlement.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.

Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.

Blackbird (*Turdus merula*)

Description

Male: Black all over with a yellow eye ring and brown eye. Bill orange-yellow and feet brown-black. Female: Dark brown with a grey chin; brown bill and feet; brown eyes.

Conservation Status

Introduced exotic species - not protected.

Distribution

Introduced to Australia and New Zealand from northwestern Europe in the 1850's. Established on Norfolk and Lord Howe Island. One of the most common bird species seen in the settlement of Lord Howe Island.

Ecology

Breeding: September to January.

Eggs: 3-4, pale blue blotched with red-brown and grey. Incubation 14 days, the male assists with the feeding of the chicks. Chicks fledge in 14 days.

Nest: Cup of dried grasses and other plant matter, bound together with mud and lined with fine grasses; placed in any thick clump of shrubbery or low dense tree.

Diet: Feeds predominately on the ground, vigorously foraging for fruits, berries and insects.

Foraging Behaviour: Ground foragers among damp litter, move considerable amounts of leaf litter in search of their food.

Population Data/Health

Population estimated at c. 10-100 pairs.

Habitat

Predominately in lowland forest around the settlement area, however also on the summits of Mts Gower and Lidgbird and offshore islands including Roach Island and Muttonbird Island.

Threats

Unknown.

Impacts Upon Other Species

It is likely that Blackbirds predate on juvenile land snails *Placostylus bivaricosus*.

Other Comments

Eradication of the Blackbird population could be linked to any future rodent eradication attempts.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
- Hindwood, K.A. 1940. The Birds of Lord Howe Island. *Emu* 40:1-86.
- Hutton, I. 1991. *Birds of Lord Howe Island: Past and Present*. Hutton, Coffs Harbour.
- NSW NPWS, 2001, Lord Howe Placostylus *Placostylus bivaricosus* Recovery Plan, NSW NPWS, Hurstville.

Song Thrush (*Turdus philomelos*)

Description

Upperparts warm olive-brown; throat pale yellow and speckled brown; breast buff with small triangular patches; white belly; pinkish legs; eyes dark brown.

Conservation Status

Introduced exotic species - not protected.

Distribution

Introduced to Australia and New Zealand from Europe in the 1850's. Established on Norfolk and Lord Howe Island. One of the most common birds seen in the settlement area of Lord Howe Island.

Ecology

Breeding: September to January.

Eggs: 4-5, pale blue-green and spotted with black. Incubation 14 days, the male assists with the feeding of the chicks. Chicks fledge in 15 days.

Nest: Cup of dried grasses and other plant matter, bound together with mud and lined with fine grasses; placed in any thick clump of shrubbery or low dense tree.

Diet: Feeds predominately on the ground, picking from the leaf litter. Vigorously forages for earthworms, spiders centipedes and a variety of insects, their larvae and snails.

Foraging Behaviour: Forages among damp litter.

Population Data/Health

Population estimated at c. 10-100 pairs.

Habitat

Predominately in lowland forest around the settlement area. Also on the summits of Mts Gower and Lidgbird.

Threats

Unknown.

Impacts Upon Other Species

It is likely that Song Thrushes predate on juvenile land snails *Placostylus bivarricosus*.

Other Comments

Eradication of the Song Thrush population could be linked to any future rodent eradication.

References

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NSW NPWS, 2001. Lord Howe *Placostylus bivarricosus* Recovery Plan, NSW NPWS, Hurstville.

Lord Howe Golden Whistler (*Pachycephala pectoralis contempta*)

Description

Male: Head and face black with a broad yellow collar; white throat with a black band below. Back and rump olive-grey; breast and belly bright yellow; tail black. Female: Upperparts olive-grey; underparts grey with a yellowish wash; throat speckled whitish and breast buff.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Protected under the *Lord Howe Island Act* 1953.

Distribution

Subspecies endemic to Lord Howe Island.

Widely distributed in forests on the main island.

Ecology

Breeding: September to January.

Eggs: c. 2, pale salmon or stone-coloured, with spots of dark red-brown and grey. Incubation 14-17 days. Chicks fledge in c. 14 days.

Nest: An open cup-shaped structure composed of palm fibre, vines and leaves, lined with grass. It is about 10 cm in diameter, and generally located high up out of sight (Hutton 1990).

Diet: Spiders, insects and their larvae.

Foraging Behaviour: Hop from branch to branch looking for insects. Will also drop to the ground to forage in litter.

Population Data/Health

Population estimated at c. 100-1 000 pairs (Fullagar *et al* 1974).

Habitat

Forest all over the Island.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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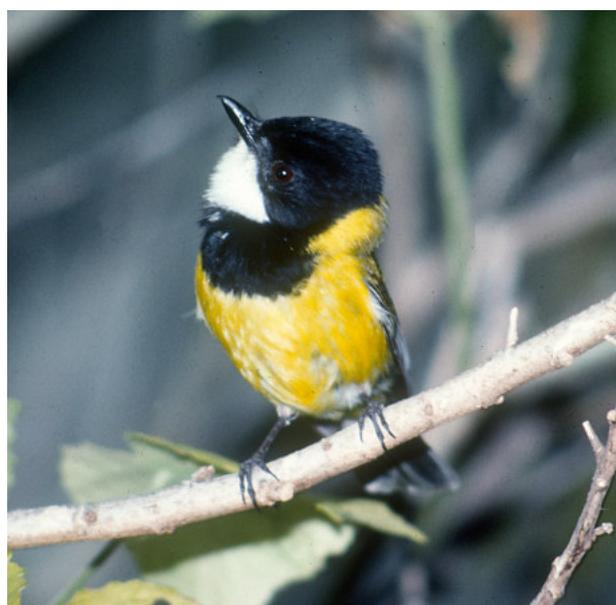


Photo: Ian Hutton

Lord Howe Golden Whistler (*Pachycephala pectoralis contempta*)

Lord Howe White-eye (*Zosterops tephroleura*)

Description

Small bird to 13cm. Head and throat yellow, white eye-ring. Upper surface of wings, rump and tail green-yellow. Underparts grey-brown and whitish.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Protected under the *Lord Howe Island Act* 1953.

