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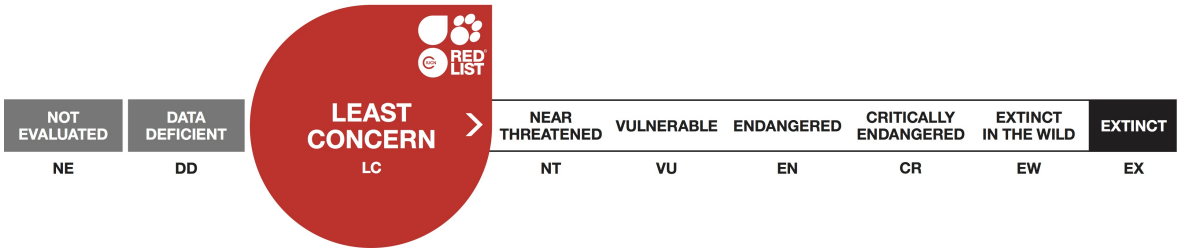
Scope: Global
Language: English

Eudyptula minor, Little Penguin

Assessment by: BirdLife International



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Aves	Sphenisciformes	Spheniscidae

Taxon Name: *Eudyptula minor* (Forster, 1781)

Common Name(s):

- English: Little Penguin, Blue Penguin, Fairy Penguin
- Spanish: Pingüino azul, Pingüino del hada, Pingüino pequeño

Taxonomic Source(s):

Christidis, L. and Boles, W.E. 2008. *Systematics and Taxonomy of Australian Birds*. CSIRO Publishing, Collingwood, Australia.

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2018

Date Assessed: August 8, 2018

Justification:

This species has a very large range, and hence does not approach the thresholds for Vulnerable under the range size criterion (extent of occurrence <20,000 km^2 combined with a declining or fluctuating range size, habitat extent/quality, or population size and a small number of locations or severe fragmentation). Despite the fact that the population trend appears to be stable, with localised decreases in population size driven by human disturbance and climatic variability, the decline is not believed to be sufficiently rapid to approach the thresholds for Vulnerable under the population trend criterion (>30% decline over ten years or three generations). The population size has now been quantified at under 500,000 breeding adults, not approaching the thresholds for Vulnerable under the population size criterion (<10,000 mature individuals with a continuing decline estimated to be >10% in ten years or three generations, or with a specified population structure). For these reasons the species is evaluated as Least Concern.

Previously Published Red List Assessments

2017 – Least Concern (LC)
http://dx.doi.org/10.2305/IUCN.UK.2017-1.RLTS.T22697805A112478911.en

2016 – Least Concern (LC)
http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22697805A93641015.en

2012 – Least Concern (LC)

2009 – Least Concern (LC)

2008 – Least Concern (LC)

http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22697805A132603951.en

2004 – Least Concern (LC)

2000 – Lower Risk/least concern (LR/lc)

1994 – Lower Risk/least concern (LR/lc)

1988 – Lower Risk/least concern (LR/lc)

Geographic Range

Range Description:

Endemic to **Australia** and **New Zealand**. In Australia, the species occurs from Western Australia (Carnac Island) to New South Wales (Broughton Island). The distribution is not continuous, with sections of the southern coast of Australia without occurrence of breeding colonies. In New Zealand, Little Penguins occur from the Chatham Islands to mainland New Zealand, including Stewart Island.

Country Occurrence:

Native: Australia; New Zealand

Vagrant: Chile

Distribution Map

Eudyptula minor

0 7,200

Kilometer

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

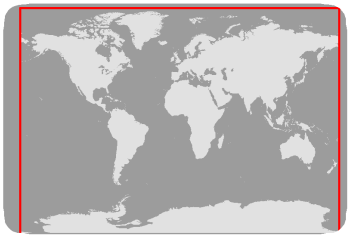
Range

- Extant (breeding)
- Extant (non-breeding)
- Extant (resident)

Compiled by:

BirdLife International and Handbook of the Birds of the World (2016)

NE DD LC LEAST CONCERN NT VU EN CR EW EX



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

The global population size has been quantified for most sites, with current population estimated of 469,760 breeding adults. This is less than the previous Red List assessments that estimated the total population as under 1,000,000 individuals, but was based on non-quantified data. Considering the current estimation, there is an increase of 18% in population size when historic and recent data are compared. However, this increase should be interpreted with caution as it is very likely to be related to improved population survey effort rather than an actual increase in population. For sites with current population estimates, 60% of the sites have an "unknown" trend due to data deficiency. Nevertheless, for the sites where data were available, 51% of sites were stable, 29% deteriorating and 20% improving. Fifteen sites are suspected extinct.

Trend Justification

There is an increase of 18% in population size when historic and recent data are compared. For sites with current population estimates, 60% of the sites have an "unknown" trend due to data deficiency. Nevertheless, for the sites where data were available, 51% of sites were stable, 29% deteriorating and 20% improving.

