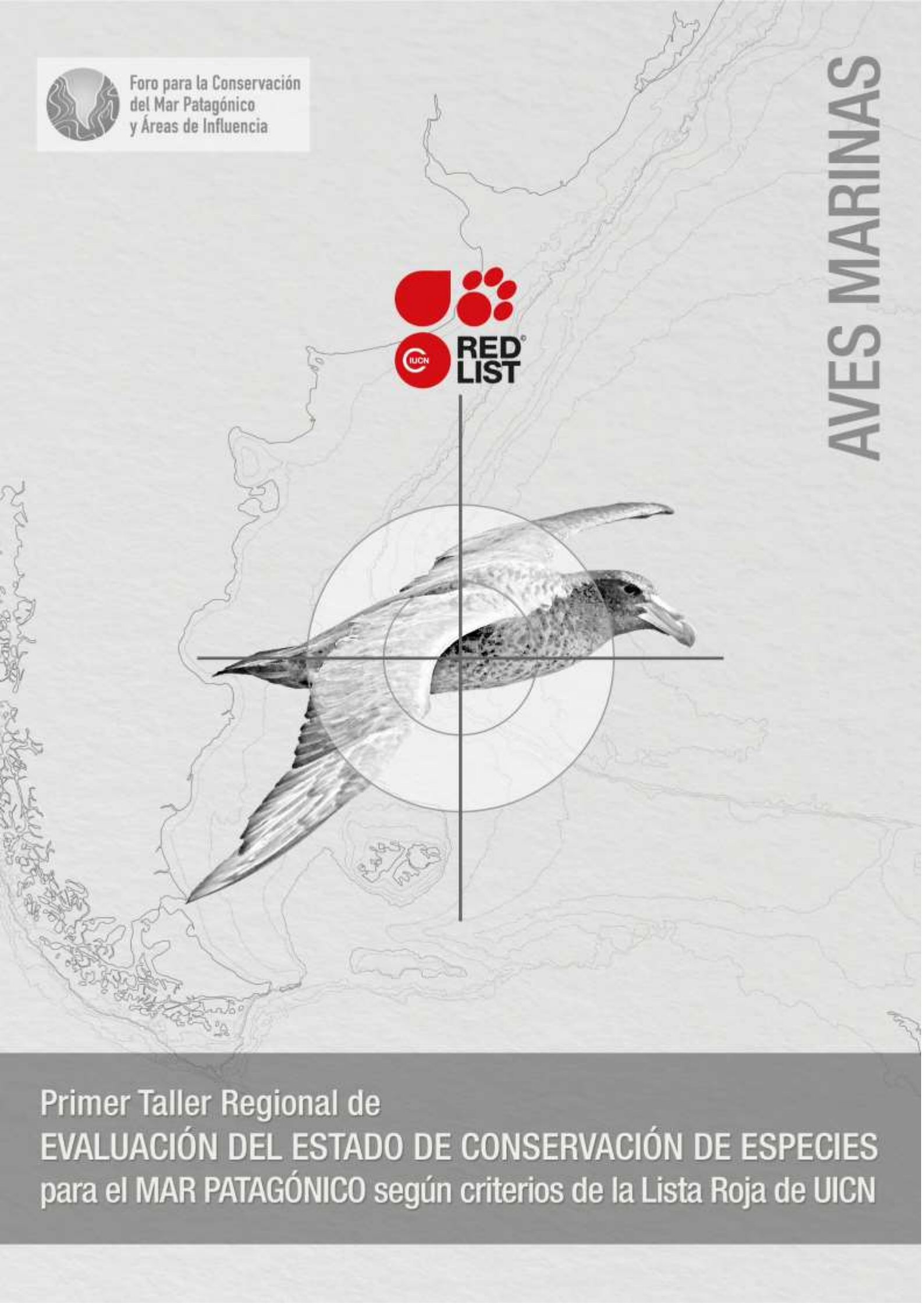
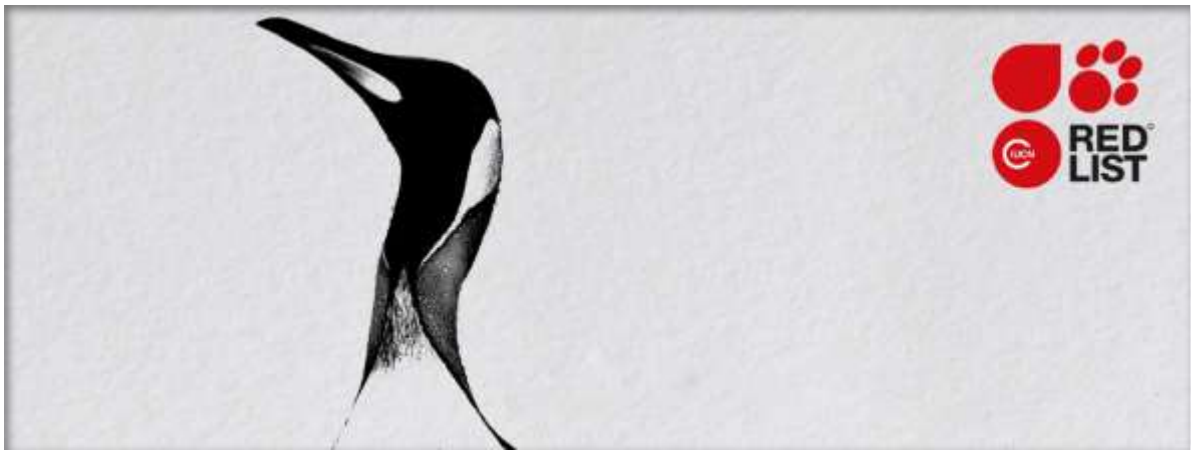
Foro para la Conservación
del Mar Patagónico
y Áreas de Influencia

AVES MARINAS

RED LIST



Primer Taller Regional de
EVALUACIÓN DEL ESTADO DE CONSERVACIÓN DE ESPECIES
para el MAR PATAGÓNICO según criterios de la Lista Roja de UICN



Primer Taller Regional de Evaluación del Estado de Conservación de Especies para el Mar Patagónico según criterios de la Lista Roja de UICN: AVES MARINAS. Buenos Aires, ARGENTINA - 2016

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

Although this species is known only from Malvinas/Falkland Islands, it is not believed to approach the thresholds for Vulnerable under the range size criterion (Extent of Occurrence <20,000 km^2 or Area of Occupancy < 2,000 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). The population trend appears to be stable and hence the species does not approach the thresholds for Vulnerable under the population trend criterion (>30% decline over 10 years or three generations). The population size may be moderately small to large, with the last estimate of at least 9,000 breeding pairs, but it is not believed to approach 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). There are no known or perceived threats to be impacting this species. For these reasons the species is evaluated as **Least Concern**.

Assessor(s): Stanworth, A. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

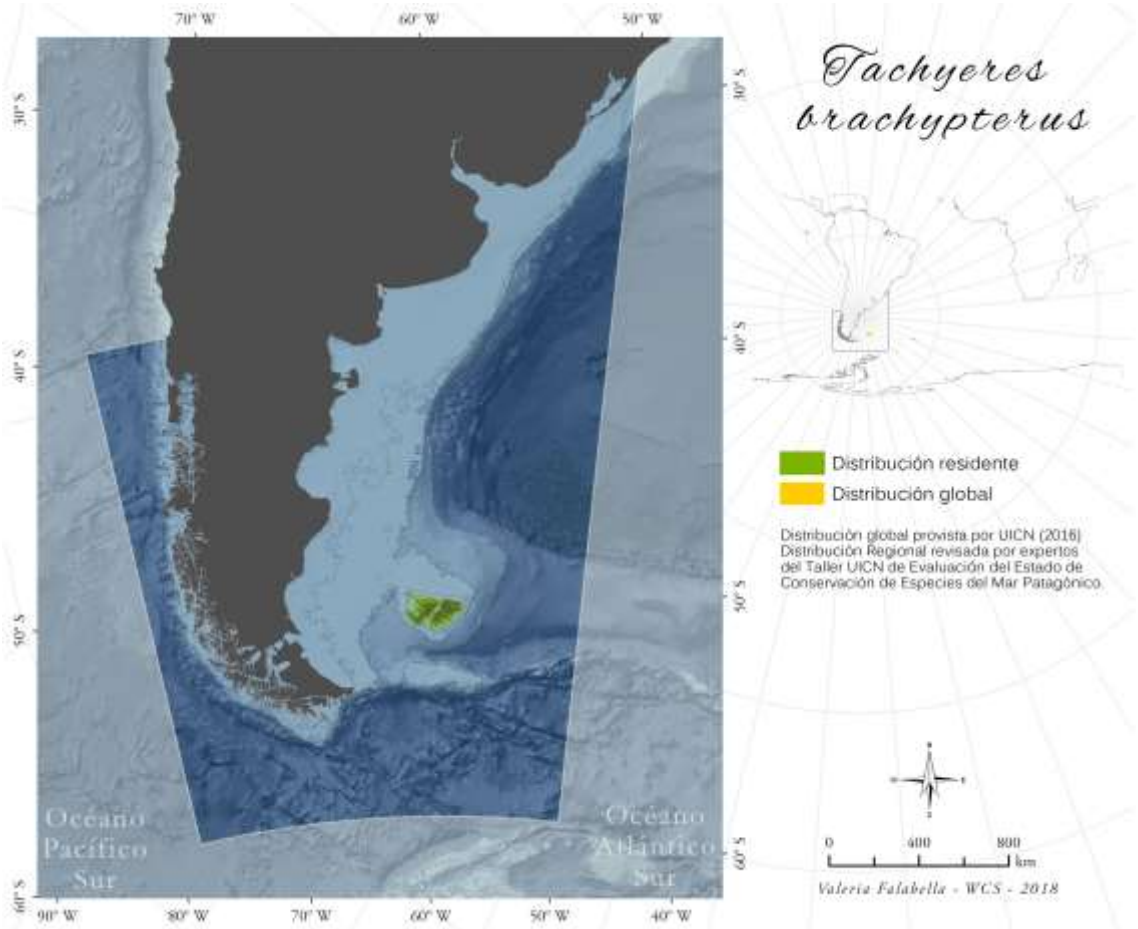
Taxonomic information

ANIMALIA - CHORDATA - AVES - ANSERIFORMES - ANATIDAE - Tachyeres – brachypterus – (Gmelin, 1789)

Common Names: **Quetro malvinero (Spanish),** Falkland Steamerduck (English), Falkland Steamer Duck (English), Falkland Steamer-Duck (English)

Geographic Range

The Falkland Steamerduck is found exclusively on the Malvinas/Falkland Islands in the south-west Atlantic (del Hoyo *et al.* 1992).



Population

The last estimate of population size was around 9,000-16,000 pairs (Woods and Woods 1997). No more recent surveys have been conducted.

Habitats and Ecology

This species frequents rugged shorelines, being most common on small islands and in sheltered bays. The bulk of its diet is a variety of salt-water molluscs and crustaceans, which it obtains by foraging in shallow water or diving in near shore. Its breeding season is variable, but most breeding occurs between September and December, concealing nests among vegetation or in unoccupied penguin burrows (del Hoyo *et al.* 1992).

Generation length, calculated based on a published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 7.8 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

There are no known or perceived threats to be impacting this species (A. Stanworth pers. comm. 2016).

Conservation

No known conservation actions are in place, but none are thought to be needed at this time.

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del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. *Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks*. Lynx Edicions, Barcelona, Spain.

VU, Vulnerable, (IUCN version 3.1)

Assessment Rationale:

White-headed Steamerduck was previously classified as Near Threatened as, although it has a single, small population, it was not thought to be declining. It is now thought to be experiencing a continuing decline owing to declines in habitat quality, and probable decreases in survival and breeding success, as caused by human activities and other problematic species, and it has therefore been up listed to **Vulnerable** for the Patagonian Sea Region**.**

Assessor(s): Frere, E., Tamini, L. & Borboroglu, G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Imberti, I., Pearman, M., Esler, D. & BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

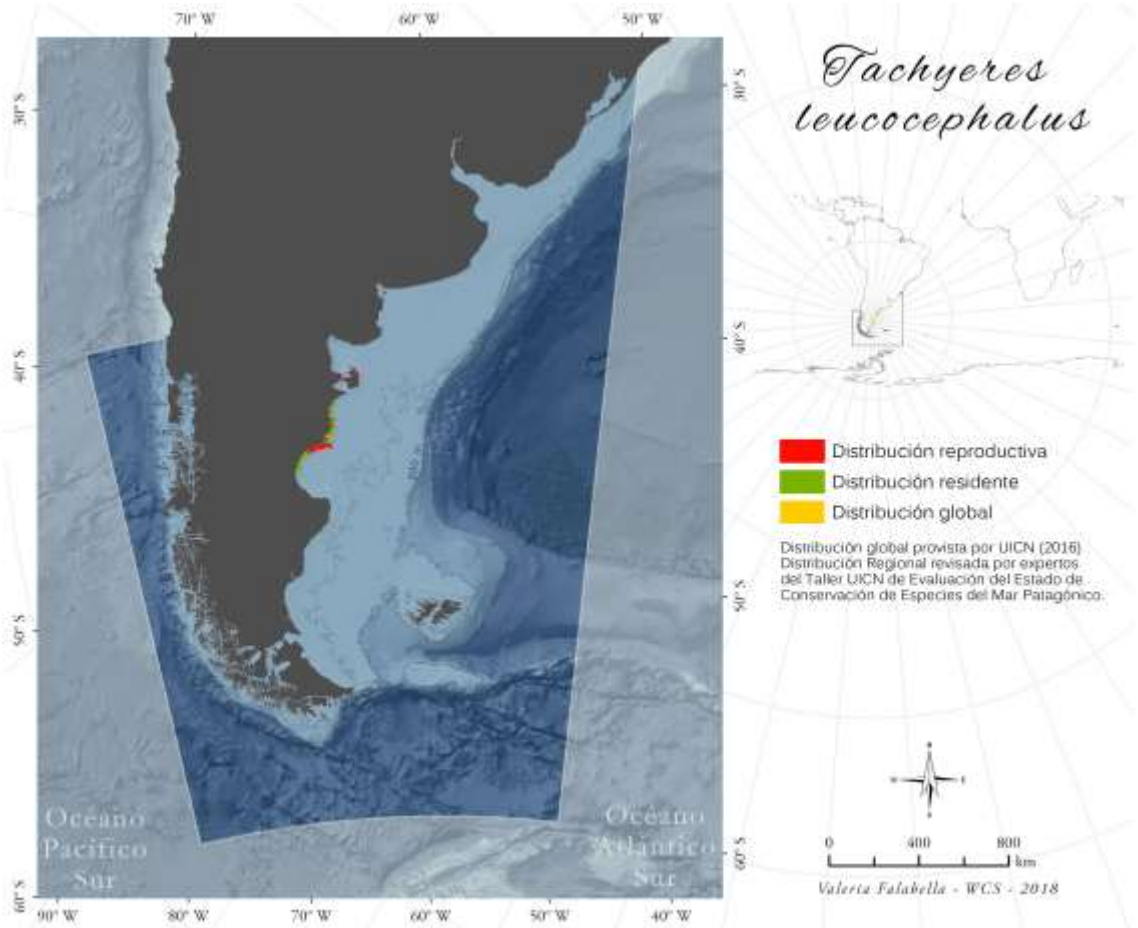
ANIMALIA - CHORDATA - AVES - ANSERIFORMES - ANATIDAE - Tachyeres – leucocephalus – (Humphreys & Thompson, 1981)

Common Names: **Quetro cabeza blanca (Spanish)** White-headed Steamerduck (English), Chubut Steamer Duck (English), Chubut Steamerduck (English), Pato vapor cabeza blanca (Spanish; Castilian), Patovapor cabeciblanco (Spanish; Castilian), White-headed Steamer-Duck (English)

Synonyms: *Tachyeres leucocephala* ssp. *leucocephala* Humphrey & Thompson, 1981 — Stotz *et al. (1996)*

Geographic Range

Tachyeres leucocephalus was previously considered to be restricted to the south coast of Chubut province, **Argentina** (Madge and Burn 1988, Carboneras 1992a). It is now known to have a larger range, with occasional sightings along the coastline from the Valdés Peninsula to the Beagle Channel in Tierra del Fuego (Imberti 2003, M. Pearman *in litt.* 2003), but its distribution is restricted to approximately 700 km of coastline (Agüero *et al.* 2011).