Distribution

Species endemic to Lord Howe Island. Regarded by some ornithologists as only a subspecies of *Z. lateralis*.

Has a wide range on the main island in all habitats except open fields (Harden 1993).

Ecology

Breeding: Spring to summer.

Eggs: c. 2-4, pale green. Incubation, 12 days. Chicks fledge in c. 12 days.

Nest: Small cup-shaped nest made of palm fibre, reinforced with grass and spider's web (Hutton 1990).

Diet: Eat a variety of food including insects, beetles, aphids and bugs, fruit and nectar.

Foraging Behaviour: Fly quickly from tree to tree looking for food. Will also forage on the ground.

Population Data/Health

Population estimated at c. 100-1 000 pairs (Fullagar *et al.* 1974).

Habitat

Concealed in foliage of forest trees all over the island.

Threats

Other island bird species including the Australian Kestrel, Sacred Kingfisher and the Lord Howe Island Currawong predate on the Lord Howe White-eye.

Weed invasion threatens the integrity of the habitat of this species.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Lord Howe White-eye (*Zosterops tephroleura*)

Photo: Ian Hutton

Common Starling (*Sturnus vulgaris*)

Description

Black all over with a green-purple sheen except for brown wash on wings and tail. Bill brown (yellow when breeding); feet and eyes brown.

Conservation Status

Self introduced exotic species - not protected.

Distribution

Introduced to Australia and New Zealand from Eurasia in the 1850's.

Self introduced to Lord Howe Island. First recorded from about 1924.

Ecology

Breeding: Spring to summer.

Eggs: c 4-7, pale blue. Incubation, 12 days. Chicks fledge in 21 days.

Nest: Untidy cup of grass and palm fibre generally placed in a tree hollow.

Diet: Omnivorous feeders eating a wide variety of insects, beetles, seeds and fruits. Foraging

Behaviour: Birds feed mainly on the ground.

Population Data/Health

Population estimated at c 10-50 pairs.

Habitat

Old Settlement and Golf Course.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Magpie Lark (*Grallina cyanoleuca*)

Description

Medium-sized black and white bird to 28cm; whitish bill tipped black.

Conservation Status

Introduced to Lord Howe Island post-European settlement.

Protected under the *Lord Howe Island Act 1953*.

Distribution

Very common in most parts of Australia. Also occurs in Timor and southern New Guinea.

Ranges over the whole of Lord Howe Island but most common in the lowlands on open pasture and around houses. Also visits some offshore islands to feed.

Ecology

Breeding: Spring and summer.

Eggs: c. 3-5, pink-white, marked with red and purple brown spots and blotches. Incubation: 18 days. Chicks fledge in 20 days.

Nest: Bowl of plant fibre bound with mud, lined with grass. Nest high in trees.

Diet: Insects and their larvae.

Foraging Behaviour: Birds feed mainly on the ground.

Population Data/Health

Population estimated at c. 10-100 pairs.

Habitat

Grassy paddock areas and forest edge.

Threats

The Lord Howe Island Currawong often takes the chicks of the Magpie Lark.

Impacts Upon Other Species

Unknown.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Lord Howe Island Currawong (*Strepera graculina crissalis*)

Description

Large mostly black bird to 46cm. Small white patches on base of primary wing feathers, base and tip of tail and undertail coverts. Orange eyes.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999.

Protected under the *Lord Howe Island Act* 1953.

Distribution

Subspecies endemic to Lord Howe Island.

On Lord Howe Island, it is widely distributed on the main island. Individuals are highly mobile and occasionally visit offshore islands.

Ecology

Breeding: Late spring and summer.

Eggs: c. 3, light brown with darker blotches. Incubation, 21 days by the female. Chicks are fed by both parents and fledge in c. 30 days.

Nest: Cup of sticks lined with grass and palm thatch; placed high in tree.

Diet: Omnivorous; eats a wide variety of foods. Aggressive predator taking land and sea bird chicks, including the Woodhen; also predated on rats and mice.

Foraging Behaviour: Will hunt for food anywhere. Often observed on the outer islets.

Population Data/Health

Population estimated at 215 \pm 11 birds.

Habitat

Forests all over the island, particularly the southern mountains. Breeds primarily in undisturbed forests.

Threats

Prior to the 1980's island residents would often shoot Currawongs. Currawongs remain unpopular with some residents which may be a threat to their persistence.

Impacts Upon Other Species

The Lord Howe Currawong predated bird species such as the White Tern and the Woodhen.

