

Rare and threatened species of the Macquarie Harbour region

Tasmania's isolation as an island since the end of the last Ice Age has served to protect the State from the devastating impacts of several introduced species. Neither the fox nor the dingo reached Tasmania because both arrived on mainland Australia after the flooding of Bass Strait. This isolation, and particularly the relative intactness of some of the State's ecosystems, has allowed Tasmania to serve as a refuge — a last chance — for many species of animal which have become, or are perhaps about to become, extinct on the mainland.

Nonetheless, like almost every other region on Earth, the native fauna and flora of Tasmania has suffered more since the arrival of European settlers than it has over the last 65 million years.

What does threatened mean?

Threatened is a term used to cover both vulnerable and endangered species. These latter terms are defined by the *Threatened Species Protection Act 1995*.

Extinct. An animal is extinct when there is no reasonable doubt that the last individual has died.

Endangered. A species is endangered when it is facing a very high risk of extinction in the near future. The criteria used to establish this include:

- a population of less than 250 mature individuals, or;
- a decline in numbers of at least 50% during the last 10 years.

Vulnerable. A species is listed as vulnerable when it is not endangered but is facing a high risk of extinction in the medium-term future. Species in this listing may:

- number less than 1000 mature individuals, or;
- have suffered a decline in numbers of 50% over the last 20 years.

Additionally, rare species are those with small populations, often within restricted geographical areas or thinly scattered over a more extensive range.

What causes an animal to become threatened?

Extinction is a natural part of the evolutionary history of life on Earth. Indeed, the vast majority of species that have lived have subsequently become extinct. The difference today is that the massive ability of humans to rapidly alter and destroy the natural balance of nature has meant that the rate at which extinctions occur has increased dramatically. Given that people remain inextricably tied to the vast and complex web of life, the rapid loss of so many strands of this web is of grave concern.

Clearing for agriculture, mining, forestry, and residential development has depleted the habitat available to native species. Indeed, on a global level, habitat loss is the single greatest cause of extinction. Introduced animals such as hard-hoofed sheep and cattle have similarly had a devastating impact on the fragile soils of the Australian continent. Introduced species such as the fox, cat and dog, and indeed ourselves, have competed

with or preyed directly upon many native species.

Humans have the potential to impact on the global environment through the depletion of the ozone layer, global warming and massive pollution. This raises the question of the impact that these changes will have on the species, including ourselves, that occupy the Earth today.

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Vertebrates. Of the 54 species of vertebrates listed as rare or threatened in Tasmania, at least five occur in the lower Gordon River region. Among the mammals, the thylacine (Tasmanian tiger), which was once widespread throughout the State, has become extinct due to persecution by humans. It is the only Tasmanian mammal to have become extinct since European settlement. This contrasts greatly with the post-settlement decline of mammals on the mainland, where 20 species are known to have become extinct. Several marine mammals which occur off the west coast are endangered. These include the humpback and southern right whales, both of which were hunted to near extinction.

The orange-bellied parrot is endangered, with less than 200 individuals in existence. This species breeds only in the southwest of the state. It migrates north to southern Victoria and South Australia during the winter months,

often feeding along the Macquarie Harbour coast enroute. The endangered swift parrot, whose numbers have plummeted to 1000 breeding pairs, can also be found in the region. The beautiful and secretive ground parrot finds its stronghold in the moorlands of western Tasmania. The mainland populations of this bird have suffered from the loss and fragmentation of their habitat, as well as predation from introduced animals. Although not listed as rare, it is one of many species which require monitoring to ensure that it does not become threatened in the future. The world's only two other species of ground parrot — the kakapo and the night parrot — are on the verge of extinction.

Other endangered birds which occur in the area include the wedge-tailed eagle. Species such as the grey goshawk are rare, while others such as the azure kingfisher are so little known that evaluations of their status cannot be accurately made.

Nearly one third of Tasmania's freshwater fish are rare or threatened. Of these only the vulnerable Australian grayling occurs in the Macquarie Harbour region.

Invertebrates

Across Tasmania, 118 species of invertebrate are listed as threatened or rare. However, our knowledge of the invertebrate fauna is so incomplete that such a figure will undoubtedly prove to be

a gross underestimate. For some threatened species, we do not even know their name. For example, a stonefly — an undescribed species belonging to the genus *Neboissoperla* — is listed as rare, while an undescribed species of aquatic snail is known from only two localities on the Franklin River. Other species listed as rare include a spider, stonefly and at least 13 species of caddisfly.

Plants

In Tasmania, 462 species of native plants are listed as rare or threatened. The endemic lily, *Milligania longifolia* and *Oreomyrrhis gunnii* are both restricted to cliff faces on the lower Gordon River and a few other western river sites. Such a precarious habitat acts as a refuge for these rare species.

Other rare, endemic species of plant found in the lower Gordon River region include *Pseudopanax gunnii*, the heath *Epacris mucronulata* and *Spyridium gunnii*. Non-endemic rare species include *Veronica plebeia* and *Colobanthus affinis*.

Whitey wood is a rare species that can be seen at Heritage Landing. The species also occurs in the levee bank rainforest downstream of Sir John Falls, where it is a component of the understorey. Such a vegetation type is not known from any other river system in the State.