



The Minister decided this species was not eligible for listing as threatened on 25/06/2015

Listing Advice

Lewinia pectoralis brachipus

(Lewin's rail (Tasmanian))

Taxonomy

Described here as *Lewinia pectoralis brachipus* (Lewin's rail (Tasmanian)), Swainson, 1838 after Christidis and Boles (2008) and Garnett et al. (2011). The species has also been placed under the genus *Rallus* (Clements, 2000) and *Dryolimnas* (Marchant et al., 1993) and its generic position is unresolved. Christidis and Boles (2008) followed the assigning of the species to *Lewinia* as this made fewer implied assumptions regarding relationships. Further taxonomic work on this group is required.

Lewin's rail (Tasmanian) is one of seven extant subspecies of Lewin's rail, two of which are endemic to Australia (Clements, 2000).

Summary of assessment

Conservation status

Not threatened

Species/subspecies can be listed as threatened under state and territory legislation. For information on the listing status of this subspecies under relevant state or territory legislation, see <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

Reason for conservation assessment by the Threatened Species Scientific Committee

This advice follows assessment of information provided by a Committee nomination to list Lewin's rail (Tasmanian).

Public Consultation

Notice of the proposed amendment and a consultation document was made available for public comment for >30 business days between 30 October 2014 and 21 December 2014. Any comments received that were relevant to the survival of the subspecies were considered by the Committee as part of the assessment process.

Subspecies Information

Description

Lewin's rail is a tubby, ground-dwelling dark bird with a longish pink, dark-tipped bill and fiery chestnut nape and shoulders. Its breast is plain olive-grey. Part of the wing, underparts and undertail are black with fine whitish bars. The female is duller, with a more streaked crown than the male (Marchant et al., 1993).

The Tasmanian subspecies is larger than the other Australian subspecies, *Lewinia pectoralis pectoralis*. The olive colour of its breast is stronger and the olive tips of its feathers are broader. Both subspecies have cream or buff bars on their underparts, but in *Lewinia pectoralis brachipus* the cream bars more commonly extend onto the lower breast and flanks (Marchant et al., 1993).

Distribution

The subspecies has a scattered distribution in near-coastal environments around Tasmania and some offshore islands including Furneaux Island, King Island, Tasman Island, Robbins Island, Maatsuyker Island, Freycinet National Park, Apsley Marshes and Kettering (Garnett et al., 2011; BirdLife Australia, 2014). It mainly occurs in the north, east and south of Tasmania. It is less common in the west and south-west. It is widespread on the Furneaux Group, and widespread but uncommon on King Island (Marchant et al., 1993).

Relevant Biology/Ecology

The subspecies is secretive and wary and inhabits dense vegetation usually near water. It is most common in coastal or near-coastal permanent to ephemeral, fresh to saline wetlands that have dense emergent or fringing vegetation. It sometimes inhabits rainforest wetlands, riverine forest, thickets of wetland shrubs and wet heathlands, or dry habitats such as parks, agricultural land, grass or ferns under scrub, or thickets of brambles or *Lantana* (Garnett et al., 2011). On the Furneaux Group and Maatsuyker Island it occurs in dry grassy areas, among ferns and cutting-grass (*Gahnia spp.*), and under shrubs (Marchant et al., 1993).

Its diet mostly consists of invertebrates, especially insects and crustaceans, and occasionally bird's eggs, frogs and skinks (BirdLife Australia, 2014). It forages in soft mud or shallow water at the edges of wetlands, in small pools, or channels. Occasionally it feeds in gardens, lawns, short pastures and peaty areas. It usually forages near dense vegetation, or under the cover of vegetation (Marchant et al., 1993).

It breeds at the edge of swamps and marshes, usually above water, in areas surrounded by low dense vegetation. It will also nest away from water in thick grassy areas. A shallow cup or saucer-shaped nest is built which usually sits 10-60cm above mud or water, with a ladder or pathway from the water to the nest. Construction of the nest may take 4-5 days to over one week, and 1 to 8 eggs may be laid. Incubation is probably by the female only, who may leave the nest for 70-120 minutes when the sun shines on it. The young are precocial. Breeding in Tasmania occurs from September to March, and usually two broods are raised. Adults are usually recorded singly except during the breeding season, and both adults may care for the chicks (Marchant et al., 1993; BirdLife Australia, 2014). Generation time is estimated at 3.7 years and maximum longevity at 6.3 years (Garnett et al., 2011).

Little is known about the subspecies' movements, as sightings are rare and observations difficult. It is seldom seen flying, having an awkward flight and preferring to drop back into cover after moving short distances. Some individuals are resident or sedentary, being present at a site all year. However, it is able to move longer distances and may be partly migratory. Numbers at some sites in Tasmania change between years, which suggests that Lewin's rail (Tasmanian) may move when conditions alter, e.g. to refuges during droughts. Local movements are apparently nocturnal (Marchant et al., 1993).

Threats

Degradation of wetland-fringing vegetation, caused by grazing, inappropriate burning, or trampling by stock, is a threat to Lewin's rail (Tasmanian). Fuel reduction burns may negatively impact available habitat as these burns target dense, fast growing, ground covering vegetation (SFMC, 2014). Large scale removal of invasive weeds which have suitable habitat structure for the subspecies, without replanting, is also a potential threat. Climate change and past drought conditions are possibly having a permanent effect on suitable breeding habitat around wetlands (BirdLife Australia, 2014).