Population

The population has been estimated to not exceed 5,000 birds (S. Imberti *in litt.* 2003). Surveys along the coast of Chubut province from 2006-2008 gave a total estimate of 3,400-3,700 mature individuals and 1,900 juveniles (G. Borboroglu *in litt.* 2008, Agüero *et al.* 2011), with key populations at Bahía San Gregorio, Bahía Melo and Caleta Malaspina, all located at northern San Jorge Gulf. It appears to occur at very low densities throughout its range, and is inferred to be declining (Agüero *et al.* 2011).

Habitats and Ecology

Its habitat is coastal in rocky areas and sheltered bays, breeding on offshore islands in shallow, protected bays (Agüero *et al.* 2010).

Generation length, calculated based on a published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 7.8 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Its restricted range, flightlessness and the potential for oil pollution from passing tankers put this species at some risk (Carboneras 1992, Callaghan and Green 1993, Agüero *et al.* 2010, 2011). Perhaps the most significant threat is posed by oil exploration activities, which are taking place within 100 km of the specie's center of abundance; sea currents would likely take oil spills from the main area of development towards the specie's range. Three major oil spills in the last 30 years that have affected steamerduck breeding areas are reported to have caused massive mortalities, and even nowadays the sediment and rocks, within the range of *T. leucocephalus*, are still contaminated with those oil derivatives. The species may also be affected by the harvesting of guano and macroalgae (Agüero *et al*. 2010, 2011), as well as other human activities such as recreation and small-scale coastal fishing. Egg collecting has also been reported but appears to occur at very low intensity at a few sites (Agüero *et al*. 2010, 2011). A further potential threat comes from three introduced species: the green crab *Carcinus maenus,* Asian kelp *Undaria pinnatifida*, and the acorn barnacle *Balanus glandula*, all of which may cause dramatic changes to ecosystems upon which steamerducks rely (Agüero *et al*. 2010, 2011). The species may also suffer predation during the breeding season from native species such as Kelp Gull *Larus dominicanus*, whose population in Patagonia is increasing.

Conservation

The Interjurisdictional Marine Park in San Jorge Gulf contains about 46% of the entire population (Agüero *et al.* 2011).

Conservation Actions Proposed: Conduct a full and detailed census of the global population and follow up with monitoring to detect any potential declines. Restrict access to parts of its range from tankers and other large ships, which might cause significant pollution events.

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

Tachyere pteneres has almost all of its distribution inside the Patagonian Region.
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 km2 combined with a declining or fluctuating range size, habitat extent/quality, or population size and a small number of locations or severe fragmentation). The population trend appears to be stable, and hence the species does not approach the thresholds for Vulnerable under the population trend criterion (>30% decline over 10 years or three generations). The population size may be moderately small to large, but it is not believed to approach 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**.

Assessor(s): Frere, E., Stanworth, A. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

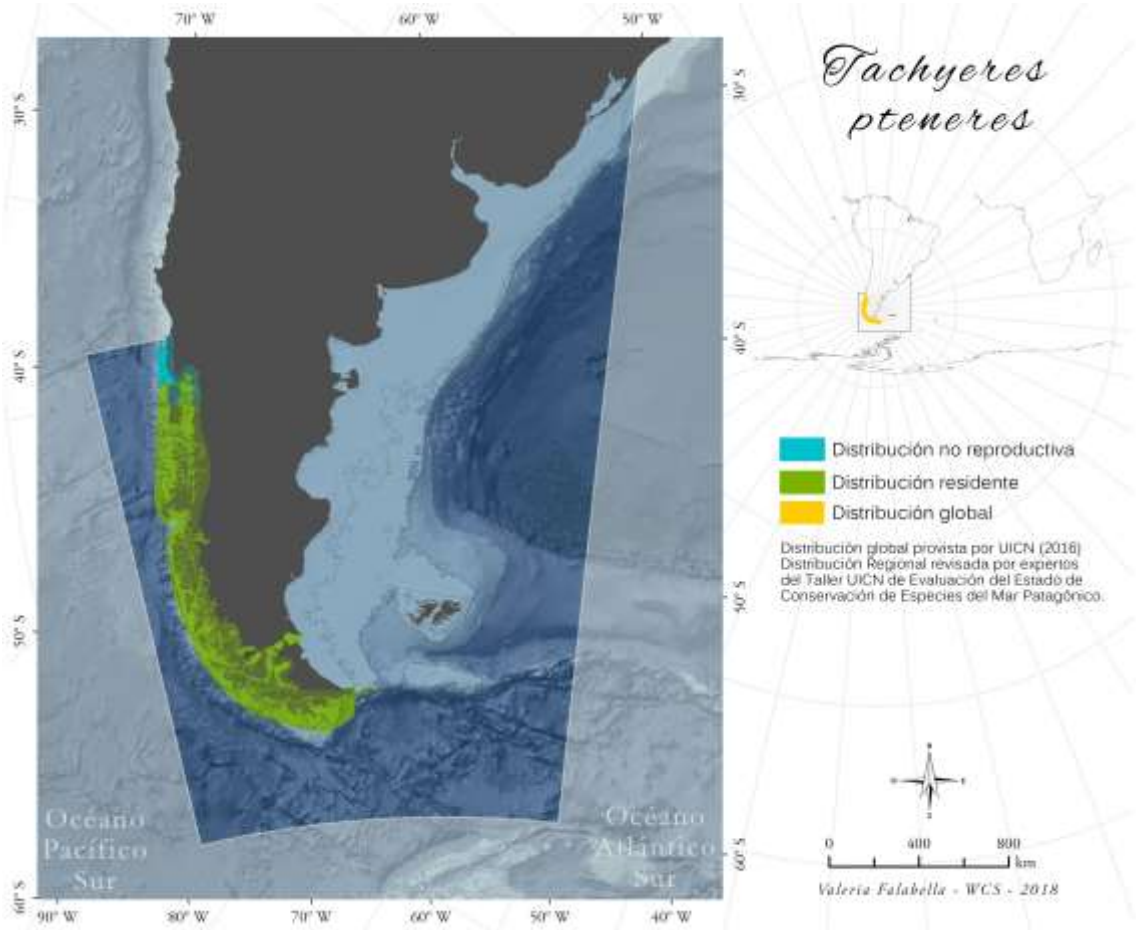
Taxonomic information

ANIMALIA - CHORDATA - AVES - ANSERIFORMES - ANATIDAE - Tachyeres – pteneres – (Forster, 1844)

Common Names: **Quetro austral (Spanish),** Magellanic Steamerduck (English), Flightless Steamer-Duck (English), Fuegian Steamer Duck (English)

Geographic Range

Flightless Steamerduck can be found on the Pacific coast of South America from south-central Chile to Tierra del Fuego (del Hoyo *et al.*1992).



Population

There is no information on population size or trend published for this species. The population trend appears to be stable and the population size may be moderately small to large.

Habitats and Ecology

The Flightless Steamerduck frequents rocky coastlines and can be found several miles offshore. It dives in shallow waters among kelp beds, with a diet of aquatic molluscs, crutaceans and sometimes fish. Foraging occurs mostly during the high tide. Breeding starts in September or October, having place on the shoreline, in sheltered bays or in channels with nests well-hidden among vegetation (del Hoyo *et al.*1992).

Generation length, calculated based on a published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 7.8 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Without information for the Patagonian Sea.

Conservation

Without information for the Patagonian Sea.

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NT, Near Threatened B2b(iii) (IUCN version 3.1)

Assessment Rationale:

Olrog's gull has a highly restricted breeding range at a small number of colonies. Numbers breeding annually appear to fluctuate, but there is currently no evidence of a continuing decline, therefore the species has been assessed as **Near Threatened**. Potential threats to breeding sites remain, and any evidence of declines would result in reclassification in a higher threat category.

Assessor(s): García Borboroglu, P., Frere, E., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Yorio, P.M. & BirdLife International

Facilitators/Compilers: Ralph, G.

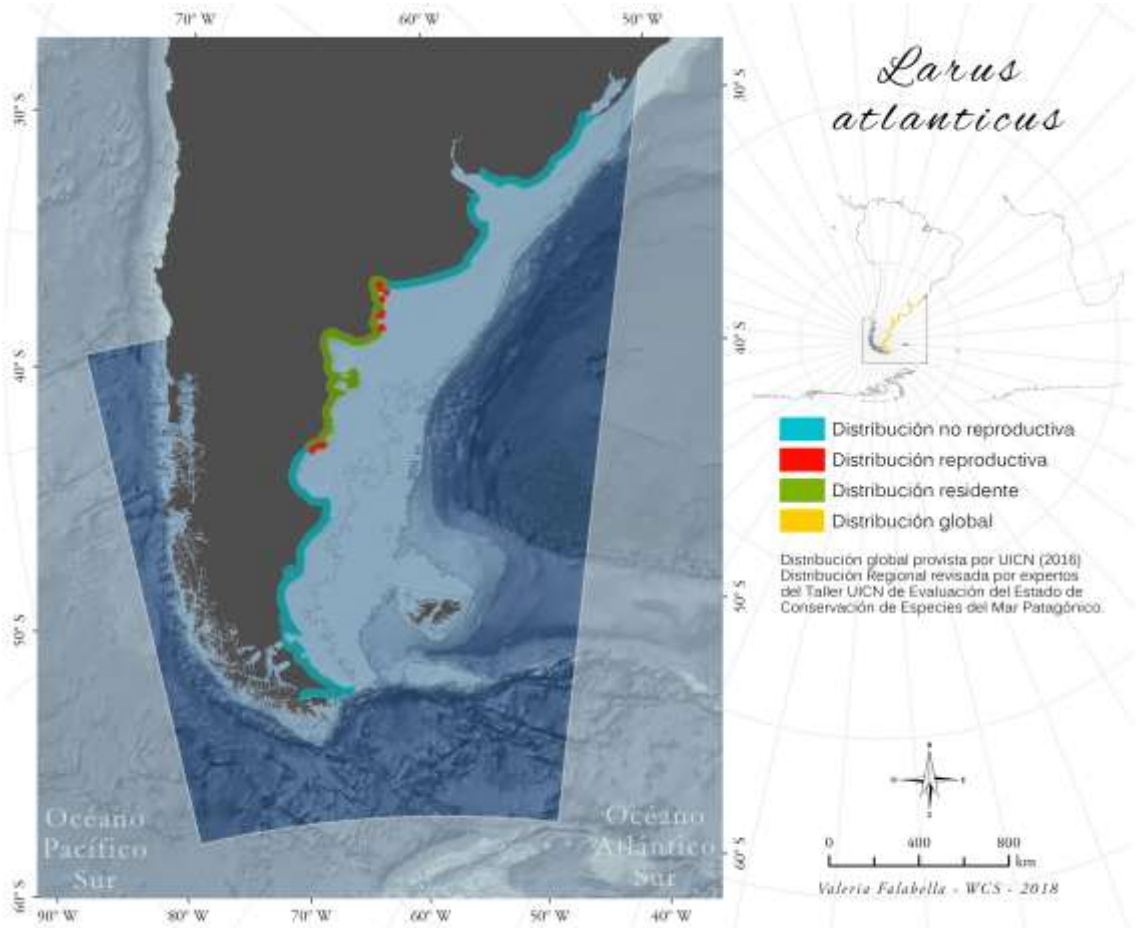
Taxonomic information

ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Larus – atlanticus – (Olrog, 1958)

Common Names: **Gaviota austral (Spanish),** Olrog's Gull (English)

Geographic Range

Larus atlanticus breeds on the coast of Argentina between 38°49'and 45°11'S (Yorio *et al.*2005). It has been recorded breeding at eighteen coastal localities in the Bahía Blanca estuary and Bahía Anegada, south Buenos Aires, and north of Golfo San Jorge, Chubut, although there may be fewer than a dozen active nesting sites in any one year (Yorio *et al.*1997, Yorio *et al.*1999, P Yorio, P. García Borboroglu and P. Petracci, unpubl. data). The number of recorded colonies in each year has varied as it often changes breeding locations between years (Yorio *et al.*1997**,** García Borboroglu and Yorio 2007a, Yorio *et al.*in press). Over 98% of the total breeding population nests in southern Buenos Aires province and between 50-70% is concentrated in the Bahía Blanca estuary, an area subject to growing human development (disturbance and pollution). In winter, the species disperses north, reaching Uruguay (Escalante 1970, Aspiroz 2003) and Brazil (Dias and Maurício 1998, Pacheco *et al.*2009), with one inland record in Córdoba (Yzurieta 1995).



Population

The breeding population is variable between years, with the total number of nests estimated at 4,860 pairs in 2004, 7,790 pairs in 2007 and 5,240 in 2009 (Yorio *et al.*in press), roughly equating to 15,600 mature individuals. The largest colony recorded is Isla del Puerto, with between 1,635 and 3,800 nests depending on the year (Petracci *et al.*2008, Yorio *et al.*in press).