Other Comments

Currawongs often take poisoned rats and mice. It is assumed that secondary poisoning of avifauna does not occur due to the use of warfarin poison. While this may be the case, use of other rodent poisons ie: Brodifacoum, will result in secondary poisoning of non-target species. Other rodenticides including Talon are commonly used by the Lord Howe Island Board and residents.

References

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Photo: Ian Hutton

Providence Petrel (*Pterodroma solandri*)

Description

Dark grey petrel to 40cm. Underparts paler, head grey-brown with white scaly feathers around the face. Bill stout and black, eyes dark brown.

Conservation Status

Listed as Vulnerable under both the 2000 IUCN Red List of Threatened Animals and the NSW TSC Act 1995.

Listed Migratory species under the Commonwealth EPBC Act 1999.

Distribution

Breeds at Lord Howe Island (and formerly Norfolk Island); pelagic range unknown, but recorded at sea in the Tasman, off Japan and tentatively near Hawaii.

Ecology

Breeding: Breeds on Lord Howe Island from late February until November (mainly mid May), laying one egg. Adults share nest building, incubation and care of young. Incubation about seven weeks. Pairs vigorously defend the area close around the burrow. Very inquisitive, attracted by shouting and hand clapping.

Nest: In chamber at end of burrow 1-1.8m long. Burrows are often flooded in heavy rain. Nests are often densely spaced in a colony.

Diet: Squid, fish and crustaceans.

Foraging Behaviour: Providence Petrels go on foraging trips of 1-14 days duration, return to feed their chicks during the late afternoon and throughout the night and bring back predominantly squid, fish and crustaceans for their chicks (Bester 1999).

Population Data/Health

Population c. 32,500 breeding pairs with a total population of less than 100,000 (Bester *et al.* 2005).

Habitat

Marine, pelagic in waters 15-25°C.

On Lord Howe Island, this species nests in soil burrows and rock cavities. The colonies extend over all the upper slopes of Mt Lidgbird 777m and Mt Gower 875m. Smaller populations occur on Little Slope, Big Pocket, Little Pocket and the Far Flats. It has been recorded off Balls Pyramid but it is not known if it breeds there (McAllan *et al.* 2004).

Threats

Providence Petrels are threatened by rat predation at the nesting grounds and may be threatened by long-line fishing at their foraging sites (Bester 1999).

Other threats identified by Bester *et al.* (2005) include predation on chicks by the Lord Howe Island Woodhen and flooding of burrows.

Impacts Upon Other Species

General disturbance to invertebrate fauna may result from burrow excavations.



Photo: Ian Hutton

Providence Petrel
(*Pterodroma solandri*)

References

Bester, A. 1999. Uncovering the breeding and feeding secrets of the Providence Petrel on Lord Howe Island. Information paper provided to the Lord Howe Island Board. Lord Howe Island.

Bester, A. Klomp, N. Priddel, D. and Carlile, N. 2002. Chick- provisioning behaviour of the Providence Petrel, *Pterodroma solandri*. *Emu* 102:297-303

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Photo: Ian Hutton

Providence Petrel (*Pterodroma solandri*)

Kermadec Petrel (western subspecies) (*Pterodroma neglecta neglecta*)**Description**

Variable colour with light, dark and intermediate phases. Dark underwing with white shafts to primaries in upper wing. The darker form is characteristic at Lord Howe. The tail is short and square-cut.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995 and Vulnerable under the Commonwealth EPBC Act.

Distribution

The Kermadec Petrel breeds on Islands across the south Pacific Ocean. In the Lord Howe Island Group it breeds on Ball's Pyramid. It also breeds on Phillip Island, near Norfolk Island.

Ecology

Breeding: On Ball's Pyramid from November to May, one white egg laid. Adults share nest building, incubation and care of young. Incubation c. 52 days, fledging takes at least three months.

Nest: In a crevice among rocks.

Diet: Squid and crustaceans.

Foraging Behaviour: No detailed description. Behaviour appears to be similar to the Providence Petrel where surface seizing and dipping dominate (Hutton pers obs).

Population Data/Health

Fullagar and Disney (1975) estimated the Ball's Pyramid population to consist of less than 100 pairs.

Habitat

Marine, pelagic in waters 15-25°C.

The Kermadec Petrel breeds only on the higher more inaccessible parts of Ball's Pyramid among rocks and vegetation, and forages far out to sea.

Threats

A small population of Kermadec Petrels was observed nesting on the southern end of Mount Gower in 1914 by Roy Bell. Bell subsequently

collected several of the birds and also noted that cats predated on the petrel (Hindwood 1940). It is assumed that their extinction on Lord Howe Island was attributed to the accidental introduction of the black rat in 1918.

Ball's Pyramid is currently a rat free environment, no threats are known for this location.

Impacts Upon Other Species

Not known.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Black-winged Petrel (*Pterodroma nigripennis*)

Description

Small black and white petrel to 30cm, easily recognised by bold black markings under its wings and loud high-pitched calls.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Wide oceanic range in the Tasman Sea and sub tropical and tropical regions of the Central Pacific Ocean. Breeds on a number of island groups. Range thought to be expanding.

This species is likely to be a colonist of Lord Howe Island since 1940. Nests at numerous locations on Lord Howe Island including North Head, New Gulch, Dawson's Ridge, Malabar, Ned's Beach, Jim's Point, Hells Gates, Transit Hill, adjacent to Muttonbird Point, Red Point and Ball's Pyramid.