Current Population Trend: Stable

Habitat and Ecology **(see Appendix for additional information)**

The Little Penguin breeds during the austral autumn to summer months and are the only truly nocturnal penguin species on land; adults always arrive after dusk and leave before dawn (Klomp and Wooller 1991, Chiaradia *et al.* 2007, Rodríguez *et al.* 2016). This species is a generalist feeder, with large variability in diet between colonies and even between years at the same colony (Klomp and Wooller 198,; Gales and Pemberton 1990, Cullen *et al.* 1992, Fraser and Lalas 2004, Chiaradia *et al.* 2010, 2016). They feed mainly on clupeids, such as anchovy *Engraulis* sp. and sardines *Sardinops sagax*, when feeding chicks, but they may also feed on krill *Nyctiphanes australis* and several species of cephalopods at all stages of breeding (Gales and Pemberton 1990, Cullen *et al.* 1992, Chiaradia *et al.* 2016). This variability in diet is also found in their trophic interactions, where penguins can reduce the prey trophic range in response to years of low breeding success (Chiaradia *et al.* 2010). Little Penguins typically lay two eggs per clutch (Stahel *et al.* 1987), and up to three clutches over a breeding season (Johannesen *et al.* 2003). The penguins exhibit six main breeding stages: courtship, pre-laying exodus, pre-laying, incubation, guard and post-guard (Chiaradia and Kerry 1999), followed by moulting and inter-breeding stages (Salton *et al*. 2015). When feeding chicks, some parents make more foraging trips than their mates. This situation actually represents the norm (72% of cases), rather than the previously expected equal parenting (Saraux *et al.* 2011). Individuals can also alternate between two consecutive long foraging trips and several shorter ones throughout the chick rearing period (Saraux *et al.* 2011). Short trips allow for regular food provisioning of chicks (high feeding frequency and larger meals), whereas longer trips are triggered by a parent's low body mass and therefore the need to replenish its own energy reserves. Little Penguins form groups when crossing the beach to nesting sites, and individuals seem to choose their travelling partners (Daniel *et al.* 2007). When foraging, some individuals can take advantage of manmade features, like ship channels to aid in their foraging (Preston *et al.* 2008). Breeding age, ranging from 2 to 18+ years, seems to play a crucial role as well, as middle-aged (8-12 years) penguins are better breeders (Nisbet and Dann 2009), employ more effective foraging strategies (Zimmer *et al.* 2011) and feed in different locations (Pelletier *et al.* 2014).

Systems: Terrestrial, Marine

Threats (see Appendix for additional information)

Principle threats to Little Penguins are introduced predators, bycatch, habitat loss through coastal development, oil pollution, mortality through roadkill and human disturbance at breeding colonies (Chiaradia 2013, Dann 2013, Cannell *et al.* 2016). Additionally, the impact of changing oceanic conditions appears to impact food availability and reproductive success (Voice *et al.* 2006, Wu *et al.* 2012).

Introduced predators impact colonies throughout the range to varying extents, with significant mortality occurring particularly from domestic dogs *Canis familiaris*, but impacts also noted from pigs *Sus domesticus*, cats *Felis catus* and Weka *Gallirallus australis*.

The species is assessed as being moderately at risk from bycatch in gillnets, although data is lacking (Crawford *et al.* 2017). As such, recreational gillnets in some parts of the range appear to have the potential to cause considerable mortality (Crawford *et al.* 2017). Some Tasmanian colonies have spatial closures (Lyle *et al.* 2014), but many have no protection and large numbers of gillnets are registered on the island (Crawford *et al.* 2017). An additional challenge for this species is in the fast changing marine and terrestrial environment, particularly the rapidly warming sea of south Australia (Voice *et al.* 2006, Wu *et al.* 2012). In southwestern Australia, the warming sea has been associated with poorer breeding including lower fledging success, fewer chicks per pair and a lower mean mass of chicks at fledging (Cannell *et al.* 2012). Penguins have been also shown to catch less prey in warmer conditions (Carroll *et al.* 2016). Oceanographic change may lead to a mismatch between plankton and the small pelagic fish that are also penguin prey (Hinder *et al.* 2013). On land, increasing terrestrial temperatures in the spring and summer months can cause fatal hyperthermia in both chicks and adults (Cannell *et al.* 2011, 2012, 2016). This is particularly relevant in those colonies where nesting occurs within the vegetation rather than in burrows, as a result of soft, sandy substrate. Some of these pressures have been locally offset by a wide range of conservation efforts, such as the case of increasing population size at Phillip Island (Sutherland and Dann 2012), St Kilda (Preston *et al.* 2010, Preston 2011), Manly (Carlile *et al.* 2015), Oamaru (Agnew *et al.* 2016). Sites without strong conservation measures have experienced severe decreases, and many known breeding colonies no longer exist (Dann 1994, Stevenson and Woehler 2007).