Habitats and Ecology

Olrog's Gull is a coastal species and is a specialist predator, feeding mainly on crabs, which may be the result of interference competition with the larger and behaviourally dominant Kelp Gull (*Larus dominicanus*) (Delhey *et al.*2001). Olrog's Gull is spatially associated with the Kelp Gull throughout its breeding range (Yorio *et al.*1997). Olrog's and Kelp gulls share several nesting microhabitat characteristics, so an increase in the area occupied by Kelp Gulls or in their nesting density as a result of their increase in numbers could affect the availability of adequate nesting habitats for Olrog's Gulls (García-Borboroglu and Yorio 2007b). Kelp Gulls were also recorded preying upon Olrog's Gull chicks at the Isla del Puerto colony (La Sala and Martorelli 2010).

It breeds on flat islands on bare ground or close to low vegetation, and close to the high tide line (Yorio *et al.*2001, García Borboroglu and Yorio 2007a), and frequents beaches, rocky coasts, harbours, coastal and brackish lagoons and estuaries. Eggs are laid in September-October and chicks fledge in November or December (Yorio *et al.*2005, La Sala *et al.*2011).

The species depends mainly on three crab species (*Chasmagnathus granulata*, *Cyrtograpsus altimanus* and *C. angulatus*) during the breeding season (Delhey *et al.*2001, Herrera *et al.*2005, Suárez, *et al.*2011). During the winter, it feeds also on crabs but shows a more opportunistic feeding ecology consuming molluscs, snails, small fish, insects, grains, garbage and fish discards (Spivak and Sanchez 1992, Copello and Favero 2001, Delhey *et al.*2001, Martinez *et al.*2000**,** Berón *et al.*2003, Silva Rodriguez *et al.*2005, Berón *et al.*2007, Petracci *et al.*2007, Berón *et al.*2012). At Mar Chiquita Lagoon during the non-breeding season, some differences in diet were found between ages, particularly in spring when mature birds start to feed on the eggs of ovigerous females of *Cyrtograpsus angulatus* (Copello and Favero 2001).

At Bahía San Blas, breeding Olrog's Gulls gulls foraged mainly in three sectors located between 1.5 and 7 km north of the colony, although they can forage up to 30 km from the colony (Suárez *et al.*2012, N. Suárez and P. Yorio, unpubl. data). At Golfo San Jorge, Argentina, feeding grounds of breeding Olrog's Gulls were located up to 7 km from the colony, but 85% of mapped locations were within 3 km of the colony, almost exclusively within the Caleta Malaspina inlet (Yorio *et al.*2004). The birds were consistent in the use of one particular area, and most birds foraged mainly in one or two areas (Yorio *et al.*2004). Gulls foraged at all states of the tide, although they were more likely to forage during mid and low tides (Yorio *et al.*2004). Non-breeding birds also show strong foraging site fidelity (Beron *et al.*2007). When foraging, both during the breeding and non-breeding season, gulls are generally found along estuarine environments, brackish lagoons and open coastal areas with soft or rocky substrates, usually with presence of crabs (Escalante 1984, Favero *et al.*2001, Silva Rodríguez *et al.*2005, Yorio *et al.*2004, Gatto *et al.*2008, Suárez *et al.*2012). In Argentina, it was observed to forage in crab-bed patches and beaches where sport-fishing activities usually took place (Beron *et al.*2007). Individuals occasionally moved up to 4 km south to a village where they might also take advantage of rocky intertidal pools available along the shore (Beron *et al.*2007). They have been also recorded in harbors, refuse tips, sewage outfalls or, rarely, at sea associated to fishing vessels (Martinez *et al.*2000, Silva Rodríguez *et al.*2005). Similarly, in Mar Chiquita

coastal lagoon, juveniles have often been observed making use of sport-fishing by-products (Copello and Favero 2001, Berón *et al.*2007).

Generation length is 11 year, calculated as the mean of two calculated values derived from published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

The Bahía Blanca estuary includes the city of Bahía Blanca, with over 400,000 inhabitants, and includes oil refineries, petrochemical industries, plastic factories, and pre-treated sewage outfalls which are important sources of pollutants (Marcovecchio 2000, Freije and Marcovecchio 2004). Recent studies at the Isla del Puerto colony have shown the potential negative effects of mercury pollution on breeding Olrog's Gulls (La Sala *et al.*2011). There are ongoing plans to dredge the main navigation channel in the Bahía Blanca estuary and deposit dredged materials in coastal sectors regularly used as foraging grounds by Olrog's Gulls (P. Petracci, pers. comm to P. Yorio and P. Garcia Borboroglu). Growing economic activities that take place in the Bahía San Blas area include sports fishing, oyster harvesting, recreation, and tourism (Zalba *et al.*2008). These activities temporally overlap with the Olrog's Gull breeding season, as they are mostly concentrated in the spring and summer, and may directly affect gulls through disturbance at the nesting sites, the interruption of their normal foraging activities or indirectly through habitat modification. In Uruguay many coastal sites where the species occurs in the non-breeding season have deteriorated due to the loss of adjacent wetlands through urbanisation and industrial pollution (D. Caballero-Sadi *in litt.* 2013). In addition, there are common interactions between this species and sport fisheries, resulting in entanglement, injury and mortality (Beron and Favero 2009).

Conservation

CMS Appendix I. All colonies in southern Buenos Aires, except Isla Brightman, are included in protected areas. The Bahía Blanca, Falsa and Verde Nature Reserve and the Bahía San Blas Nature Reserve protect twelve of the breeding locations reported in the last twenty years. Isla del Puerto was designated as a protected area in 2011 (Reserva Natural Integral Islote del Puerto; Provincial Decree 469). The colonies in southern Chubut gained legal protection in 2009 due to the designation of a new marine protected area in northern Golfo San Jorge, the Parque Interjurisdiccional Marino Costero Patagonia Austral (Law 26446). In winter, it has been recorded in numerous reserves (Chebez *et al.*1998, Chebez and Yorio 2008, A. B. Azpiroz *in litt*. 1999).

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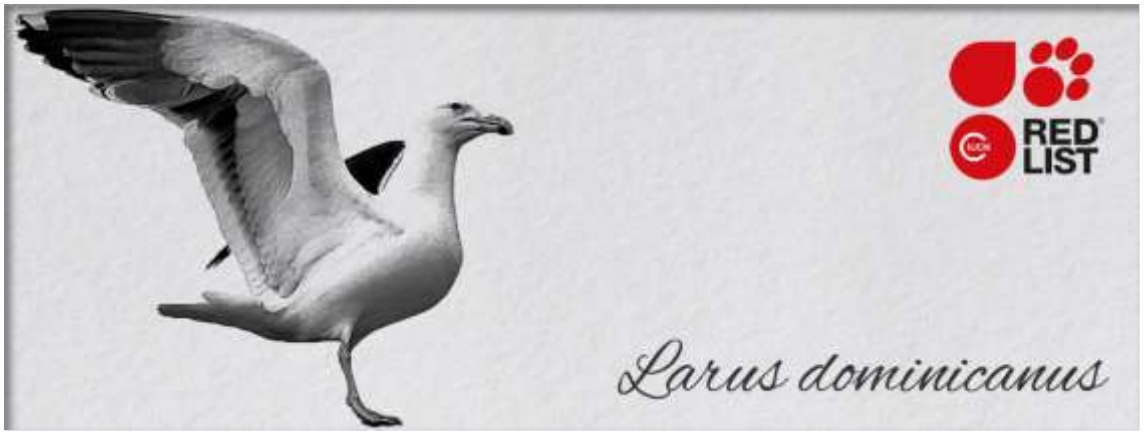


LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

Kelp Gull is distributed throughout the entire Patagonian region. Population size in the Malvinas is estimated as 24,000 - 44,000 breeding pairs at about 46 breeding sites. Argentina continental contains and estimate of 100,000 - 120,000 pairs in about 140 breeding sites of up to 11,000 pairs. Total population size in Chile has not been estimated, however Yorio *et al.* (2016) reported 8,210 breeding pairs at 26 colonies along the Chilean coast from 23ºS to 55ºS. In the Argentinian coast, the population trend has been positive along the last 30 years. In northern Patagonia and southern Buenos Aires, the population increased 37% from 1994 to 2008 in 68 colonies. In Chilean fjords, main threats are invasive species, eggs collection and exploitation as bait for artisanal longline fishing. In Argentina interaction with commercial and recreational fisheries cause incidental mortality. In the region, the species has an extremely large range, the population size is also large, and the population is increasing. The species is evaluated as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu , P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

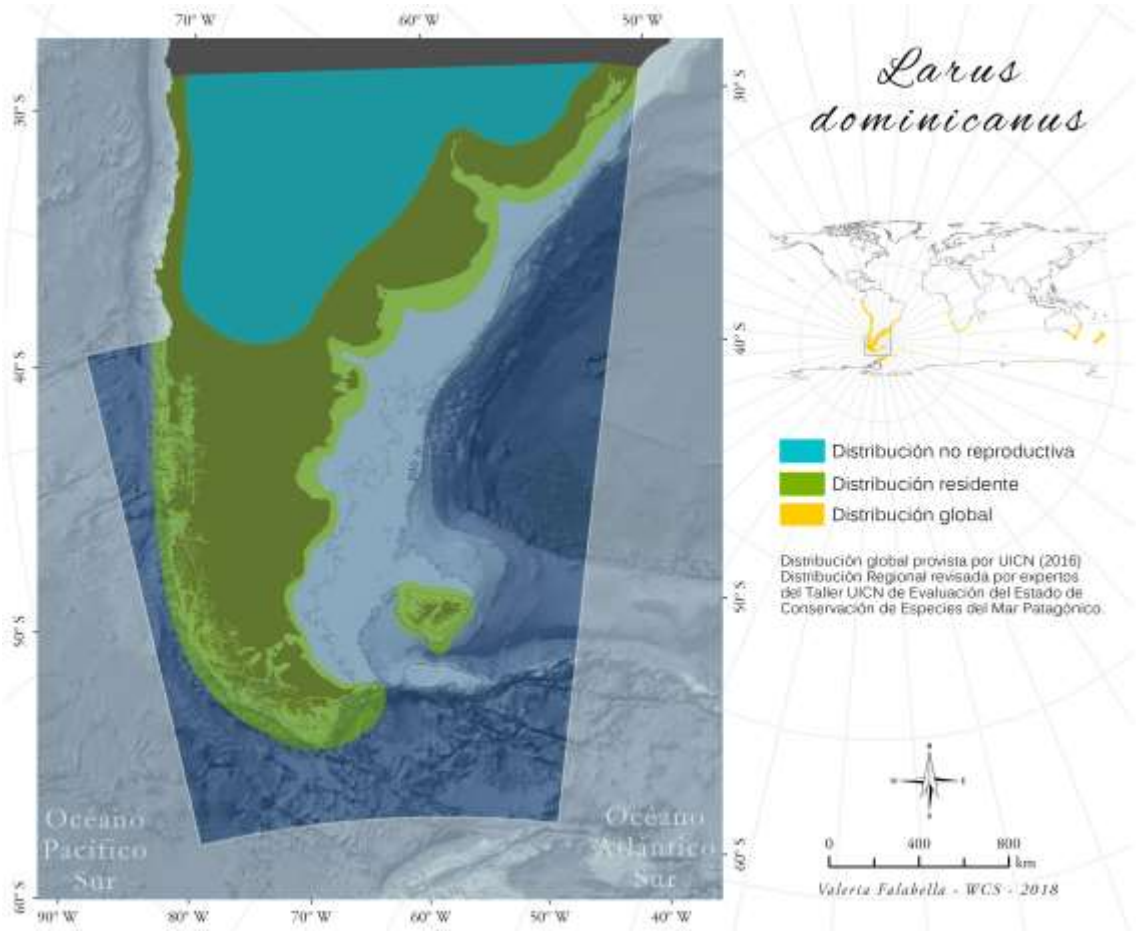
ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Larus – dominicanus – (Lichtenstein, 1823)

Common Names: Gaviota cocinera (Spanish), Kelp Gull (English), Goéland dominicain (French), Southern Black-backed Gull (English)

Geographic Range

The Kelp Gull breeds on coasts and islands through much of the southern hemisphere, including all the Patagonian Sea region.

In South America, the species is found as far north as Ecuador in the Pacific and southern Brazil in the Atlantic. The species is also found on a number of subantarctic islands, on the Antarctic peninsula, New Zealand, on the southern coast of Australia and Africa and Madagascar.



Population

Population size in the Patagonian Sea is estimated to number 132,000 - 172,000 breeding pairs. Population size in the Malvinas/Falkland Islands is estimated as 24,000 - 44,000 breeding pairs at about 46 breeding sites (Woods and Woods 1997). Argentina continental contains and estimate of 100,000 - 120,000 pairs in about 140 breeding sites of up to 11,000 pairs (P, Garcia-Borboroglu pers. comm. 2016). Total population size in Chile has not been estimated, however Yorio *et al.* (2016) reported 8,210 breeding pairs at 26 colonies along the Chilean coast from 23ºS to 55ºS.

In the Argentinian coast the population trend has been positive along the last 30 years (Yorio *et al.* 2005). In northern Patagonia and southern Buenos Aires population increased 37% from 1994-2008 in 68 colonies (Lisnizer *et al.* 2011).

The global population is estimated to number 3,300,000-4,300,000 individuals.

Habitats and Ecology

Although this species is largely sedentary some southern populations migrate north after the breeding season (del Hoyo *et al.* 1996). The species breeds between late-September and January (del Hoyo *et al.* 1996, Hockey *et al.* 2005) in colonies of up to several hundred pairs (occasionally nesting solitarily) (del Hoyo *et al.* 1996) and remains gregarious outside of the breeding season (Hockey *et al.* 2005).

It inhabits sheltered coastal (Higgins and Davies 1996, del Hoyo *et al.* 1996) harbours, bays, inlets, estuaries, beaches and rocky shores (Higgins and Davies 1996), usually foraging within 10 km of the shore but also following fishing boats beyond the continental shelf (Higgins and Davies 1996, del Hoyo *et al.* 1996). It may forage and roost in near-coastal inland habitats including lagoons (Higgins and Davies 1996, Hockey *et al.* 2005), lakes, swampy basins, rivers, streams (Higgins and Davies 1996), reservoirs (del Hoyo *et al.* 1996), pastures (Higgins and Davies 1996, del Hoyo *et al.* 1996), cultivated land, tussock grassland, scrubland and cleared areas in pine plantations (Higgins and Davies 1996). It often also forages around abattoirs, fish- or seafood-factories and at sewage outfalls (del Hoyo *et al.* 1996).