Ecology

Breeding: Summer breeding seabird (November to May). Adults share nest building, incubation and care of young. Incubation 45 days, fledging at 85 days. Lays one white egg.

Nest: An almost bare chamber at the end of a short burrow.

Diet: Squid, fish, shrimps and cuttlefish.

Foraging Behaviour: Surface-seizing and dipping considered equally important, pattering less so (Marchant & Higgins 1990).

Population Data/Health

Lord Howe Island and Ball's Pyramid population 100-1000 pairs (Fullagher & Disney 1975). No recent population estimates available.

Habitat

Migratory. Highly pelagic, mainly solitary. Participate in high speed spectacular courtship flights over sea or breeding areas, October-February (Hutton 1991). Nest colonies are often among low bushes on high ground along cliff faces.

Threats

Cats and feral pigs predated on the Lord Howe Island population until the eradication of these introduced species in 1980. Introduced Masked Owls *Tyto novaehollandiae* continue to predate on the Black-winged Petrel population.

Impacts Upon Other Species

Not known.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Black-winged Petrel (*Pterodroma nigripennis*)

Photos: Ian Hutton

Flesh-footed Shearwater (*Puffinus carneipes*)

Description

Large, blackish-brown bird to 46cm. Bill heavy and straw-coloured with a dark tip, feet flesh-coloured; eyes brown.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Listed Migratory species under the Commonwealth EPBC Act.

Distribution

Widely distributed throughout the Indian and Pacific Oceans, with many breeding localities. Lord Howe Island is the only breeding locality in eastern Australia.

On Lord Howe Island, the main breeding colony spreads from Ned's Beach to Clear Place on sandy soils. There are smaller colonies below Transit Hill and at Old Settlement beach (Harden 1993).

Ecology

Breeding: Spring – summer, arriving in September and departing in May. Disperse to the north Pacific Ocean during the remainder of the year. Lays one white egg. Adults share nest building, incubation and care of young. Incubation 57 days, fledging c. 85 days. Forms offshore rafts at dusk.

Nest: In a chamber at the end of a burrow, 1 to 2 metres long.

Diet: Squid, fish and crustaceans.

Foraging Behaviour: Feeds mainly from surface, but dives occasionally, observed retrieving scraps at 2 m depth and following baited hooks to 5-6 m (Hutton pers obs).

Population Data/Health

Population estimated at 10 000 – 100 000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in subtropical waters. Feeds at sea during the day returning to nesting colonies at dusk.

Nesting colonies on Lord Howe Island restricted to lowland areas with a deep sandy soil profile. Burrows tend to be excavated in heavily vegetated areas where tree roots assist in maintaining burrow profiles. Nesting colonies occur in open paddocks grazed by cattle (e.g. Big Muttonbird Ground) however excavation and maintenance of burrows in this environment is more difficult for the birds.

Threats

- Increased mortality rates due to the ingestion of floating plastic while foraging.
- By-catch of long-line fishing.
- Development in the settlement area encroaching on Flesh-footed Shearwater nesting habitat.
- Increased mortality rates due to road kills.
- Increased mortality rates due to killing of “problem” birds (e.g. birds burrowing under homes etc.) by residents.
- Increased mortality rates due predation on birds by domestic dogs (Harden 1993).

Impacts Upon Other Species

Not known.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Photo: Ian Hutton

Flesh-footed Shearwater (*Puffinus carneipes*)

Wedge-tailed Shearwater (*Puffinus pacificus*)

Description

Sooty brown shearwater to 43cm. Tail large and wedge-shaped; bill slender and leaden in colour; legs and feet flesh-coloured; eyes brown.

Conservation Status

Native to Lord Howe Island.

Distribution

Widely distributed throughout the Indian and Pacific Oceans, with many breeding localities. On Lord Howe Island, the main breeding colonies occur on the offshore islets, including the Admiralties, Muttonbird Island, Blackburn Island and on Ball's Pyramid. There are also several smaller colonies on the main Island (Hutton 1990).

Ecology

Breeding: Spring – summer, arriving in September and departing in May. Disperse to the north Pacific Ocean during the remainder of the year. Lays one white egg. Adults share nest building, incubation and care of young. Incubation 53 days, fledging 90 days. Adults leave Lord Howe Island about 10 days before the chicks.

Nest: In a chamber at the end of a burrow, up to a metre long. Excavated where possible in deep soil, however, in rocky sites the burrow can be quite shallow, occasionally being reduced to a tunnel in the long grass (Hutton 1990). Where canopy cover is available, such as under the banyan tree on Blackburn Island no burrows are excavated, nests typically consist of a shallow scrape under the protection of an overhanging root or branch.

Diet: Squid, fish and crustaceans.

Foraging Behaviour: Feeds mainly from surface, does not dive as deeply as Flesh-footed Shearwaters (Hutton pers obs).

Population Data/Health

Population estimated at 10 000 – 100 000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters. Feeds at sea during the day, many birds returning to nesting colonies well before dark.

Threats

- Increased mortality rates due to the ingestion of floating plastic while foraging.
- By-catch of long-line fishing.
- Increased mortality rates due to road kills.
- Increased mortality rates due to predation on chicks by visiting Swamp Harriers.
- Increased mortality rates due predation on birds by domestic dogs.

Impacts Upon Other Species

Not known.

