

## *Tringa brevipes* Grey-tailed Tattler

### Taxonomy

*Tringa brevipes* (Vieillot, 1816)

Monotypic. Some authorities place the species in the genus *Heteroscelus*.

### Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2002).

Categorised as Critically endangered in the 2013 Advisory list of threatened vertebrate fauna in Victoria (DSE 2013).

### Proposed conservation status

Critically Endangered in Victoria

Criteria A2a; C2a(i,ii); D

For species that also occur outside of Victoria, the *Guidelines for Application of IUCN Red List Criteria at Regional and National Levels: Version 4.0 (2012)* apply. This may lead to an adjustment of the threat category, to reflect the influence of adjacent populations.

The regional assessment (Victoria only) results in Critically Endangered. The birds are not listed as threatened in other Australian states, so this assessment could be downgraded to Endangered. However birds appear to be declining across southern Australia (Clemens et al. 2016), so the status of CR is retained.

### Species Information

#### Description and Life History

The Grey-tailed Tattler is a medium sized wader. It has a length of 25 cm, wingspan of 51 cm and an average weight of 125 g. Compared to other waders it has rather long wings and tail. It has a medium length straight bill and short yellow legs. It is very similar to the Wandering Tattler, however it can be distinguished by its shorter wings and slightly smaller build. In all plumages, the Grey-tailed Tattler is plain grey above with a white supercilium and a dark loreal stripe. It has slate-grey under wings and yellow legs. There is a marked seasonal variation between breeding and non-breeding adults, the sexes are alike and juveniles are separable from adults (Higgins and Davies 1996).

The taxon nests in low arctic and subarctic tundra of Siberia, mainly in gravelly river valleys. It migrates to south-eastern Asia and Australasia, where it spends the non-breeding season on coastal sites where it forages in intertidal areas. Some individuals forage on rocky shores, but the majority forage on tidal flats. Adults arrive in Australia September-October, juveniles arrive a few weeks later (Choi et al. 2016). Adults leave Australia in about April, staging on the east Asian coast (notably Japan) before the final migration leg to the breeding grounds (Higgins and Davies 1996; Queensland Wader Study Group unpubl. data; tracks accessible online at <http://waders.org.au/studying-waders/banding-shorebirds/satellite-transmitters-and-geolocators/>). Birds in their first year do not migrate north, remaining in Australia until they are 2-3 years old before undertaking their first northwards migration (Rogers et al. 2006)

### Generation Length

The generation length of The Grey-tailed Tattler is estimated to be 5 to 7 years. This is based on IUCN (2018) estimate of 5.7 years. It may be an underestimate, as north-western Australian studies have shown age of first breeding to range from 2-3 years (Rogers et al. 2006), and annual survival is suspected to be between 0.75 and 0.85; temporal analysis of these data suggest a longer generation time of up to 7 years. At a workshop to review the Bird Action Plan, held in August 2019, unpublished data suggested a figure of 4.8 years.

### Distribution

Within Victoria there are scattered coastal records from the far west of the state (Glenelg Estuary) to the far east (Mallacoota), but the majority of records come from Western Port, Swan Bay and eastern Corner Inlet (Nooramunga).

### Habitat

In the non-breeding season, the birds are restricted to the coast where most forage on tidal flats are low tide. Larger tidal flats tend to support more Grey-tailed Tattlers, but the taxon is quite adaptable, and forages more readily on rocky substrates and narrow shorelines than most shorebird taxa (Rogers 1999). At high tide they roost in flocks on beaches and rocky outcrops as near to the sea as possible, often in mixed flocks with other species, especially Terek Sandpipers). One of the few shorebird taxa that readily nests on mangrove branches at high tide, and they are also tolerant of roosts on man-made structures such as the rocky walls of port developments. (Rogers 1999, Higgins and Davies 1996).

### Threats

Ongoing declines are widely attributed to loss of staging habitat in Yellow Sea when migrating (Clemens et al. 2016, Studds et al. 2017). Declines in Victoria have been much steeper than those in other parts of the non-breeding range. The reasons for this are unclear; there has been no obvious habitat deterioration in the sites that they use in Victoria.

### IUCN Criteria

Criterion A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered	Endangered	Vulnerable
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 style="text-align: center;"><i>based on any of the following:</i></p> <ul style="list-style-type: none"> <li>(a) direct observation [except A3]</li> <li>(b) an index of abundance appropriate to the taxon</li> <li>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</li> <li>(d) actual or potential levels of exploitation</li> <li>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</li> </ul>			

### Evidence:

#### Eligible under Criterion A2 as Critically Endangered

The population reduction over the past 15 to 21 years is estimated to be 94%, based on (a) above.