Conservation Actions (see Appendix for additional information)

Conservation Actions Underway

The species is the subject of on-going Australian and New Zealand long term research programs, with research-lead conservation activities in several sites along the distribution. Many populations of Little Penguins are severely threatened by human disturbance. Sites without strong conservation measures have experienced a severe decrease, but some of these pressures have been offset by a wide range of conservation efforts. Several volunteer and research groups are actively monitoring and protecting sites in Australia and New Zealand.

Conservation Actions Proposed

Continue programs to control invasive fauna and flora species. Increase population survey and monitoring to assess causes of mortality and reduced breeding success in populations throughout the species range. Design and propose MPAs within foraging zone at key sites. Encourage more involvement of community groups and schools on local population awareness and protection. Determine sub-species

and/or sub-populations under pressure and with decreasing population that need local protection and tailored conservation status.

Credits

Assessor(s): BirdLife International

Reviewer(s): Hermes, C.

Contributor(s): Agnew, P., Cannell, B., Carlile, N., Carroll, G., Chiaradia, A., Colombelli-Négrel, D., Copley, P., Dann, P., Garcia Borboroglu , P., Grosser, S., Holmberg, R., Houston, D., O'Neill, L., Ramirez, F., Sutherland, D., Tennyson, A., Waugh, S., Wilson, K. & Woehler, E.

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Disclaimer

External Resources

For Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.1. Marine Neritic - Pelagic	Resident	Suitable	Yes
9. Marine Neritic -> 9.2. Marine Neritic - Subtidal Rock and Rocky Reefs	Resident	Suitable	Yes
9. Marine Neritic -> 9.3. Marine Neritic - Subtidal Loose Rock/pebble/gravel	Resident	Suitable	Yes
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	Yes
9. Marine Neritic -> 9.7. Marine Neritic - Macroalgal/Kelp	Resident	Suitable	Yes
9. Marine Neritic -> 9.9. Marine Neritic - Seagrass (Submerged)	Resident	Suitable	Yes
9. Marine Neritic -> 9.10. Marine Neritic - Estuaries	Resident	Suitable	Yes
10. Marine Oceanic -> 10.1. Marine Oceanic - Epipelagic (0-200m)	Resident	Suitable	Yes
10. Marine Oceanic -> 10.2. Marine Oceanic - Mesopelagic (200-1000m)	Resident	Suitable	Yes
12. Marine Intertidal -> 12.1. Marine Intertidal - Rocky Shoreline	Breeding	Suitable	Yes
12. Marine Intertidal -> 12.2. Marine Intertidal - Sandy Shoreline and/or Beaches, Sand Bars, Spits, Etc	Breeding	Suitable	Yes
13. Marine Coastal/Supratidal -> 13.1. Marine Coastal/Supratidal - Sea Cliffs and Rocky Offshore Islands	Breeding	Suitable	Yes
13. Marine Coastal/Supratidal -> 13.3. Marine Coastal/Supratidal - Coastal Sand Dunes	Breeding	Suitable	Yes

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	Majority (50-90%)	Negligible declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

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		1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
11. Climate change & severe weather -> 11.3. Temperature extremes	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
11. Climate change & severe weather -> 11.4. Storms & flooding	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
2. Agriculture & aquaculture -> 2.4. Marine & freshwater aquaculture -> 2.4.3. Scale Unknown/Unrecorded	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
3. Energy production & mining -> 3.1. Oil & gas drilling	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects: (large scale) [harvest]	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
6. Human intrusions & disturbance -> 6.3. Work & other activities	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Canis familiaris)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Gallirallus australis)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Cenchrus clandestinus)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Felis catus)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Vulpes vulpes)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
9. Pollution -> 9.2. Industrial & military effluents -> 9.2.1. Oil spills	Ongoing	Majority (50-90%)	Negligible declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
9. Pollution -> 9.6. Excess energy -> 9.6.1. Light pollution	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Action Recovery plan: Yes
Systematic monitoring scheme: Yes
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over part of range
Occur in at least one PA: Yes

Conservation Actions in Place
Invasive species control or prevention: Yes
In-Place Species Management
Successfully reintroduced or introduced beningly: Yes
Subject to ex-situ conservation: No
In-Place Education
Subject to recent education and awareness programmes: Yes
Included in international legislation: No
Subject to any international management/trade controls: No

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction
4. Education & awareness -> 4.2. Training
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.2. Policies and regulations
6. Livelihood, economic & other incentives -> 6.1. Linked enterprises & livelihood alternatives
6. Livelihood, economic & other incentives -> 6.5. Non-monetary values

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.5. Threats

Additional Data Fields

http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22697805A132603951.en

Distribution
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km²): 6870000
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): No
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: No
Upper elevation limit (m): 50
Population
Number of mature individuals: 469760
Continuing decline of mature individuals: No
Extreme fluctuations: No
Population severely fragmented: Yes
Continuing decline in subpopulations: No
Extreme fluctuations in subpopulations: No
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: No
Generation Length (years): 7.6
Movement patterns: Not a Migrant

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.