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Little Shearwater (*Puffinus assimilis*)

Description

Small shearwater to 20cm with black upperparts and white underparts. Bill short, slender and grey-black; legs bright blue with black markings; feet pale bluish.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

A widespread species of the subtropical Atlantic, Pacific and Indian Oceans. The Lord Howe Island breeding colony is one of the larger colonies in the Australian region. Also breeds on islands off the Western Australian coast.

On the Lord Howe Island Group, the main breeding colony is on Roach Island, with smaller colonies on Blackburn and Muttonbird Islands. The only colony on the main island is on Muttonbird Point, although isolated pairs have been found on Transit Hill.

Ecology

Breeding: Winter breeding species coming ashore at Lord Howe between February and October. A single white egg is laid in July. Incubation is 52 to 58 days. The chick fledges in about 70-75 days. Adults share nest building, incubation and care of young. Occasionally in October and early November, small numbers of juveniles are found wandering the Island roads at night (Hutton 1990).

Nest: At night they come ashore to court and prepare their nests. They dig a narrow burrow up to one metre long, markedly smaller in width than that excavated by the other shearwaters (Hutton 1990).

Diet: Cephalopods, krill and small fish.

Foraging Behaviour: Food captured mainly by surface-diving, pursuit-plunging and pursuit-diving; also by surface-seizing and surface-plunging (Marchant *et al.* 1990).

Population Data/Health

Population estimated at 1 000 – 10 000 pairs (Hutton 1990).

Habitat

Marine, pelagic, breed on subtropical and subantarctic islands, where soft soil suitable for burrowing; in tussock grassland, shrubland, woodland, or under mats of succulents, or among loose rocks in talus (Marchant *et al.* 1990).

Threats

Susceptible to predation by Kestrels on main Island and possibly black rats.

Impacts Upon Other Species

Not known.



Photo: Ian Hutton

Little Shearwater (*Puffinus assimilis*)

References

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White-bellied Storm Petrel (*Fregatta grallaria*)

Description

Compact (to 20cm) black and white bird with a square-cut tail. Upper breast black; rump and belly showing white.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995 and Commonwealth EPBC Act.

Distribution

Wide oceanic distribution in the Pacific and Atlantic Oceans. Known to breed in a number of island groups including Lord Howe Island, the only breeding colony in Australian waters.

On Lord Howe Island, it breeds on offshore islands; it is not known to breed on the main island today (bred on the main Island prior to 1914). The main breeding areas are Roach Island and Ball's Pyramid, and also breeding areas on Muttonbird Island (Harden 1993).

Ecology

Breeding: Summer breeding seabird (November to May). One finely speckled egg is laid from late January through to March. Incubation is about 37 days by both parents. Fledging takes about 80 days (Hutton 1990)

Nest: Consists of a chamber usually located amongst large rocks (Hutton 1990).

Diet: Cephalopods and crustaceans.

Foraging Behaviour: Take food by dipping and pattering (Marchant *et al.* 1990).

Population Data/Health

Population estimated at 100 – 1000 pairs (Hutton 1990).

Habitat

Marine, pelagic, feeds well out to sea and only at nest on offshore islands at night (Hutton 1990).

Threats

Predation by rodents.

Impacts Upon Other Species

Not known.

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Photo: Ian Hutton

White-bellied Storm Petrel (*Fregatta grallaria*)

Masked Booby (*Sula dactylatra fullageri*)

Description

Large (to 87cm) white bird with black tips to flight feathers; black mask on face and around eyes. Yellow bill with base black; legs and feet flesh grey or yellow.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Listed Migratory species under the Commonwealth EPBC Act 1999.

Distribution

Widely distributed throughout the tropical and subtropical seas of the world. In Australia, it breeds on Islands off north-east and north-west Australia.

On Lord Howe Island, the breeding colonies are on Ball's Pyramid, Muttonbird Island, the Admiralty Islands and at King and Muttonbird Points on the main island. Lord Howe Island supports the southern-most breeding colony of this species.

Ecology

Breeding: On Lord Howe Island, the Masked Booby remains year round. It breeds from June to February and usually lays two white eggs about six days apart. Although both hatch, usually only the first chick survives. Adults share incubation and care of young. Incubation 43 days, fledging four months.

Nest: No nest is built. Eggs are laid in a rough scrape in the soil; scraps of debris and local vegetation may accumulate as incubation proceeds.

Diet: Squid and fish.

Foraging Behaviour: Mainly sedentary. Generally solitary, forages in deep water far out to sea. Forages by spectacular plunge-dives from c. 20 m or more.

Population Data/Health

Population estimated at 100 – 1000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters. Feeds at sea during the day. The Masked Booby breeds on high open areas so they can take off directly into the wind (Hutton 1990).

Threats

Juveniles occasionally dive on lures towed by fishing boats, sometimes getting hooked.

Impacts Upon Other Species

Not known.



Photo: Ian Hutton

Masked Booby (*Sula dactylatra fullageri*)

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Photo: Ian Hutton

Masked Booby (*Sula dactylatra fullageri*)

Red-tailed Tropicbird (*Phaethon rubricauda*)

Description

White body to about 46cm with two stiff red tail feathers to 50cm long (these may be missing when moulting). Black stripe through the eye; black on flanks and innermost flight feathers.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Widespread throughout the subtropical and tropical zones of the Indian and West Pacific Oceans, breeding on oceanic islands. In Australia, breeds on islands and cliffs along western, northern and north-eastern shores.

On Lord Howe Island the main breeding areas are the sea-cliffs from North Head to Malabar, and the cliffs of Mts. Lidbird and Gower.