This is based on comparison of average annual count 1974-1995 with average annual count 1996-2017. Since the 1990s the Victorian population has declined to near-extinction (Victorian count data). The taxon used to occur annually at multiple sites in Victoria until the 1990s, with the largest flocks of 30-80 birds occurring on Barralier Island, Westernport. Numbers have plummeted since, and in ten of the last 20 years there have been no Victorian Grey-tailed Tattler records entered into the Victorian Biodiversity Atlas (VBA).

The causes of the reduction may not have ceased, be understood or be reversible.

#### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 15 to 21 years is estimated to be 0 to 50% (midpoint 30%), based on (a) above.

It is unlikely that the Victorian population of Grey-tailed Tattler can decline much further, as it is near-extinct. The taxon is in decline in southern Australia (Clemens et al. 2016), but no declines have been detected in the northern Australian strongholds of the taxon. It is not clear why declines have been much steeper at the southern edge of the range than they have been in the strongholds of northern Australia; there have not been any apparent environmental changes in the sites the taxon uses in Victoria. A possible explanation is that numbers in the northern Australian strongholds are density-dependent, and that as species undergoes global declines due to habitat loss on staging areas, birds that formerly migrated to Victoria are relocating as they can now find suitable habitat in northern Australia.

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Further declines are expected, but whether the decline will be linear is unclear. It is possible that the remaining Grey-tailed Tattlers in Victoria are largely or all immatures, and the occurrence of immatures at the southern extremity of the range is difficult to predict - a small number may continue to arrive on their southwards migration as they do not know exactly where they are heading. Such immatures are likely to relocate during the austral winter, rather than remaining in Victoria into adult life. Numbers of immatures in Victoria are expected to decline if broader declines in southern Australia (Clemens et al. 2016) persist.

## Eligible under Criterion A4 as Endangered

The population reduction over any 15 to 21 year period, including both past and future, is estimated to be 20 to 50%, based on (a), (b) and (c) above.

Criterion B. Geographic range in the form of either B1 (extent of occurrence) and/or B2 (area of occupancy)			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
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:

### Eligible under Criterion B as Endangered

The Area of Occupancy (AoO) is estimated to be 274 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

Any two of (a), (b) or (c) above are also satisfied.

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Criterion C. Small Population size and decline		Critically Endangered	Endangered	Vulnerable
Number of mature individuals		< 250	< 2,500	< 10,000
AND at least one of C1 or C2				
C1	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2	An observed, estimated, projected or inferred continuing decline AND 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:

### Eligible under Criterion C2 as Critically Endangered

It is observed that there are 0 to 30 mature individuals. All key sites for the taxon in Victoria are counted annually in both summer and winter. The highest counts in the last 10 years were flocks of 28 and 24 in Corner Inlet in 2007 and 2008 respectively. The birds did not remain at the sites, suggesting they were immatures rather than settled adults. It is possible the point may have been reached where no adults return annually to Victoria, with most sightings being of immature birds that do not know exactly where they are going on their first northwards migration.

The population of Grey-tailed Tattler in the east Asian - Australasian Flyway is estimated to be 70,000 (Hansen et al. 2016); this is also the global population as the taxon is confined to this flyway. Proportions of immature birds in Australia vary annually, ranging from ~10% in years of low breeding success to >30% in years of high breeding success; the long-term average is 20.5% (Minton et al. 2016). Accepting this average, the flyway population of mature individuals comes out as 55,600

The number of mature individuals is projected to continue to decline. The taxon is almost extinct in the state and it is likely that no mature adults remain, with the continued irregular sightings being immature birds. An unpredictable trickle of immatures will probably continue to arrive in the future

The number of mature individuals in each subpopulation is 50 or fewer and the percentage of mature individuals in one subpopulation is 90-100%.

Criterion D. Very small or restricted population <sup>ⓐ</sup>		Critically Endangered <sup>ⓐ</sup>	Endangered <sup>ⓐ</sup>	Vulnerable <sup>ⓐ</sup>
<sup>ⓑ</sup>				
Number of mature individuals (observed or estimated) <sup>ⓐ</sup>		< 50 <sup>ⓐ</sup>	< 250 <sup>ⓐ</sup>	< 1,000 <sup>ⓐ</sup>
D2. Only applies to the VU category <sup>ⓑ</sup> Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time. <sup>ⓐ</sup>		- <sup>ⓐ</sup>	- <sup>ⓐ</sup>	D2. Typically: <sup>ⓑ</sup> AoO < 20 km <sup>2</sup> or number of locations ≤ 5 <sup>ⓐ</sup>

## Evidence:

### Eligible under Criterion D as Critically Endangered

The taxon is observed to have 0 to 30 mature individuals.

**Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.**

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