The species will form breeding colonies in a number of locations including headlands (Higgins and Davies 1996, del Hoyo *et al.* 1996), sea cliffs (Higgins and Davies 1996, del Hoyo *et al.* 1996, Hockey *et al.* 2005), rocky outcrops, stacks (Higgins and Davies 1996, Hockey *et al.* 2005), offshore islands (Higgins and Davies 1996, del Hoyo *et al.* 1996, Hockey *et al.* 2005), low sandy, pebbly or rocky beaches, spits or islands (Higgins and Davies 1996, del Hoyo *et al.* 1996) in estuaries and lagoons (Hockey *et al.* 2005), on reefs, peninsulas, mudflats, sandbanks (Higgins and Davies 1996) and occasionally on the roofs of coastal buildings or in salt and sewage works (Hockey *et al.* 2005). Locally (e.g. in New Zealand) it may also breed inland on flat rocky mountaintops near permanent water (Higgins and Davies 1996). The nest is a bulky structure of dried plants or seaweed (del Hoyo *et al.* 1996) placed on bare rock, sand or mud substrates (Higgins and Davies 1996, del Hoyo *et al.* 1996) in well-vegetated sites (del Hoyo *et al.* 1996), with grasses, sedge, rushes and other herbaceous plants (Higgins and Davies 1996), at the base of bushes, trees, rocks (del Hoyo *et al.* 1996), walls (Hockey *et al.* 2005) or other vertical structures (del Hoyo *et al.* 1996). Breeding habitats include headlands (Higgins and Davies 1996, del Hoyo *et al.* 1996), sea cliffs (Higgins and Davies 1996, del Hoyo *et al.* 1996, Hockey *et al.* 2005), rocky outcrops, stacks (Higgins and Davies 1996, Hockey *et al.* 2005), offshore islands (Higgins and Davies 1996, del Hoyo *et al.* 1996, Hockey *et al.* 2005), reefs, peninsulas, mudflats, sandbanks (Higgins and Davies 1996), the roofs of coastal buildings, salt and sewage works, guano platforms, shipwrecks (Hockey *et al.* 2005) and

above the high water mark on low sandy, pebbly or rocky beaches (Higgins and Davies 1996, del Hoyo *et al.* 1996), spits or islands (Higgins and Davies 1996) in estuaries and lagoons (Hockey *et al.* 2005). Locally (e.g. in New Zealand) it may also breed inland on flat rocky mountaintops near permanent water (Higgins and Davies 1996).

Its diet consists of molluscs (e.g. mussels, cuttlefish *Sepia* spp. and terrestrial snails), echinoderms (del Hoyo *et al.* 1996, Hockey *et al.* 2005), sponges (Hockey *et al.* 2005), arthropods (e.g. swarming termites, crabs, isopods, amphipods; del Hoyo *et al.* 1996, Hockey *et al.* 2005), macrozooplankton (Hockey *et al.* 2005), fish, worms, reptiles (del Hoyo *et al.* 1996, Hockey *et al.* 2005), amphibians (del Hoyo *et al.* 1996, Hockey *et al.* 2005), small mammals (del Hoyo *et al.* 1996, Hockey *et al.* 2005), birds (del Hoyo *et al.* 1996) and berries (Hockey *et al.* 2005). The species also scavenges refuse, sewage and carrion (del Hoyo *et al.* 1996, Hockey *et al.* 2005).

Generation length, calculated based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 11.3 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

In Chilean fjords main threats are invasive species, eggs collection and exploitation as bait for artisanal longline fishing (Suazo *et al.* 2013). In Argentina interaction with commercial and recreational fisheries cause incidental mortality, especially in trawler warp cables (Yorio *et al.* 2014 and Gonzalez Zevallos *et al.* 2007).

Other threats worldwide are future marine oil spills (Parsons and Underhill 2005), and potential outbreaks of diseases caused by avian cholera (Hockey *et al.* 2005, Leotta *et al.* 2006) and avian botulism (Blaker 1967, Hockey *et al.* 2005).

Conservation

Without information for the Patagonian Sea

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Yorio, P.; Bertellotti, M.; Borboroglu, P. G. 2005. Estado poblacional y de conservación de gaviotas que se reproducen en el litoral marítimo Argentino. *Hornero* 20(1): 53-74.

del Hoyo, J.; Elliott, A.; Sargatal, J. 1996. *Handbook of the Birds of the World, vol. 3: Hoatzin to Auks*. Lynx Edicions, Barcelona, Spain.

LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

Dolphin gull 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). The population trend appears to be stable, and hence the species does not approach the thresholds for Vulnerable under the population trend criterion (>30% decline over 10 years or three generations). The population size may be moderately small to large, but it is not believed to approach 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.**

Assessor(s): Frere, E., Garcia Borboroglu , P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

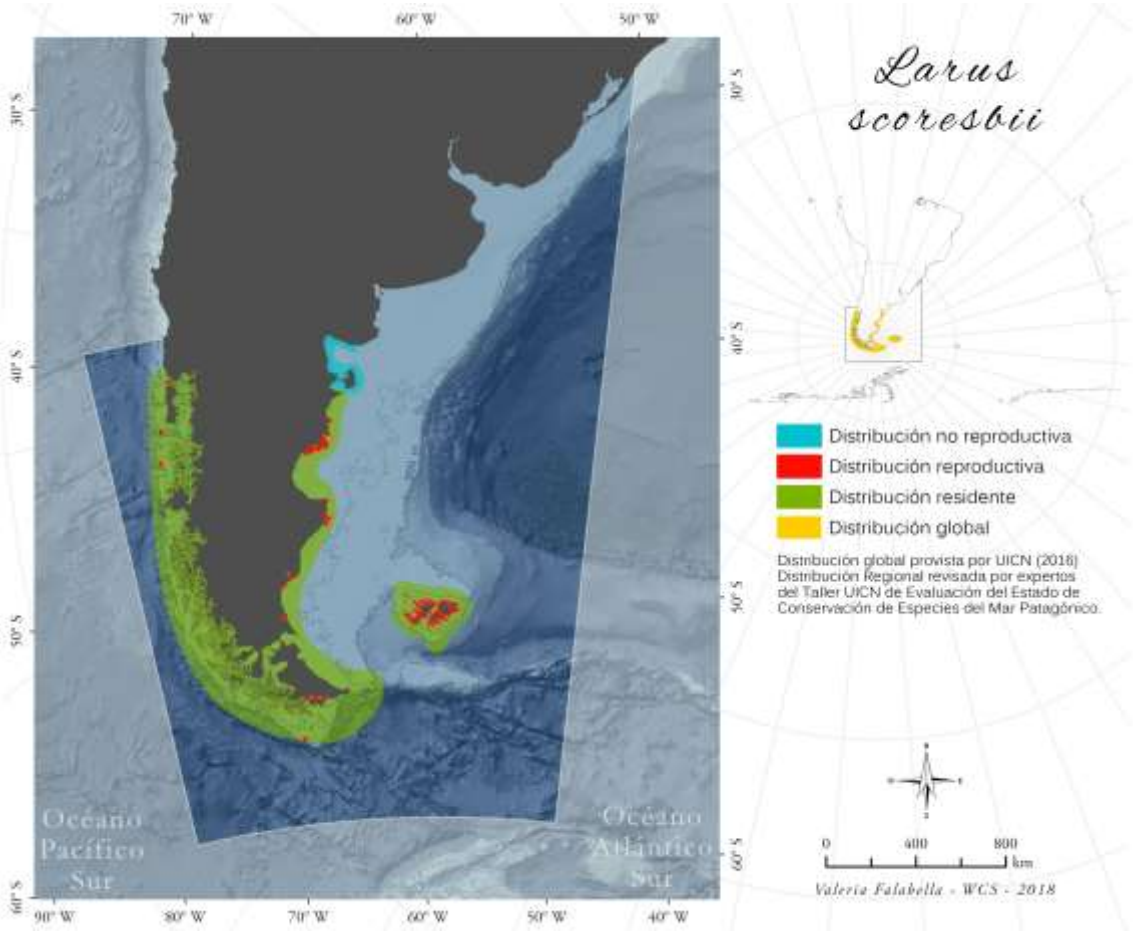
ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Larus - scoresbii

Common Names: **Gaviota gris (Spanish),** Dolphin Gull (English)

Note: *Larus scoresbii* (del Hoyo and Collar 2014) was previously placed in the genus *Leucophaeus*.

Geographic Range

Dolphin gull is known from colonies around the coasts of southern Chile and Argentina, Tierra de Fuego, and the Malvinas/Falkland Islands. Colonies are numerous along the South American coast, but tend to be very small, rarely exceeding 200 pairs (del Hoyo *et al*. 1996). In Argentina, the total population has been estimated at c.700 pairs. On the Malvinas/Falkland Islands, there are 3,000-6,000 pairs which are widely distributed in small colonies (Woods and Woods 1997).



Population

In the Patagonian Sea, population estimates are scattered in both time and space. Given the highly mobile nature of this species, deriving any estimates of population trend through time is difficult. Historic estimates of mature individuals in the Malvinas/Falkland Islands ranged from 3,000 to 6,000 pairs (Woods and Woods 1997) and three known colonies in Chile totaled around 600 mature individuals (Schlatter and Riveros 1987, Espinosa and Von Meyer 1994). Other colonies continue to be identified along the southern coast of Chile (e.g., Bingham and Herrmann 2008). In Argentina, 700 pairs were estimated to occur in 26 colonies (Yorio *et al*. 2005).
Global population is estimated to number 10,000-28,000 individuals, roughly equating to 6,700-19,000 mature individuals (BirdLife International 2012).

Habitats and Ecology

This species can be found on rocky coasts, feeding mainly on carrion, offal, bird eggs and chicks, but will also take marine invertebrates and other natural food. It scavenges around marine mammals for dead fish, placentae and particularly faeces. It exploits human intrusion into colonies by preying on unguarded eggs and chicks. It probes seaweed, captures swarming beach flies and will pick mussels which are then dropped onto rocks. It does not frequent rubbish dumps but will sometimes feed at sewage outlets. Colony attendance begins in September laying highly asynchronous broods. Colonies are small, with a maximum of 210 pairs recorded, and can be found on low sea cliffs, sand or gravel beaches, marshy depressions or headlands, usually in the vicinity of seabird colonies, marine mammals, slaughterhouses, sewers or farmyards (del Hoyo *et al*. 1996).

Generation length is 11.2 year, calculated as the mean of two calculated values derived from published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Cats, rats, Mink *Mustela vison* and Patagonian Fox *Dusicyan culpaeus* have been introduced to the Malvinas/Falkland Islands, but their effect on *L. scoresbii* is not known (Croxall *et al.* 1984). Habitat destruction and modification due to introduced rabbits and stock may have had some effect on the distribution on the species. Chiloe Island, an important breeding site for the species in Chile, is heavily populated and many aquaculture farms have been established inshore and along shorelines (Duffy *et al*. 1984).

Conservation

Without information for the Patagonian Sea.

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Yorio, P.; Bertellotti, M.; Borboroglu, P. G. 2005. Estado poblacional y de conservación de gaviotas que se reproducen en el litoral marítimo Argentino. *Hornero* 20(1): 53-74.

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del Hoyo, J.; Elliott, A.; Sargatal, J. 1996. *Handbook of the Birds of the World, vol. 3: Hoatzin to Auks*. Lynx Edicions, Barcelona, Spain.

LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

South American Tern is found throughout the entire coastal Patagonian Sea, including the Malvinas. Breeding colonies have been identified throughout much of the region. Limited population data are available for this widespread species. In the Malvinas, there was a historical estimate of 6,000-12,000 pairs at more than 30 breeding sites. At least 40 breeding sites have been identified in Patagonia, Argentina with more than 22,000 breeding pairs. Globally, there appear to be indications of limited population decline, but there are no data to evaluate population trends in the Patagonian Sea. No major threats are known, though human disturbance may have localized impacts. Therefore, this species is listed as **Least Concern**.

Assessor(s): Stanworth, A., Tamini, L. & Frere, E.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

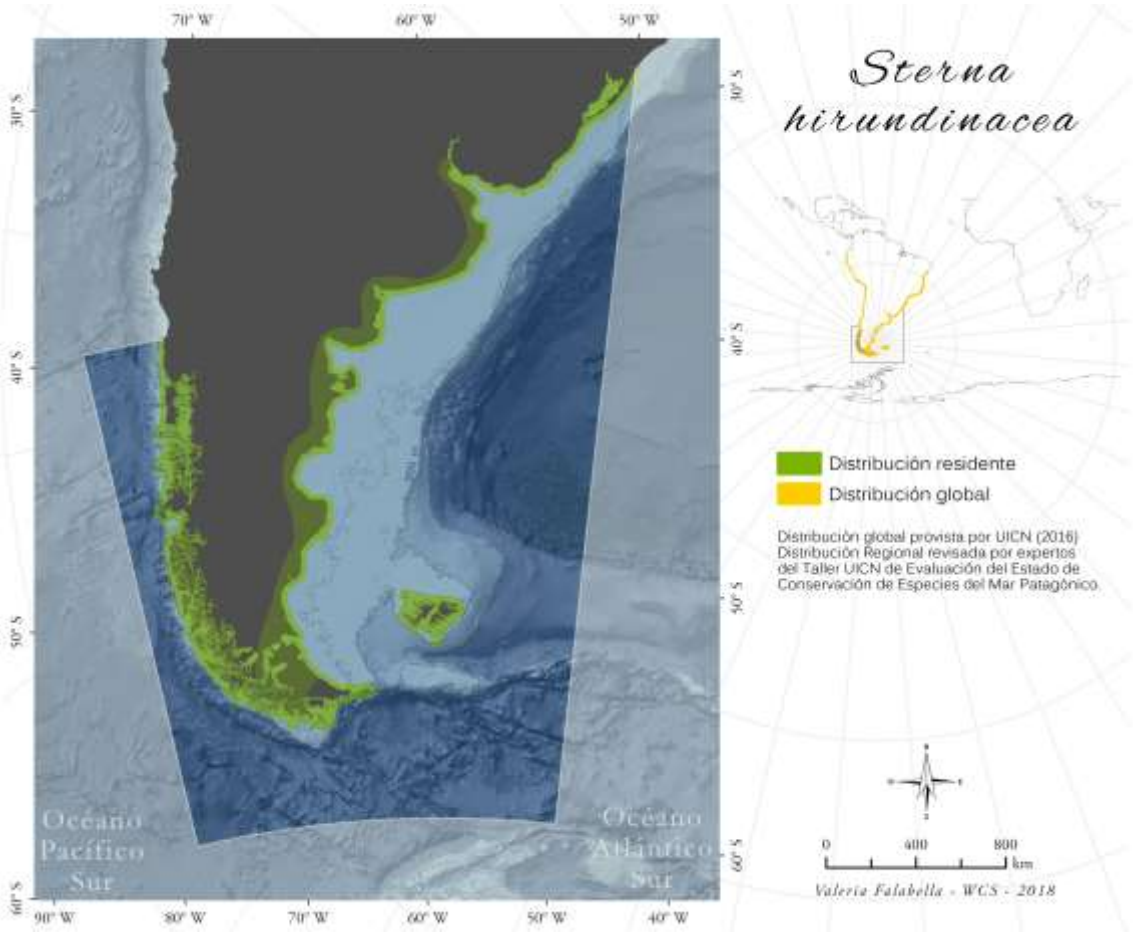
ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Sterna – hirundinacea – (Lesson, 1831)

Common Names: **Gaviotín sudamericano (Spanish),** South American Tern (English)

Geographic Range

South American Tern is found throughout the entire coastal Patagonian Sea, including the Malvinas (Duffy *et al.* 1984, Schlatter 1984, Woods 1988). Breeding colonies have been identified throughout much of the region.