Ecology

Breeding: Summer breeding species present in numbers from December to April and virtually absent during the winter months. Egg laying begins in November and is generally completed by February, although a few birds can still be found nesting in May (Hutton 1990). Lays one white egg.

Incubation 42 days, fledging 10 weeks.

Nest: The nest consists of a scrape on the ground on an inaccessible cliff ledge or maybe tucked under a Melaleuca bush (Hutton 1990).

Diet: Squid and fish.

Foraging Behaviour: Forages in deep water far out to sea, mainly by plunge-dives and surface seizing.

Population Data/Health

Population estimated at 100 – 1000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters. Feeds at sea during the day but can be seen flying around breeding areas all day (Hutton 1990).

Threats

Juveniles often succumb to a disease causing growths on the head which is always fatal. Impact on species unknown.

Impacts Upon Other Species

Not known.



Photo: Ian Hutton

Red-tailed Tropicbird (*Phaethon rubricauda*)

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Photo: Ian Hutton

Red-tailed Tropicbird (*Phaethon rubricauda*)

Sooty Tern (*Sterna fuscata*)

Description

Black and white tern to 46cm. Head, lores and upper parts of body, wings and tail are black; forehead white extending to above eye; underparts white; tail deeply forked; bill black; legs and feet black.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Wide distribution over subtropical and tropical seas world-wide, breeding on numerous islands. In Australia, breeds on islands in the Great Barrier Reef and on islands off north-west Australia.

Breeding sites on Lord Howe Island include North Head, Mt Eliza, Malabar, and Muttonbird, Scab and King Points. Breeding colonies have expanded in recent years to include the area known as the Big Muttonbird ground (Ned's Beach to Middle Beach). Also breed on the Admiralty Islands, Muttonbird Island and other offshore islands.

Ecology

Breeding: The most numerous of the seabirds to breed on Lord Howe Island. It is a spring/summer breeder, with egg laying beginning in early September and continuing into November. One pinkish white, mottled black or brown egg is laid, (second egg will be laid if the first egg is removed from the nest). Incubation 28 days, fledging 70 days (Hutton 1990).

Adults aggressively protect eggs and chicks.

Nest: Shallow scrape in sand or soft soil, unlined.

Diet: Mainly squid, crustaceans and fish.

Foraging Behaviour: Nocturnal or diurnal, swooping to snatch at surface.

Population Data/Health

Population estimated at 10 000 – 1000 000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters. Lord Howe and outer islets are the most southerly breeding location for the species.

Threats

Unknown.

Impacts Upon Other Species

Unknown.



Photo: Ian Hutton

Sooty Tern (*Sterna fuscata*)



Photo: Ian Hutton

Sooty Tern (*Sterna fuscata*)

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Photo: Ian Hutton

Sooty Tern chick (*Sterna fuscata*)

Brown Noddy/Common Noddy (*Anous stolidus*)

Description

Grey-brown noddy to 40cm. Wings and tail darker grey-brown; light grey crown and white forehead; white eye ring. Tail rounded with a central notch. Bill long and black.

Conservation Status

Listed migratory species under the Commonwealth EPBC Act 1999.

Distribution

Wide distribution over subtropical and tropical seas world-wide, breeding on numerous islands. In Australia, breeds on islands in the Great Barrier Reef and on islands off north-west Australia.

Breeding sites on Lord Howe Island include North Head, Mt Eliza, Malabar, Blinky Beach, Muttonbird and King Points. Also breeds on the Admiralty Islands, Muttonbird Island, Ball's Pyramid and other smaller offshore islands.

Ecology

Breeding: The Brown Noddy arrives at Lord Howe Island in August, breeds over summer, and leaves in May.

One pinkish white egg mottled with blotches of red and purple brown is laid between late October and the end of January. Incubation is 35 days, fledging 50 days (Hutton 1990).

Nest: Rough structures of grass and seaweed on top of the stunted branches of *Melaleuca howeana*. Alternatively, loose scraps of similar material may be assembled on cliff ledges (Hutton 1990).

Diet: Mainly fish.

Foraging Behaviour: Forages typically in flocks, hovering low, actively swooping and snatching at surface.

Population Data/Health

Population estimated at 100 – 10 000 pairs (Hutton 1990).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters. Seen at sea feeding in groups or at nesting colonies. Young birds “loaf” on beaches late summer (Hutton 1990).

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
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Black Noddy (*Anous minutus*)

Description

Darker and slightly smaller than Brown Noddy. Sooty black body and wings; forehead and crown silver-white, shading abruptly to grey on back of neck. Forked tail; long, slender bill.

Conservation Status

Self-introduced species.

Distribution

This Noddy has a widespread distribution in tropical waters of the Pacific and west Atlantic Oceans.

On Lord Howe Island, it has a small breeding colony behind North Beach in Norfolk Island Pines (Hutton 1990).

Ecology

Breeding: Spring/Summer breeder, but are present on Lord Howe Island all year (Hutton pers obs). They have an extended egg laying period between October-December. They lay one cream coloured egg covered with blotches of brown and purple grey (Hutton 1990).

Incubation 35 days, fledging 50 days (Hutton 1990).

Nest: Substantial structure of leaves, seaweed, twigs and debris, in trees or shrubs.

Diet: Mainly fish.

Foraging Behaviour: Forages typically in flocks, hovering low, actively swooping and snatching at surface.