Feral cats (*Felis catus*) and kelp gulls (*Larus dominicanus*) are predators of adults and young birds. The threat from feral cats may be increasing, as there is evidence of increasing numbers of feral cats in Tasmania. The subspecies may also be vulnerable to predation by foxes (*Vulpes vulpes*), should a population become established in Tasmania, and rat species (Marchant et al., 1993; Garnett et al., 2011; BirdLife Australia, 2014).

How judged by the Committee in relation to the EPBC Act Criteria and Regulations

Criterion 1. Population size reduction (reduction in total numbers)

Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4

	Critically Endangered Very severe reduction	Endangered Severe reduction	Vulnerable Substantial reduction
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%
<p>A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>A2 Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p> <p>A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p>	<p>based on any of the following:</p> <p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>		

Evidence:

Not eligible

Assessing population size and trends of Lewin's rail (Tasmanian) is difficult due to its secretive and cryptic nature. Numbers reported are highly variable, and its distribution and abundance are likely linked to rainfall and land-use practices. Data is limited (<70 observations since 1995 (BirdLife Tasmania, 2014)) and there is uncertainty regarding the consistency of search effort and protocols. The records available are insufficient to demonstrate a decline in population over the past 3 generations (BirdLife Tasmania, 2014; BirdLife Australia, 2015).

Following assessment of the data the Committee has determined that the species is not eligible for listing in any category under this criterion as past, current or future population declines are thought unlikely to exceed 20% in any three-generation period.

Criterion 2. Geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy

	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Evidence:**Not eligible**

The extent of occurrence is estimated to be 70 000 km² and the area of occupancy estimated to be 240 km². The subspecies occurs at >10 locations. The data available are insufficient to assess whether there is continuing decline or extreme fluctuations in the population (Garnett et al., 2011; BirdLife Tasmania, 2014; BirdLife Australia, 2015).

Following assessment of the data the Committee has determined that the subspecies' area of occupancy is restricted, however there are insufficient data available to judge whether the population is declining or whether there are threats operating that would make the subspecies' geographic distribution precarious for its survival. Therefore, the subspecies has not been demonstrated to have met the requirements of this criterion.

Criterion 3. Small population size and decline				
		Critically Endangered Very low	Endangered Low	Vulnerable Limited
Estimated number of mature individuals		< 250	< 2,500	< 10,000
AND either (C1) or (C2) is true				
C1	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future	Very high rate 25% in 3 years or 1 generation (whichever is longer)	High rate 20% in 5 years or 2 generation (whichever is longer)	Substantial rate 10% in 10 years or 3 generations (whichever is longer)
C2	An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:			
(a)	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b)	Extreme fluctuations in the number of mature individuals			

Evidence:**Not eligible**

Based on available records of the subspecies, the total number of mature individuals is estimated at 5000 (Garnett et al. 2011). The data available are insufficient to assess whether there is a continuing decline in population size (BirdLife Tasmania, 2014; BirdLife Australia, 2015).

Following assessment of the data, the Committee has determined that the population size is limited but that there is insufficient data available to judge whether there has been a population decline or whether there has been extreme fluctuations in the population. Therefore, the subspecies has not been demonstrated to have met the requirements of this criterion.

Criterion 4. Very small population			
	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
Number of mature individuals	< 50	< 250	< 1,000

Evidence:

Not eligible

Based on available records of the subspecies, the total number of mature individuals is estimated at 5000 (Garnett et al. 2011). This is not considered extremely low, very low or low. Therefore, the subspecies has not been demonstrated to have met the requirements of this criterion.

Criterion 5. Quantitative Analysis			
	Critically Endangered Immediate future	Endangered Near future	Vulnerable Medium-term future
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

Evidence:

Not eligible

Population viability analysis has not been undertaken

Conservation Actions

Recovery Plan

There should not be a recovery plan for *Lewinia pectoralis brachipus* (Lewin's rail (Tasmanian)) as the species is not eligible for listing under any of the above criteria.

Recommendations

- (i) The Committee recommends that *Lewinia pectoralis brachipus* is **not eligible** for inclusion in the list referred to in section 178 of the EPBC Act.

Threatened Species Scientific Committee

04/03/2015

References cited in the advice

- BirdLife Australia (2014). Submission in response to the draft listing and conservation advice for six bird species. Threatened Species Committee, BirdLife Australia.
- BirdLife Australia (2015). Personal communication by email, 23 January 2015.
- BirdLife Tasmania (2014). Submission in response to the listing nomination for Lewin's Rail.
- Christidis L and Boles WE (2008). *Systematics and Taxonomy of Australian Birds*. CSIRO Publishing, Collingwood.
- Clements JF (2000). *Birds of the World: A Checklist*, 5th edn. Ibis Publishing Company, California.
- Garnett ST, Szabo JK and Dutson G (2011). *The Action Plan for Australian Birds 2010*. Birds Australia, CSIRO Publishing, Melbourne.
- Marchant S and Higgins PJ, eds. (1993). *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2: Raptors to Lapwings*. Oxford University Press, Melbourne.
- State Fire Management Council (SFMC) (2014). *Bushfire in Tasmania: A new approach to reducing our statewide relative risk*. State Fire Management Council Unit, Tasmania Fire Service, Hobart, Tasmania.