

Theme: Fauna

The Gippsland Lakes is recognised as a Wetland of International Importance under the Ramsar Convention, largely due to its role in supporting fauna. The site meets seven of the current listing criteria, six of which are related to fauna:

- Supports threatened species
 - Australasian bittern (*Botaurus poiciloptilus*)
 - Australian fairy tern (*Sternula nereis nereis*)
 - Curlew sandpiper (*Calidris ferruginea*)
 - Eastern curlew (*Numenius madagascariensis*)
 - Hooded plover (*Thinornis rubricollis rubricollis*)
 - Green and golden bell frog (*Litoria aurea*)
 - Growling grass frog (*Litoria raniformis*)
 - Australian grayling (*Prototroctes maraena*)
- Supports animal species in critical life stages of breeding, migration and drought refuge
- Supports > 20,000 waterbirds
- Supports > 1% of the population of three waterbird species:
 - Australian fairy tern
 - Chestnut teal
 - Little tern
- Provides important habitat for native fish, including nursery areas
- Supports > 1% of the population of the Burrunan dolphin (*Tursiops australis*)

The fauna of the Gippsland Lakes provide social, cultural and economic benefits to a wide variety of people. The lakes are an important commercial fishery with 10 Gippsland Lakes Fishery Access Licences and a further nine Gippsland Lakes (Bait) Fishery Access Licence holders. The site is also an important recreational fishery. Tourism for the Gippsland Lakes and broader East Gippsland region is estimated at \$267 million annually (Worley Parsons 2013).

Burrunan dolphin

Indicators and thresholds

The Resource Condition Target (RCT) for the Ramsar site has been used to derive thresholds for Burrunan dolphin.

RCT = Maintain population of Burrunan dolphin.

The population has been estimated at 94 individuals (Robb unpublished).

Thresholds for Burrunan dolphin are as follows:

- Good = meets RCT (i.e., > 94 individuals)
- Fair = > 50% of population (i.e., > 47 individuals)
- Poor = < 50% of population (i.e., < 47 individuals)

Locations

The Burrunan dolphin utilise the main lakes portion of the Ramsar site.

Results

Indicator	Status and trends				Summary
	Unknown	Poor	Fair	Good	
Burrunan dolphin abundance					In 2011 a new species of dolphin, the Burrunan dolphin was described from south-eastern Australia. There are only two known resident populations of this species, one from Port Phillip Bay and one from the Gippsland Lakes. The Gippsland Lakes resident population was estimated at around 94. In winter, males move into the Gippsland Lakes increasing numbers and breeding commences. Recent freshwater conditions in the Lakes are thought to have contributed to a decline in the health of the resident dolphins, with 10 confirmed or presumed deaths and a further 26 individuals not sighted during surveys. There is some evidence that this impact of fresher conditions on dolphin health and population has occurred in the past, but we do not know if and when populations will recover.
	Data quality: Fair				

Status

In 2011 a new species of dolphin, the Burrunan dolphin (*Tursiops australis*), was described from coastal waters of south-eastern Australia using multiple lines of evidence from both genetic and morphological traits (Charlton-Robb et al. 2011). The species is smaller than the bottlenose dolphin and has a distinctive tri-banded coloration pattern that grades from dark bluish-grey on the dorsal fin and sides of the head and body, light grey along the midline and off-white on the lower body.

The species feeds on fish and invertebrate species, with some evidence that Burrunan dolphins in the Gippsland Lakes feed at lower trophic levels and by herding prey items into shallow waters (Owen et al. 2011).

There are two known resident populations of these species from Port Phillip Bay and the Gippsland Lakes. Genetic studies indicate that these two populations do not interbreed. The resident population of the Gippsland Lakes is estimated at 94 individuals (Charlton-Robb et al. 2014). The population increases during winter to around 120 individuals with the seasonal migration of individuals from Tasmania (Charlton-Robb et al. 2014). Based on existing data and observations, it is likely that females remain in the Gippsland Lakes year round, with seasonal migration of males from Tasmania to the Gippsland Lakes in winter and back to Tasmania during summer months (Charlton-Robb et al. 2014).

Monitoring in 2021 indicated that many of the dolphins had skin lesions and up to 10 individuals were confirmed or presumed dead, with a further 26 absent from surveys. Researchers are investigating the cause of the event, but suspect that the freshwater conditions that persistent throughout the summer of 2021 may be contributing factor. In 2007, similar freshwater condition in the lakes led to the deaths of several dolphins and similar skin disease (Duignan et al. 2020).

Trends

Monitoring and modelling have indicated that the population of Burrunan dolphins in the Gippsland Lakes was most likely stable, prior the recent disease (Kate Charlton-Robb, personal communication). More data will be required to determine population trends.

Influencing factors and threats

The very small population size makes these dolphins vulnerable not only to changes in the physical environment due to climate, but also to human impacts, as the loss of only a few

dolphins could affect the viability of a population. In February 2014, the species was listed as threatened under the Flora and Fauna Guarantee Act 1988.

Of concern are the impacts of tourism and boating on the Burrunan dolphins in the Gippsland Lakes, with the species affected by boat strike and altered behaviour from pursuit. In particular, avoidance of boats and tour operators can detract from important activities for dolphins such as feeding and resting and can lead to a decline in their health (Howes et al. 2012, Filby et al. 2014). Managing boating and tourism in the Gippsland Lakes to maintain and improve the condition of the Burrunan dolphin is important, to both maintain dolphin populations and the long-term sustainability of dolphin related tourism.

References

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