Population Data/Health

Population estimated at 100 – 1 000 pairs (Hutton 1990).

Habitat

Exclusively pelagic, mainly in tropical and subtropical waters. Seen at sea feeding in groups or at nesting colonies. Often seen feeding within the lagoon during the winter months (Hutton pers obs).

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
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White Tern (*Gygis alba*)

Description

Body to 30cm; white all over. Wings long; tail forked.

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Occurs in subtropical seas. The subspecies on Lord Howe Island, *G. alba royana* is rarely seen on the east coast of Australia but occurs on Norfolk Island and the Kermadec Islands.

The White Tern is a recent colonist of Lord Howe Island, first recorded in 1943. Most breeding sites are close to the lagoon in the settlement area (Harden 1993).

Ecology

Breeding: Spring/Summer breeder. Extended laying period from October-April. One white, blotched egg is laid. Incubation 35 days, fledging 70 days (Hutton 1990).

Nest: No nest is built. The single egg is laid in a crevice on the horizontal limb of tree.

Diet: Mainly small fish and squid.

Foraging Behaviour: Mildly gregarious, encountered singly or in small groups; seldom associates with terns or other noddies. Feeds mainly by surface seizing.

Population Data/Health

Population estimated at less than 1000 pairs (Hutton pers. obs.).

Habitat

Marine, pelagic, mainly in tropical and subtropical waters.

Threats

The juvenile mortality rate is very high due to predation by the introduced Masked Owl, the Currawong, the Kestrel and storm events. Regardless of these threats, the population continues to expand.

Impacts Upon Other Species

Unknown.



Photo: Ian Hutton

White Tern (*Gygis alba*)



Photo: Ian Hutton

White Tern (*Gygis alba*)

References

Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.

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Lindsey, T.R. 1986. *The Seabirds Of Australia*. The National Photographic Index Of Australian Wildlife. Angus & Robertson, UK.

Grey Ternlet (*Procelsterna cerulea*)

Description

Body and wings light blue-grey, paler on face and breast; primaries darker. Black bill is pointed. Feet and legs black with yellow webs

Conservation Status

Listed as Vulnerable under the NSW TSC Act 1995.

Distribution

Widespread throughout the tropical and subtropical South Pacific Ocean. The Lord Howe Island Group and Norfolk Island are the only known breeding locations in Australian waters.

On the Lord Howe Island Group, breeding colonies are at North Head on the main Island, Ball's Pyramid, the Admiralty Islands, Muttonbird and Gower Island (Harden 1993).

Ecology

Breeding: Grey Ternlets are not migratory. Breeding begins in September when one whitish egg, with small dark and light brown blotches is laid. Incubation 32 days, fledging 37 days (Hutton 1990).

Nest: No nest is built, eggs are laid on a cliff ledge, usually sheltered from above.

Diet: Mainly small fish and crustaceans.

Foraging Behaviour: Sedentary or dispersive. Gregarious, usually feeds in small parties, but often forages or loafs alone. Feeds mainly by surface seizing.

Population Data/Health

Population estimated at 100-1 000 pairs (Hutton 1990).

Habitat

Marine, pelagic. Seen at sea feeding in flocks or at nesting colonies.

Threats

Unknown.

Impacts Upon Other Species

Unknown.

References

- Fullagar, P.J., McKean, J.L. and Van Tets, G. F. 1974. Appendix F. Report on the birds, p. 55-72. In Recher, H. F. and Clark, S.S. *Environmental Survey of Lord Howe Island*. A report to the Lord Howe Island Board. N.S.W. Govt. Printer.
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- Ross, G.J.B., Weaver, K. & Greig, J.C. (eds) 1996. *The Status of Australia's Seabirds: Proceedings of the National Seabird Workshop, Canberra, 1-2 November 1993*. Biodiversity Group, Environment Australia: Canberra vii + 237 pp.

Lord Howe Island Earthworm (*Pericryptodrilus nanus*)**Description**

A small earthworm between 25 – 32mm in length made up of 111 – 123 segments.

Conservation Significance

Endemic species.

Listed as Endangered under the NSW TSC Act 1995.

Distribution

Restricted to the northern ridge to Mount Gower.

Ecology

Lives in deep leaf litter in moist environments close to streams.

Population data/health

The species is known from ten specimens, lodged in the Australian museum. Sampling at many other sites at Lord Howe specifically for earthworms has failed to extend the range beyond the northern ridge of Mount Gower.

Habitat

Requires constant moist environment, usually in shaded locations in leaf litter.

Threats

Disturbance to leaf litter, in particular trampling, resulting in changes to its micro environment.

Exotic earthworms have displaced native earthworms in many areas in Australia. Exotic species are already on Lord Howe Island around the settlement area which could have deleterious impacts if they spread.

Rodents may impact on this species.

Impact on other species

Unknown.

References

NSW Scientific Committee 2000. Preliminary Determination of *Pericryptodrilus nanus* as an endangered species.

Lord Howe Phasmid (*Dryococelus australis*)

Description

A giant flightless stick insect over 12cm in length. The adult is a honey brown colour with a white stripe down the side, while the juveniles are bright green, turning brown when mature.

Conservation Significance

Endemic species.

Listed as Endangered under the NSW TSC Act 1995.

Listed as Critically Endangered under the Commonwealth EPBC Act 1999.