The species also breeds on the coasts of southern Peru and Espírito Santo, east-central Brazil. In the austral winter, most birds breeding in the extreme south move north to Uruguay (where breeding remains unconfirmed), and the species also winters north to Ecuador and Bahia, Brazil (Antas 1991). There are also large colonies on inshore islands in Guanabara Bay and off the Espírito Santo coast, Brazil (Antas 1991).



Population

Limited population data are available for this widespread species. In the Malvinas, there was a historical estimate of 6,000-12,000 pairs at more than 30 breeding sites (Woods and Woods 1997). At least 40 breeding sites have been identified in Patagonia, Argentina with more than 22,000 breeding pairs (Yorio 2005). Globally, there appear to be indications of limited population decline, but there are no data to evaluate population trends in the Patagonian Sea.

Habitats and Ecology

The species is almost exclusively coastal, breeding on rocky or sandy beaches, cliff tops and small islands. Non-breeders frequent coastal waters, beaches, estuaries and harbours. It feeds mainly on small fish, crustaceans and probably also takes insects. Laying occurs in April-June in Brazil, early November in north Argentina and early December in south Argentina. Two to three eggs are laid (del Hoyo *et al.* 1996).

Generation length, based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 11 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

Tourism may be responsible for the decline of the Chilean population, with a breeding colony at Lake Calafquen apparently deserted due to disturbance from bathing tourists and water bikes (Mickstein *in litt*. 1998). Tourism has also increased markedly on the Argentinean coast, having a presumably detrimental effect on at least some breeding colonies (del Hoyo *et al.* 1996). Egg collecting is also a problem at colonies in Espírito Santo, Brazil (Antas 1991), and may have contributed to the decline of the Chilean population (Mickstein *in litt.* 1998). Commercial fishing and industry are considered potential threats to the Malvinas population (Woods and Woods 1997).

Conservation

Without information for the Patagonian Sea

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

In the Patagonian Sea, Royal Tern is restricted to the Argentine coast . There are at least 12 breeding sites, with at least 1,000 breeding pairs, but no population trends are known and many colonies have not been censused. The primary threat to this species is human disturbance and coastal development of the breeding colonies. The highly mobile breeding habits make monitoring difficult, but also increases the possibility that individuals could be relocated after disturbances. Therefore, this species is listed as **Least Concern**. However, if additional future threats are identified, this species should be reevaluated.

Assessor(s): Frere, E. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Thalasseus – maximus – (Boddaert, 1783)

Common Names: Gaviotín real (Spanish), Royal Tern (English), Sterne royale (French)

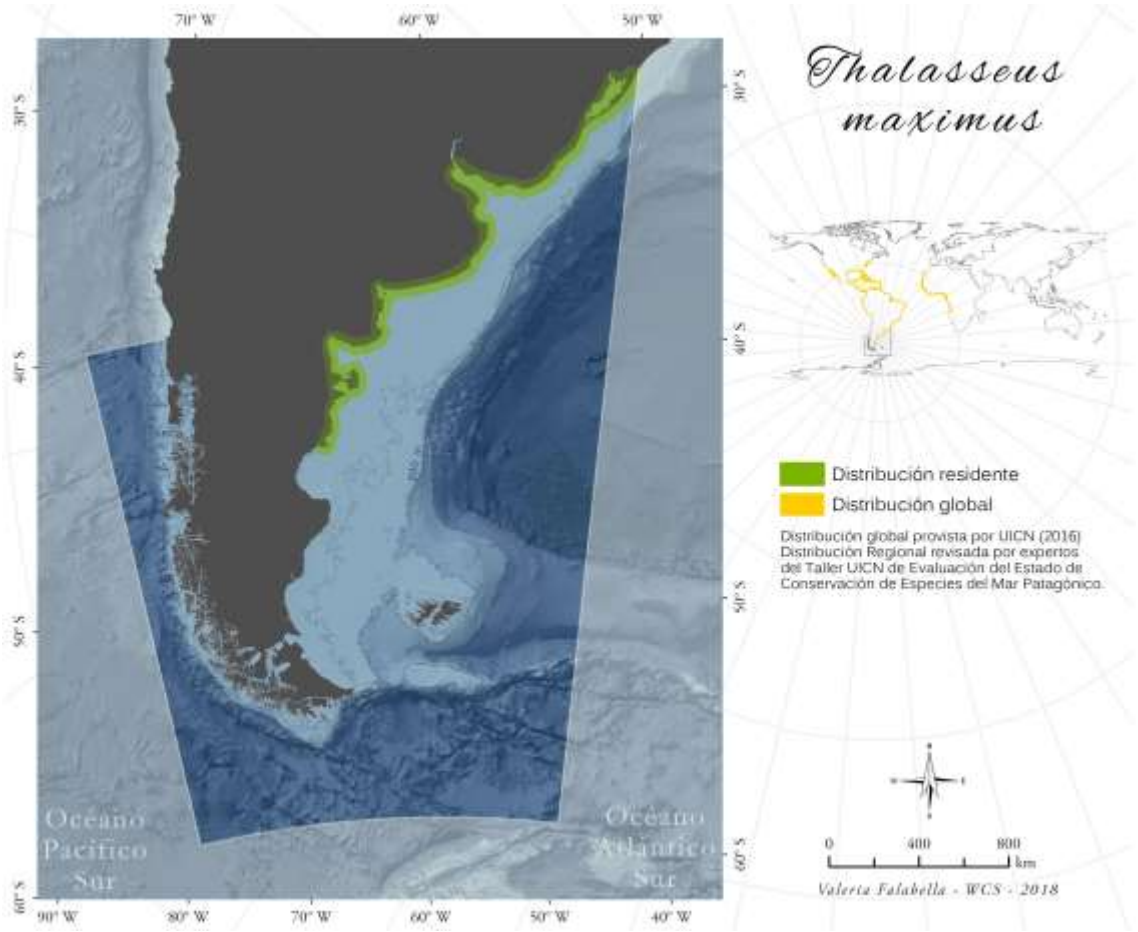
Synonyms: *Sterna maxima* Boddaert, 1783; *Thalasseus maximus* AOU checklist (1998 + supplements); *Thalasseus maximus* Stotz et al. (1996)

Note: *Thalasseus maximus* (del Hoyo and Collar 2014) was previously placed in the genus *Sterna* as *S. maxima*.

Geographic Range

In the Patagonian Sea**,** the Royal Tern is restricted to the Argentine coast.

The species is also found in the several areas of America and the Atlantic coast of Africa. In Africa the species breed from Mauritania to Guinea, ranging in winter from Morocco to Namibia. In the Americas, it breeds from southern California (USA) to Sinaloa (Mexico), from Maryland to Texas (USA), through the West Indies to the Guianas and possibly Brazil, on the Yucatan Peninsula, in south Brazil, Uruguay and north Patagonia (Argentina). It winters from Washington (USA) south to Peru on the western coast, and from Texas to south Brazil on the eastern side (del Hoyo *et al.* 1996).



Population

In the **Patagonia Sea,** there are at least 12 breeding sites in Argentina with at least 1,000 breeding pairs, but there are no population trends available and many colonies have not been censused (Yorio 2005).

Habitats and Ecology

This species undergoes post-breeding dispersive movements northwards before migrating southwards for the winter (del Hoyo *et al.* 1996). It breeds between April and June (Richards 1990). It usually feeds singly or in small flocks and roosts gregariously even outside of the breeding season (del Hoyo *et al.* 1996). For breeding the species shows a preference for inaccessible sites including barren sandy beaches, islands in saltmarsh, dredge spoil and islands surrounded by shallow water and with a high degree of visibility, no mammalian predators and little vegetation (del Hoyo *et al.* 1996). The nest is a simple scrape (del Hoyo *et al.* 1996) in sand (Urban *et al.* 1986). Outside of the breeding season the species forages within 100 m of the land along sheltered coasts in estuaries, harbours and river mouths, sometimes also foraging a short distance inland along broad rivers (del Hoyo *et al.* 1996). Its diet consists predominantly of small fish 3-18 cm long as well as squid, shrimps and crabs (del Hoyo *et al.* 1996).

Generation length, based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 11.2 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

In the Patagonian Sea the primary threat to this species is human disturbance and coastal development near the breeding colonies (Yorio 2005).

Wordlwide, the species is potentially threatened by the contamination of large prey with pesticides (through bioaccumulation in the food chain) (del Hoyo *et al.* 1996). It has also suffered dramatic declines over the past 25 years in California due to the disappearance of its staple prey (the Pacific sardine) through overfishing (del Hoyo *et al.* 1996). Egg-collecting is known to occur at breeding colonies of this species (del Hoyo *et al.* 1996, Del Viejo *et al.* 2004).

Conservation

Without information for the Patagonian Sea

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

In the Patagonian Sea, Sandwich Tern is restricted to the Argentine coast. There are 18 breeding sites in Argentina with around 3,000 breeding pairs and, no population trends. The primary threat to this species is human disturbance and coastal development near the breeding colonies. The highly mobile breeding habits make monitoring difficult, but also increases the possibility that individuals could relocate after disturbances. Therefore, this species is listed as **Least Concern**. However, if additional future threats are identified, this species should be reevaluated.

Assessor(s): Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - LARIDAE - Thalasseus – sandvicensis – (Latham, 1787)

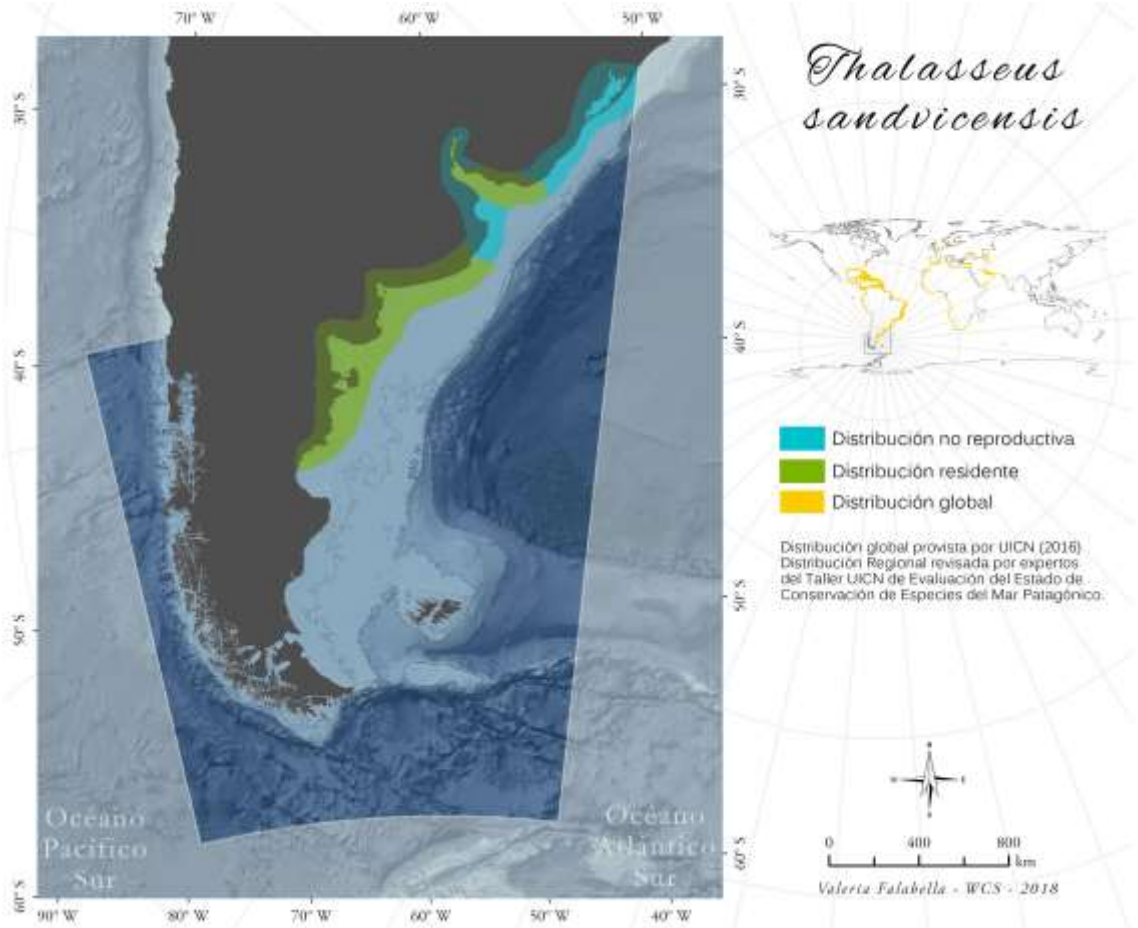
Common Names: Gaviotín pico negro (Spanish), Sandwich Tern (English), Sterne caugek (French)

Synonyms: *Sterna sandvicensis* Latham, 1787; *Thalasseus sandvicensis* AOU checklist (1998 + supplements); *Thalasseus sandvicensis* Stotz et al., 1996

Taxonomic Note: *Thalasseus sandvicensis* (del Hoyo and Collar 2014) was previously placed in the genus *Sterna*.

Geographic Range

In the Patagonian Sea the Sandwich tern is restricted to the Argentine coast. The species is also found in Europe, Africa, western Asia, and the southern Americas.



Population

There are 18 breeding sites with around 3,000 breeding pairs, but no population trends are available for the species (Yorio 2005).

Habitats and Ecology

This species is migratory, undergoing post-breeding dispersive movements north and south to favoured feeding grounds before migrating southward (del Hoyo *et al.* 1996). During the breeding season the species forms colonies on sandy islands, rocky calcareous islets, sand-spits, sand-dunes, shingle beaches and extensive deltas (Snow and Perrins 1998) with immediate access to clear waters with shallow sandy substrates rich in surface-level fish (Snow and Perrins 1998). It shows a preference for raised, open, unvegetated sand, gravel, mud or bare coral substrates for nesting (del Hoyo *et al.* 1996). The nest is a shallow scrape on raised, open, unvegetated sand, gravel, mud or bare coral substrates preferably far from upright vegetation (del Hoyo *et al.* 1996). The species forms very dense colonies during the breeding season in which the eggs of neighbouring pairs may only be 20 cm apart (del Hoyo *et al.* 1996). Outside of the breeding season the species frequents sandy or rocky beaches, mudflats fringed by mangroves, estuaries, harbours and bays, often feeding over inlets and at sea (del Hoyo *et al.* 1996).

Its diet consists predominantly of surface-dwelling marine fish (Snow and Perrins 1998) 9-15 cm long (del Hoyo *et al.* 1996) as well as small shrimps, marine worms and shorebird nestlings (del Hoyo *et al.* 1996).

Generation length, based on published estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 10.8 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

The primary threat to this species, in the Patagonian Sea region, is human disturbance and coastal development near the breeding colonies (Yorio 2005).

Worldwide, the Sandwich tern is particularly vulnerable to human disturbance (del Hoyo *et al.* 1996) (e.g. from tourists) especially near breeding colonies on beaches early in the breeding season (Bourne and Smith 1974). It is also sensitive to disturbance from coastal wind farms (wind turbines) (Garthe and Huppop 2004). It is threatened by the loss or degradation of its favoured breeding habitats through inundation, wind-blown sand and erosion (del Hoyo *et al.* 1996), and has suffered previous local declines from to exposure to bioaccumulated organochlorine pollutants in marine fish (Koeman *et al.* 1967, del Hoyo *et al.* 1996). Egg collecting at breeding colonies also poses a threat to the species throughout the tropics (del Hoyo *et al.* 1996). This species is hunted in West Africa during the winter (del Hoyo *et al.* 1996).

Conservation

The species responds favourably to habitat management such as vegetation clearance, and can be readily attracted to suitable nesting habitats by the use of decoys (del Hoyo *et al.* 1996). Breeding pairs are also known to be attracted to coastal locations where artificial nesting sites have been constructed (e.g. beaches of bare shingle and islands or rafts covered with sparse vegetation) (Burgess and Hirons 1992). A conservation scheme for the protection of gull and tern breeding colonies in coastal lagoons and deltas (e.g. Po Delta, Italy) involves protection from human disturbance, prevention of erosion of islet complexes, habitat maintenance and the creation of new islets for nest sites (Fasola and Canova 1996). The scheme particularly specifies that bare islets with 30-100 % cover of low vegetation (sward heights less than 20 cm), should be maintained or created as nesting sites (Fasola and Canova 1996).

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

In Patagonia, Argentina, there are at least 31 breeding sites with approximately 700 pairs, but no population trend information is available. Human disturbance may be a threat to this species, but its highly mobile nature may also contribute to the redistribution after such disturbances. In the Malvinas, it was estimated that there were 5,000 - 9,000 breeding pairs at about 60 breeding sites. Between 2004 and 2009, there was an estimated 47% decline at New Island, where competition and predation by *Striated caracara* was postulated as a plausible reason for the decline. However, this site may not be reflective of all islands, as other areas appear to be stable or increasing.

In the absence of any major threats and documented declines, this species is listed regionally as **Least Concern**. The substantial decline at New Island is of concern, and new evidence for other localized declines will justify the reassessment of this species.

Assessor(s): Frere, E., Garcia Borboroglu, P., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - STERCORARIIDAE - Catharacta – antárctica – (Lesson, 1831)

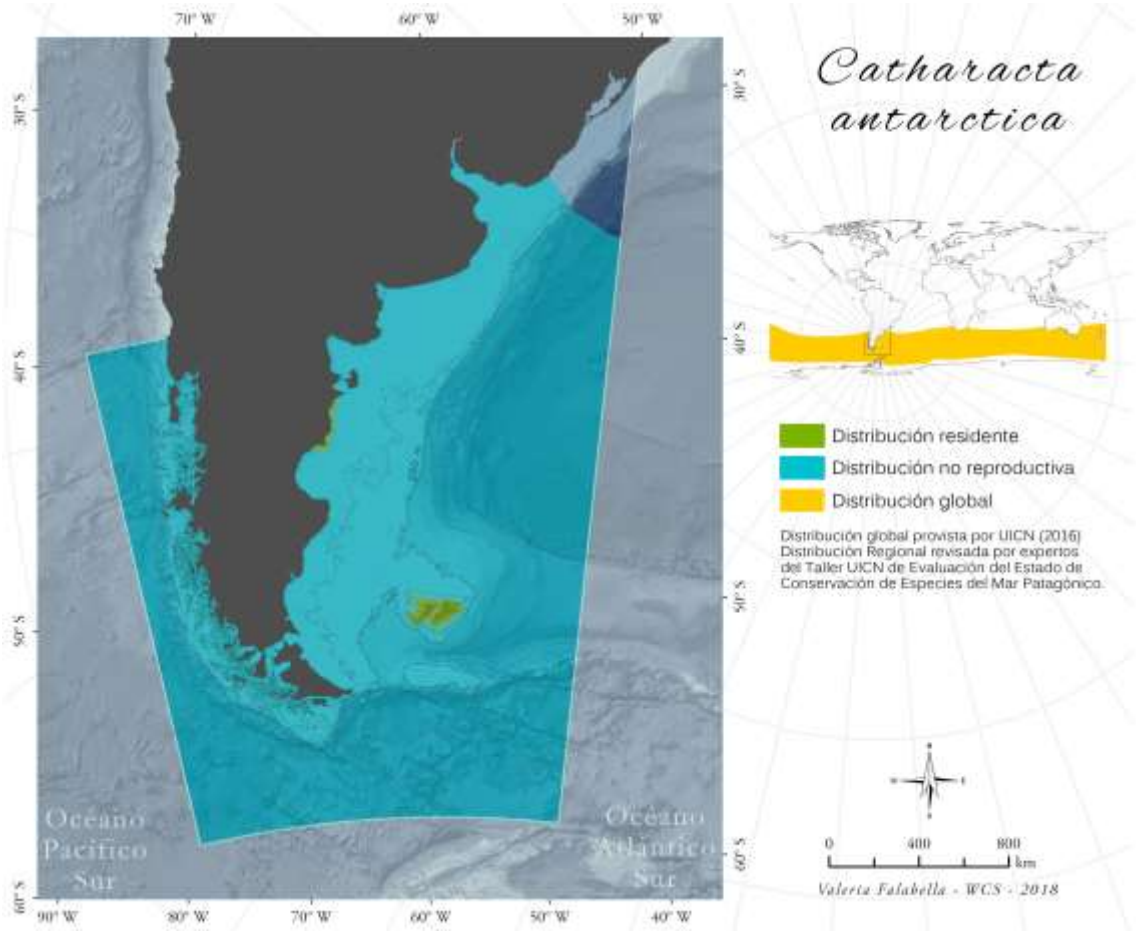
Common Names: Skúa parda (Spanish), Brown Skua (English)

Synonyms: Catharacta lonnbergi Mathews, 1912; Stercorarius lonnbergi (Matthews, 1912)

Note: *Catharacta antarctica* (del Hoyo and Collar 2014) was previously placed in the genus *Stercorarius*, following Chu *et al*. (2009), and split as *S. antarcticus* and *S. lonnbergi*, following Sibley and Monroe (1990, 1993).

Geographic Range

Catharacta antarctica is found on the Antarctic Peninsula and subantarctic islands of the Atlantic, Indian and Pacific Oceans (del Hoyo *et al*. 1996). In Argentina, Antarctic Skya breeds on southern coast as far as Chubut (Harris 1998). In winter the species is pelagic, apparently ranging to about 20°S in southern oceans (Woods and Woods 1997).



Population

In the Malvinas, it was estimated that there were 5,000-9,000 breeding pairs at about 60 breeding sites (Woods and Woods 1997). Between 2004 and 2009, there was an estimated 47% decline at New Island, where competition and predation by *Striated caracara* was postulated as a plausible reason for the decline (Catry *et al*. 2011). However, this site may not be reflective of all islands, as other areas appear to be stable or increasing (A. Stanworth pers. comm. 2016). In Patagonia, Argentina, there are at least 31 breeding sites with at least 700 pairs (Yorio 2005), but no population trend information is available.

The total population has been estimated to number c.13,000-14,000 pairs (del Hoyo *et al*. 1996), assumed to equate to 26,000-28,000 mature individuals, or 39,000-42,000 individuals in total.

Habitats and Ecology

This marine species is found on or around subantarctic islands populated by burrow-nesting seabirds or penguins. Breeding begins in October and November. Birds are loosely colonial but highly territorial, nesting on grass, gravel or bare rock (del Hoyo *et al*. 1996). It is highly predatory, feeding mainly on other birds but will also scavenge around fishing boats and ships and feed at sea.

Generation length, calculated based on a published estimate of mean age at first breeding and extrapolated maximum longevity in the wild, is 12.7 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

Human disturbance may be a threat to this species, but its highly mobile nature may also contribute to the redistribution after such disturbances.

Conservation

There are no known conservation measures.

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

Catharacta chilensis is distributed throughout most of the Patagonian Sea, with breeding sites in both Chile and Argentina. In Patagonia, Argentina, at least 15 breeding sites have been identified, with a total population of about 200 pairs. In Chile, there are at least 1,000 pairs from at least 5 breeding sites. There are no known major threats to this species in the region, but there is potential risk of bycatch in artisanal longline fisheries in Chilean fjords. This species is listed as **Least Concern** in the absence of any major threats or population declines.

Assessor(s): Frere, E., Garcia Borboroglu, P., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - CHARADRIIFORMES - STERCORARIIDAE - Catharacta – chilensis – (Bonaparte, 1857)

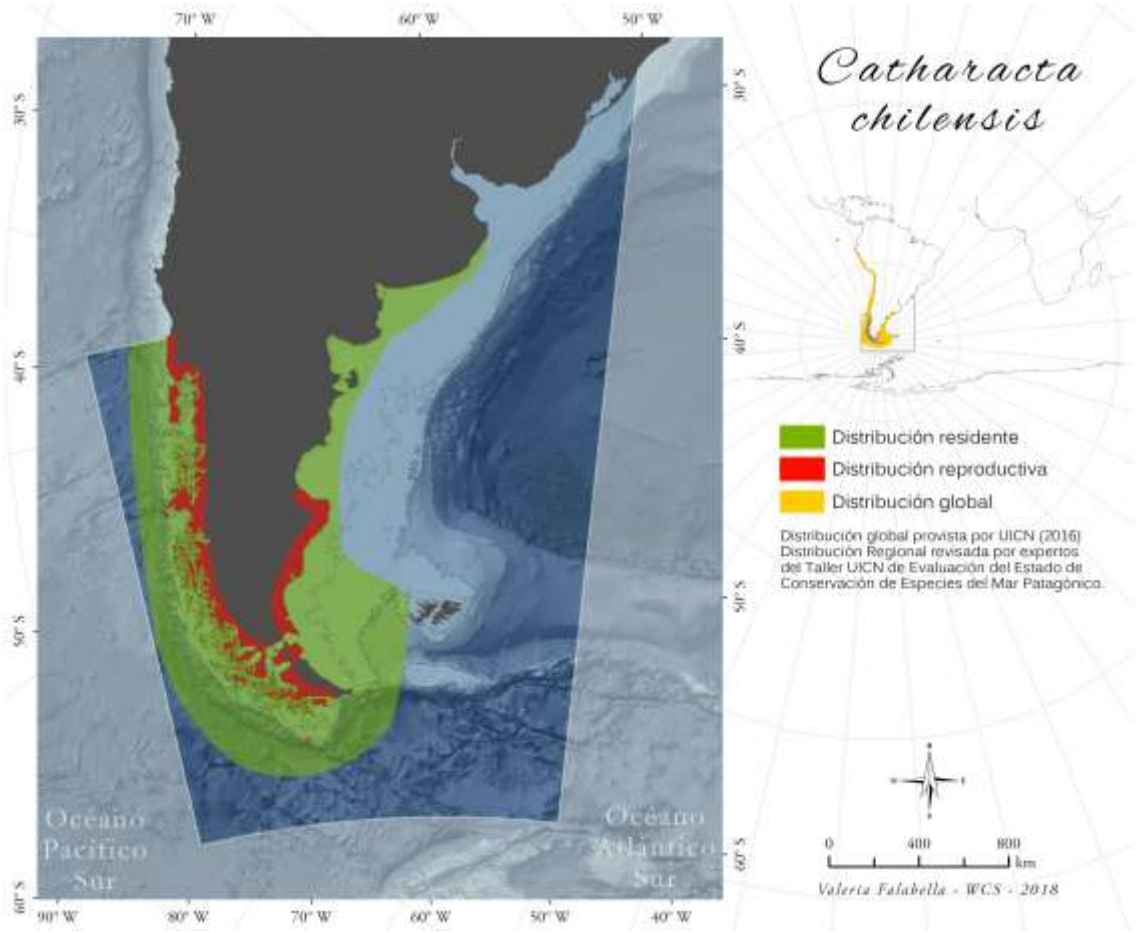
Common Names: Skúa común (Spanish), Chilean Skua (English)

Synonyms: Stercorarius chilensis (Bonaparte, 1857)

Note: *Catharacta chilensis* (del Hoyo and Collar 2014) was previously placed in the genus *Stercorarius*.

Geographic Range

This predatory species ranges from central Peru round Tierra del Fuego to north Argentina, breeding from central Chile to the southern tip of Argentina (del Hoyo *et al*. 1992). It may be vagrant or an occasional breeding species in Malvinas (Woods and Woods 1997).



Population

Population in the Patagonian Sea has been estimated to number c.1200 pairs. In Argentina, at least 15 breeding sites have been identified, with a total population of about 200 pairs (Yorio *et. al* 1998, Yorio 2005). In Chile, there are approximately 1,000 pairs from at least 5 breeding sites (Schlatter and Riveros 1997, Kusch *et al*. 2007, Suazo *et al.* 2012).

Habitats and Ecology

The Chilean Skua is a marine species occurring especially in channels and straits of coastal South America. It breeds on islands and remote mainland coastal areas. Breeding begins in November, with individuals forming colonies of high densities (del Hoyo *et al*. 1992).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated maximum longevity in the wild, is 17.2 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

There are no known major threats to this species in the Patagonian Sea, but there is potential risk of bycatch in artisanal longline fisheries in Chilean fjords (Ojeda *et al.* 2011, C.G. Suazo pers. comm. 2016).

Conservation

There are no known conservation measures.