Distribution

Only known from Ball's Pyramid, confined to a ledge approximately 30m x 5m at about 70m altitude. Although complete surveys have not been carried out, observations by boat and aerial photography indicate other potential sites are limited.

Previously located on the main island, but thought to have become extinct due to predation by Rats in the 1920's.

Ecology

Phasmids burrow in damp leaf debris during the day, and emerge to feed on shrubs of *Melaleuca howeana* at night. Account of Phasmids on the main island prior to extinction indicated they were abundant, nocturnal and lived in cracks in living trees during the day and emerged at night to feed on leaves in the tree canopy. Sexes can be identified by physical appearance.

Population data/health

Phasmids were once abundant on the main island. It was first collected in 1853 by officers on the survey vessel H.M.S. Herald, and is in collections at the Australian Museum. Phasmids were rediscovered on Ball's Pyramid in 2001, and a subsequent survey located 3 individuals that were all females.

A survey in March 2002 located 24 individuals. Ten of these were able to be sexed, and were identified as 8 females and 2 males.

Habitat

The population on Ball's Pyramid is confined to six small *Melaleuca howeana* shrubs, growing because of a water seep nearby. These shrubs provide food and leaf debris layer where the insects can retreat into damp, shaded location during the day.

Threats

Introduction of the rat to Ball's Pyramid could cause the extinction of the species.

The exotic plant species *Ipomoea cairica* may smother the food plant of the Phasmid on Ball's Pyramid Pridel *et al.* (2002).

Random stochastic events.

Impact on other species

Unknown.

References

- Etheridge R. jnr. 1889. The general zoology of Lord Howe Island. *Australian Museum Memoirs* No. 2 pp 3-42.
- Priddel, Carlile, Humphrey, Fellenberg and Hiscox 2003. Rediscovery of the "extinct" Lord Howe Island stick-insect (*Dryococelus australis*) (Montrouzier) (Phasmatodea) and recommendations for its conservation. *Biodiversity and Conservation* 12:1391-1403

Lord Howe Island Wood-feeding Cockroach (*Panesthia lata*)

Description

Large wingless wood-eating Cockroach with a length of between 22 – 40mm. Its colour ranges from red to black with a metallic sheen.

Conservation Significance

Endemic.

Listed as Endangered under the NSW TSC Act 1995.

Distribution

In Australia there are 11 species of *Panesthia*, all endemic. The Lord Howe Island Cockroach is only known from offshore islands (Blackburn and Roach Islands).

Ecology

Burrows in soil under rocks and logs. Feeds on leaf litter and rotting wood.

Population data/health

This species once occurred abundantly on the main Island. It was known from collections by the Australian Museum, with the last collections on the main island being in the 1930's.

Habitat

Damp shaded locations.

Threats

Most probable cause of decline is the introduced Rat; mice may also prey upon juveniles of this species.

Impact on other species

Unknown.

References

Etheridge R. jnr. 1889. *Australian Museum Memoirs* No. 2 page 31.

Rose H. 2003. Research Report on *Panesthia lata* Blaberid Cockroach 25-29 March 2003.

NSW Scientific Committee 2003. Nomination for Listing *Panesthia lata* as an endangered species.



Photo: Ian Hutton

LHI bush cockroach (*Panesthia lata*)

Lord Howe Island Placostylus (*Placostylus bivaricosus*)**Description**

A large ground-dwelling land snail with a pointed shell up to 8cm in length, medium to dark brown in colour (weathering to white in older animals) and with a thickened lip in mature animals. The body is black.

Conservation Significance

Endemic, listed as an Endangered species under the NSW TSC Act 1995 and as Critically Endangered under the Commonwealth EPBC Act 1999.

Three subspecies are recognized: *P. bivaricosus cuniculinsulae*, *P. bivaricosus etheridgei*, and *P. bivaricosus bivaricosus*, but these are not listed separately under legislation.

Distribution

The three subspecies have different distributions:

P. bivaricosus cuniculinsulae, from Blackburn Island; presumed to be extinct.

P. bivaricosus etheridgei, possibly extinct, but may survive on Little and Big Slopes.

P. bivaricosus bivaricosus, extant but has declined in range and abundance.

The genus has a disjunctive distribution from the Solomon Islands, Fiji and New Caledonia to Lord Howe Island and the northern extremity of New Zealand.

Ecology

Lives in leaf litter, under canopy cover, usually in damp shady locations.

Population data/health

Point locality data from surveys in 1999 (Ponder & Chapman) revealed 19 sites where live *P. bivaricosus* were found, 9 sites where fresh *P. bivaricosus* specimens were found (extant populations probably exist but none were encountered) and 26 localities where only old *P. bivaricosus* shells were found.

Habitat

Damp shaded locations provided by closed canopy. *Drypetes/Cryptocarya* lowland forest on calcarenite soil is their main habitat.

Threats

Most probable causes of decline of this species are:

- The recent arrival of predatory animals (e.g. rodents, Blackbirds and Songthrushes).
- Loss of habitat through clearing of lowland forest.

Impact on other species

Unknown.

References

NSW NPWS 2001. Lord Howe Placostylus Recovery Plan. NSW NPWS, Hurstville, NSW.

NSW NPWS 2002. Predictive Habitat Modeling of the Lord Howe Placostylus on Lord Howe Island. NSW NPWS, Coffs Harbour.



Photo: Michael Murphy

LHI land snail (*Placostylus bivaricosus*)