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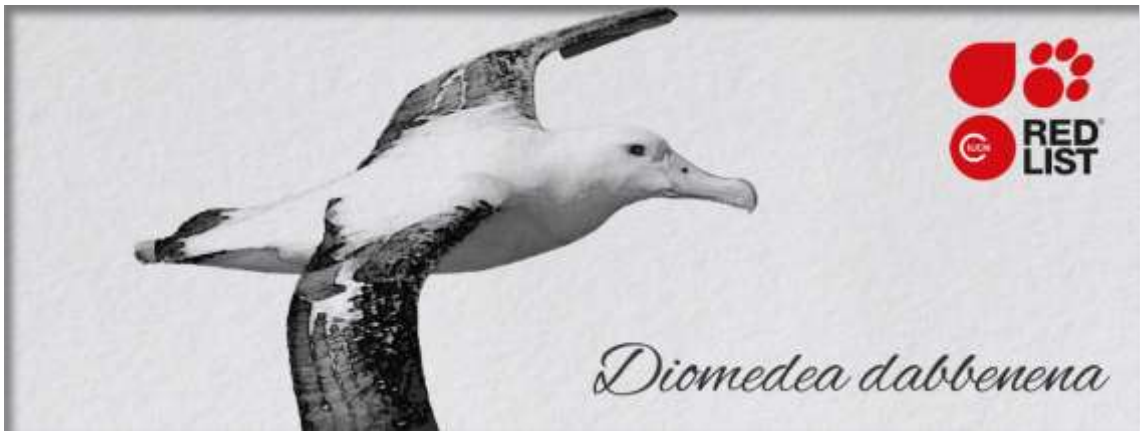


CR - Critically Endangered, A4ade (IUCN version 3.1)

Assessment Rationale:

In the Patagonian Sea *Diomedea dabbenena* is known only from southern Brazil and Uruguay, with vagrants records in the south of Argentina. Regional information is limited, but it is inferred that the population is declining at the same rate as the global population, which was projected to decline by 80-100% over three generations (70 years). The primary threat in the region is incidental mortality in longline fisheries. Therefore, this species is listed as **Critically Endangered** in Patagonia.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - DIOMEDEIDAE - Diomedea – dabbenena – (Mathews, 1929)

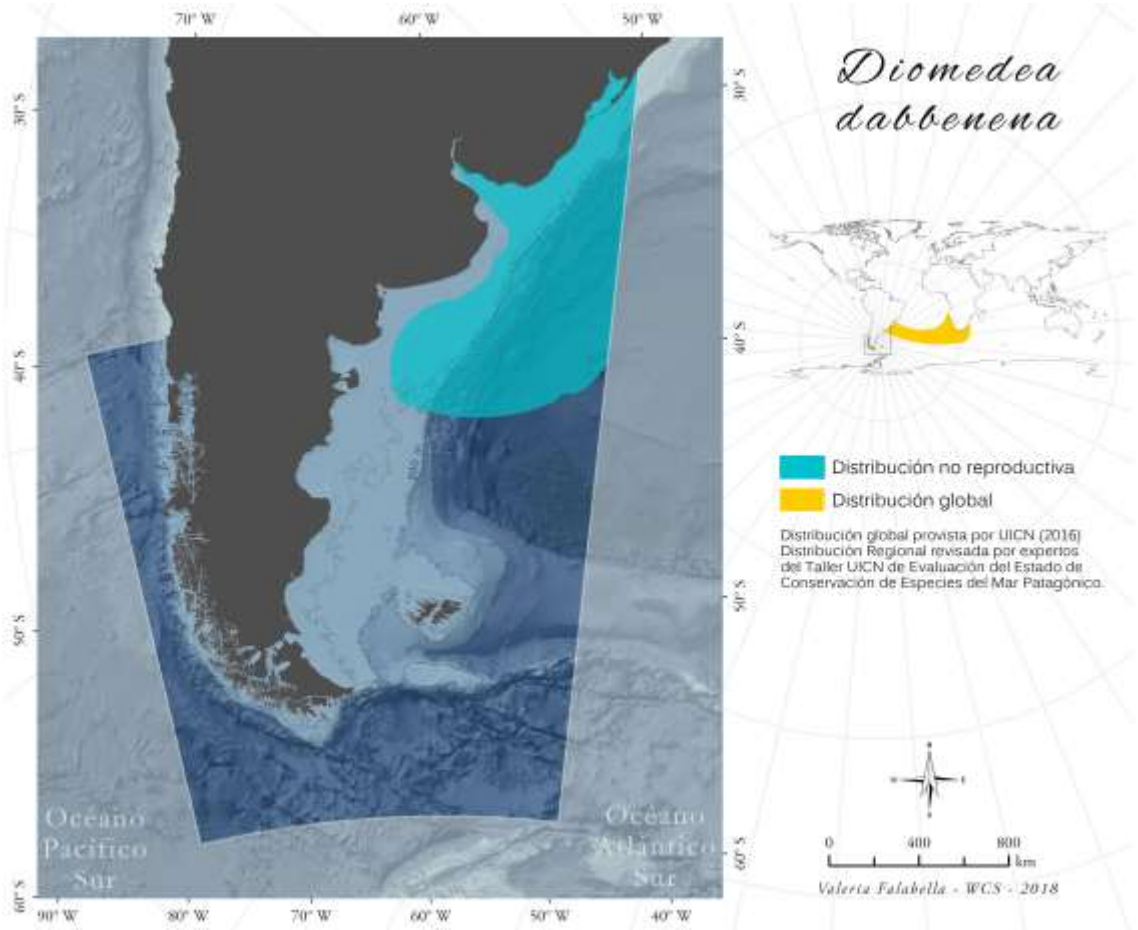
Common Names: Albatros de Tristán (Spanish), Tristan Albatross (English)

Geographic Range

Tristan Albatross breeding populations are essentially restricted to Gough Island, Tristan da Cunha, St Helena (UK), having become extinct on Tristan islands, although birds were seen prospecting in 1999 (Ryan *et al.* 2001), and in some years one pair breeds on Inaccessible Island (Cuthbert *et al.* 2003, R. Wanless *in litt*. 2007).

Outside the breeding season, it disperses to South Atlantic and South African waters (Goren and Ryan 2010), with numerous recent records from Brazilian waters (Neves *et al.* 2000, Olmos *et al.* 2000) and one from Australia (Ryan *et al.* 2001), suggesting that birds may occasionally disperse into the Indian Ocean.

In the Patagonian Sea the species is known only from southern Brazil and Uruguay, with vagrants records in the south of Argentina.



Population

This species doesn't breed in the Patagonian Sea. Breeding populations are essentially restricted to Gough Island, with a single pair nesting intermittently on Inaccessible Island (ACAP 2009). The annual breeding population is currently estimated to be 1,698 pairs (ACAP 2012), equivalent to a total population of 7,100 individuals for this biennially breeding species (ACAP 2010). This roughly equates to 4,700 mature individuals. Recent counts suggest that the population on Gough has decreased by 28% over 46 years, and at 3% annually between 2000 and 2011 (Cuthbert *et al.* 2014), in line with population modelling predictions of annual decline rates of 2.9-5.3% (Ryan *et al.* 2001, Wanless *et al.* 2009), equivalent to declines of >96% in three generations. Predation of chicks by mice has led to very low breeding success; between 2000 and 2011 this averaged only 23%, less than half that of other studied *Diomedea* colonies (Cuthbert *et al.* 2003, Cuthbert and Hilton 2004, Wanless *et al.* 2007, R. Wanless *in litt.* 2007, Cuthbert *et al.* 2014). In January 2008, 1,764 adult albatrosses were incubating eggs on Gough but only 246 chicks survived to fledging (BirdLife International 2009). Breeding success in 2014 was just 9.6%, the lowest recorded since counts started in 2001 (Davies *et al.* 2015).

Habitats and Ecology

Tristan albatross is a colonial, biennially breeding species. It nests at 400-700 m (rarely to 300 m) (P. G. Ryan *in litt.* 1999), primarily in wet heath where it is open enough for take-off and landings. Adults return in November and December, lay in January and the chicks fledge in November. Immature birds begin returning to their breeding colony at 3-7 years after fledging. Most *D. dabbenena* recruit in their natal colony, at a mean age of 10 years (range 4-20 years) (ACAP 2009). The oldest recorded bird was at least 38 years old (Ryan 2009). It catches prey by surface-seizing, and the prevalence of a bioluminescent group of cephalopods in one dietary study suggests that *D. dabbenena* often feed at night (ACAP 2009). During the breeding season the length and range of foraging trips varies considerably, depending on the stage of the breeding cycle (BirdLife International 2004, Cuthbert *et al.* 2005).

It feeds on cephalopods and fish (J. Cooper *in litt.* 1999), and probably follows ships and trawlers for offal and galley refuse.

Generation length calculated based on published estimate of mean age at first breeding and estimate of mean annual survival is 28.7 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

On Inaccessible Island, its decline was probably due to predation by feral pigs (now absent) and humans (Fraser *et al.* 1988, Ryan *et al.* 1990). The failure to recover is unclear, but may be because young birds become entangled in thick vegetation (Ryan *et al.* 1990, P. G. Ryan *in litt.* 1999). On Tristan, its extirpation was probably the result of human exploitation (J. Cooper *in litt*. 1999), although predation by rats may have been a factor (Fraser *et al.* 1988). On Gough,

predation by the introduced house mouse *Mus musculus* causes very low breeding success and alone is sufficient to drive a population decline of over 50% over three generations (Cuthbert *et al.* 2003, Cuthbert and Hilton 2004, Wanless *et al.* 2007). In 2014, 20 chicks were closely monitored in the Gonydale study area on Gough. Of these 20 chicks, 15 failed to fledge. Fourteen of the fifteen failures (93%) were caused by mouse predation (Davies *et al.* 2015). Mouse attacks on chicks peaked in May-June at the start of the austral winter. All predation took place at night, usually 1-2 mice were recorded attacking the chick, with death occurring 3.9 ±1.2 days after the first attack (Davies *et al.* 2015). An additional threat on Gough is peat slips caused by storms burying and killing nestlings and adults, although this is probably a very rare event (Ryan 1993).

Another major threat comes from interactions with longline fisheries, with a high proportion of "Wandering" Albatross bycatch in southern Brazilian waters being of this species (Neves *et al.* 2000, Olmos *et al.* 2000), including a few birds banded at Gough (Croxall and Gales 1998, J. Cooper *in litt*. 1999). It has been estimated that c. 500 individuals of this species are killed every year by longliners (Goren and Ryan 2010). Satellite tracking of breeding birds indicates considerable overlap between birds and areas of longline fishing (Cuthbert *et al.* 2005), although due to lag times associated with albatross demography we are probably only now likely to start to pick up population trends associated with longline mortality (R. Wanless *in litt.* 2007). A study of great albatross bycatch from Uruguayan and Japanese longline fisheries in the south-west Atlantic off Uruguay found most Tristan albatross bycatch occurred between September and November in pelagic waters where many other fleets operate (Jiménez *et al.* 2014). Together, the dual threats of mice and bycatch give a worst-case scenario of extinction in roughly 30 years, although the true situation is likely a continued and severe decline (Wanless *et al.* 2009). Having a distribution on relatively low-lying islands, this species is also potentially susceptible to climate change through sea-level rise and shifts in suitable climatic conditions (BirdLife International unpublished data).

Conservation

ACAP Annex 1. On Tristan, a programme to eradicate cats was successful in the 1970s. Gough and Inaccessible are nature reserves and Gough is a World Heritage Site. Both islands are uninhabited, apart from a meteorological station on Gough (Cooper and Ryan 1994). Satellite tracking to determine foraging areas during the breeding season was undertaken in 2000-2001 (Cuthbert *et al.* 2003). Censuses of large chicks and/or incubating adults were carried out during 1999-2003, and a monitoring protocol was devised (Cuthbert and Sommer 2004). Satellite tracking of non-breeders, further monitoring and demographic work, and an investigation of mouse predation on chicks was initiated during 2003-2006. Initial results from a feasibility study into the removal of the mice appear promising, giving no significant obstacles to the undertaking of an eradication programme (BirdLife International 2009). In September 2013 a trial drop of non-toxic bait over the vegetated cliffs of Gough showed that around 80% of the bait was retained on the cliffs and would be accessible to mice living there (Ryan 2013). Since 2007, birds have been marked with field-readable plastic leg rings, and by 2009, 650 individuals had been ringed (Goren and Ryan 2010).

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

This non-breeding visitor forages throughout much of the southern Patagonian Sea, including the Malvinas. Globally, the population were thought to be declining at rates approaching 30%; the presumptive cause of these declines was interactions with pelagic longline fisheries and perhaps the impacts of introduced predators. However, more recently the global population is considered stable, and it has not been reported as bycatch in the Patagonian Sea. Populations in the Patagonian Sea are inferred to be stable, and therefore, this species is regionally listed as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Croxall, J., Phillips, R., Robertson, C., Ryan, P.G., Stahl, J.-C., Taylor, G.A., Walker, K. & BirdLife International

Facilitators/Compilers: Ralph, G.

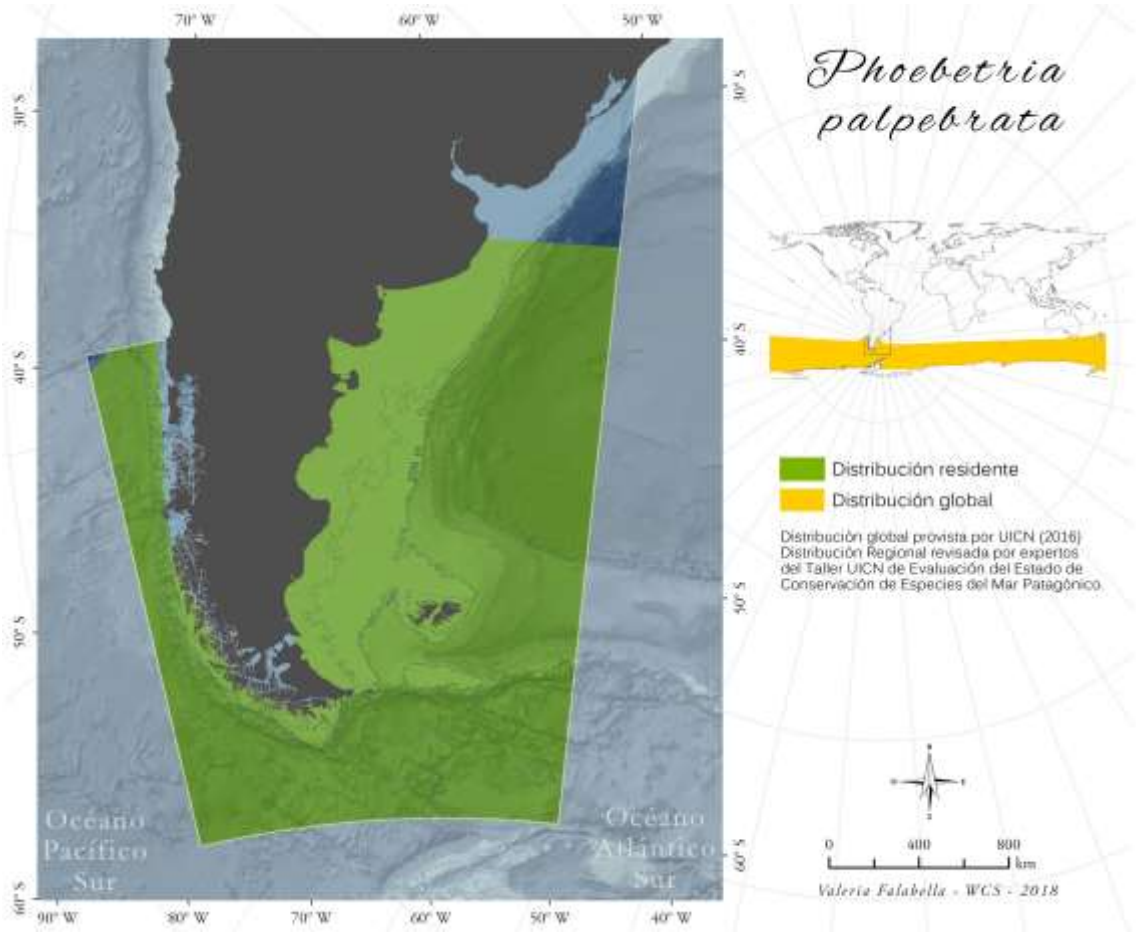
Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - DIOMEDEIDAE - Phoebetria – palpebrata – (Forster, 1785)

Common Names: **Albatros manto claro (Spanish),** Light-mantled Albatross (English), Albatros fuligineux (French), Light-mantled Sooty Albatross (English)

Geographic Range

Phoebetria palpebrata has a circumpolar distribution in the Southern Ocean and is a non-breeding visitor of the Patagonian Sea, where forages mainly in the south, including Malvinas/Falkland Islands. It disperses over cold Antarctic waters in summer as far south as the pack ice (Weimerskirch and Robertson 1994) but ranges north into temperate and sub-tropical seas in winter. It breeds on South Georgia/ Georgias del Sur, Auckland, Campbell and Antipodes islands (New Zealand), Amsterdam, St Paul, Crozet and Kerguelen islands (French Southern Territories), Heard Island (Heard and MacDonald Islands (to Australia)), Macquarie Island (Australia), and Prince Edward and Marion islands (South Africa).



Population

Light-mantled albatross is a non-breeding visitor of the Patagonian Sea. Total breeding population is estimated to number c.21,600 pairs (Croxall and Gales 1998), of which 30% breed on South Georgia (Phillips *et al.* 2005). The species were thought to be declining at rates approaching 30%. More recently, the global population was considered stable (ACAP 2016), and it has not been reported as bycatch in the Patagonian Sea.

Information on population status and trend is most well known on Possession Island (Crozet Islands), where there were 916 pairs in 2006 (Delord *et al.* 2008). There are approximately 1,949 pairs in the Crozet group, 1,250 pairs on Macquarie Island (ACAP 2012), 5,000-7,500 pairs on South Georgia, 3,000-5,000 pairs on Kerguelen, c.5,000 pairs on the Auckland Islands, at least 1,600 pairs on Campbell Island, 170 pairs on the Antipodes Islands, 200-500 pairs on Heard Island (Croxall and Gales 1998; Taylor 2000), 350 pairs on Marion Island and 129 pairs on Prince Edward Island (ACAP 2012).

Habitats and Ecology

This species is a biennial breeder usually nesting solitarily or in small colonies. It nests on cliff ledges, on a pedestal nest of mud and peat, lined with grass. Most eggs are laid in October-November, hatch in December-January and chicks fledge in May-June (Croxall and Gales 1998). Egg laying is highly synchronous within each colony. Young birds are philopatric, returning to their natal colonies after 7 to 12 years (ACAP 2009). Breeding birds from Macquarie Island typically forage in shelf waters around the island; they also utilize sub-Antarctic and Antarctic waters south-west of Macquarie (BirdLife International 2004). During chick-rearing, adults from South Georgia feed in Antarctic shelf and shelf-slope areas along the southern Scotia Arc and to a lesser extent in oceanic waters in the mid Scotia Sea (Phillips *et al*. 2005). It employs a variety of feeding strategies, including surface-seizing, surface filtering and plunging. Five satellite-tracked incubating birds from Macquarie Island foraged south of the Antarctic Polar Front, an average of 1,500 km from their breeding sites. Four breeding birds from South Georgia (Islas Georgias del Sur) followed a typical flight path (38 trips) involving a clockwise route to and from high latitude waters along the southern Scotia Arc, on average travelling 3,800 km, to a maximum range of 920 km from the colony (ACAP 2009). The diet is primarily composed of cephalopods and euphausiids, but birds also take fish and carrion (Thomas 1982, Cooper and Klages 1995).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 44 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

The largest regional and global threat to this species is interactions with pelagic longline fisheries and perhaps the impacts of introduced predators. Reports from New Zealand, Australia and Japan indicate that it is caught in tuna longline fisheries (39 returned from observers in New Zealand fisheries in 1996-2005, but only three since 1996) (C. J. R. Robertson *in litt.* 2008), although data on bycatch are sparse compared to other albatross

species. Introduced predators are present at all New Zealand colonies except Campbell Island and they may affect breeding success and colony distribution (Taylor 2000). Cats also affect breeding success on the Kerguelen Islands (ACAP 2009).

Conservation

CMS Appendix II and ACAP Annex 1.

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LC, Least concern, (IUCN version 3.1)

Assessment Rationale:

The main breeding colony in the region is in Diego Ramirez, Chile, with a few nests reported in Ildefonso. The first estimation reported 17,000 individuals. More recently, Robertson *et al.* (2007) reported at least 18,000 pairs. This colony remained stable between censuses carried out in 2002 and 2011. The breeding and non-breeding visiting populations of this species in Patagonia overlap in spatial distribution with several major fisheries in Argentinian and Chilean waters. It is caught as bycatch in small numbers in Chilean waters, approximately 14 individuals in 2002 in demersal longline fisheries and two individuals per year in 2007-2009 in the industrial pelagic longline fisheries. Another potential threat in Chile is the interaction with jiggers for squid. In It is taken incidentally in Argentinian trawl fisheries by impact with the third cable. This species is also caught as bycatch as part of the finfish trawl fishery in the Malvinas/Falkland Islands, with an estimated 55 birds in 2014-2015.

Although globally this species is listed Endangered on the basis of population declines, primarily driven by the South Georgia subpopulation, the breeding population in the Patagonian Sea is stable and therefore listed as **Least Concern**.

Assessor(s): Frere, E., García Borboroglu, P., Simeone Cabrera, A., Stanworth, A., Tamini, L. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Arata, J., BirdLife International, Cooper, J., Croxall, J., Gales, R., Misiak, W., Phillips, R., Robertson, C., Ryan, P.G. & Xavier, J.

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - DIOMEDEIDAE - Thalassarche - chrysostoma

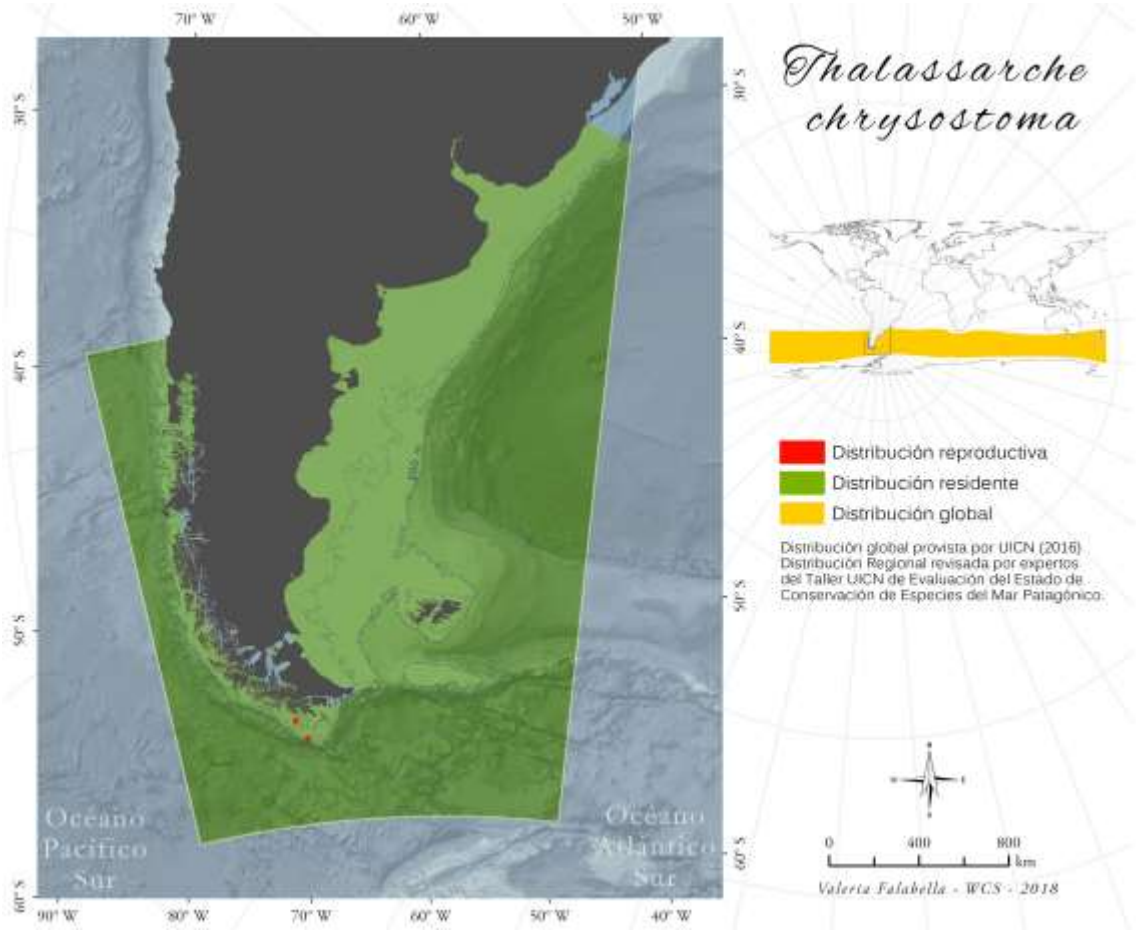
Common Names: **Albatros cabeza gris (Spanish),** Grey-headed Albatross (English), Albatros à tête grise (French), Grey-headed Mollymawk (English)

Synonyms**:** *Diomedea chrysostoma* ssp. *chrysostoma* Forster, 1785 — Christidis and Boles (1994); *Diomedea chrysostoma* ssp. *chrysostoma* Forster, 1785 — Collar *et al.* (1994); *Diomedea chrysostoma* ssp. *chrysostoma* Forster, 1785 — Dowsett and Forbes-Watson (1993); *Diomedea chrysostoma* ssp. *chrysostoma* Forster, 1785 — Stotz *et al.* (1996);

Geographic Range

In the Patagonian Sea the main breeding colony is in Diego Ramirez, Chile, with a few nests reported in Ildefonso (Moreno & Robertson 2008).

Globally, *Thalassarche chrysostoma* has a circumpolar distribution over cold subantarctic and Antarctic waters (ACAP 2009). It breeds on South Georgia / Georgias del Sur, Islas Diego Ramirez and Ildefonso (Chile), Prince Edward and Marion Islands (South Africa), Crozet Islands, Kerguelen Islands (French Southern Territories), Campbell Island (New Zealand) and Macquarie Island (Australia). Its range at sea while breeding lies largely within or south of the Antarctic Polar Frontal Zone (Prince *et al.* 1998, Phillips *et al.* 2004). During the non-breeding season South Georgia birds have been recorded making one or more global circumnavigations, the fastest in just 46 days (Croxall *et al.* 2005). All New Zealand banded birds have been recovered west of New Zealand in Australian zone (G. Taylor *in litt.* 2008).



Population

In the Patagonian Sea , the first estimation of the size of the breeding colony in Chile reported 17,000 individuals (Schlatter and Riveros 1997). More recently, at least 18,000 pairs were reported by Robertson *et al.* (2007). This colony remained stable between censuses carried out in 2002 and 2011 (Robertson *et al.* 2014). Population trends are unknown for Chile, Iles Kerguelen and Iles Crozet (representing around one third of the global population), and increasing on Marion Island (ACAP 2012). Very rapid overall declines appear to be taking place even if it is assumed colonies without trend information have remained stable. This colony remained stable between censuses carried out in 2002 and 2011.

Globally, there are an estimated of c.95,000 pairs breeding per year, based on annual breeding population estimates of 47,674 pairs on South Georgia in 2004 (Poncet *et al.* 2006), 17,187 pairs in Chile for 2003 (Robertson *et al.* 2007), 7,905 pairs on Kerguelen for 1985 (Weimerskirch *et al.* 1988), 7,800 pairs on Campbell Island (Moore 2004), 6,709 pairs on Marion Island for 2013 (ACAP unpubl. data), 5,946 on Crozet in 1982 (Jouventin *et al.* 1984), 2,000 pairs on Prince Edward Island in 2009 (Ryan *et al.* 2009) and 69 pairs on Macquarie Island in 2013 (ACAP unpubl. data). This is thought to be equivalent to at least 250,000 mature individuals (Croxall and Gales 1998, Brooke 2004). At South Georgia, the population is estimated to have declined by 25% between 1977 and 2004 (Poncet *et al.* 2006; R. Phillips verbally 2012), while on Campbell Island the population underwent major declines prior to 1997 but has apparently since stabilized (W. Misiak *in litt.* 2013). Population trends are unknown for Chile, Iles Kerguelen and Iles Crozet (representing around one third of the global population), and increasing on Marion Island (ACAP 2012). Very rapid overall declines appear to be taking place even if it is assumed colonies without trend information have remained

stable. This species has been globaly uplisted to Endangered as data from some major colonies, in particular South Georgia (Georgias del Sur), which holds around half the global population, suggest that overall declines are taking place at a very rapid rate over three generations (90 years), even if colonies lacking trend information are assumed to be stable. The major driver of declines is likely to be incidental mortality on longline fisheries.

Habitats and Ecology

This species is a biennial breeder. Birds return to colonies between late September and early October, laying occurs in October and chicks hatch by December. Chicks fledge from April to May, returning to breeding colonies at the earliest at three years of age but generally at six or seven years old. First breeding can begin as early as seven years, but the average age on Campbell Island is 13.5 years old and the modal age on South Georgia is 12 years old. It feeds by surface-seizing but can also dive up to depths of six metres (ACAP 2009). Substantial segregation in foraging areas is apparent for male and female Grey-headed Albatross during incubation at South Georgia, with males travelling on average further than females (Phillips *et al.* 2004). It breeds on steep slopes or cliffs, generally with tussock-grass. Its diet is variable with locality and year (ACAP 2009). It feeds mainly on cephalopods and fish, but crustaceans, carrion and lampreys are locally important (Prince 1980, Cherel *et al.* 2002, Xavier *et al.* 2003, Arata *et al.* 2004). It actively scavenges longline baits.

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 30 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

The breeding and non-breeding visiting populations of this species in **Patagonia** overlap in spatial distribution with several major fisheries in Argentinian and Chilean waters (BirdLife International 2004, Roberston *et al.* 2014). It is taken in small numbers in Chilean waters, approximately 14 individuals in 2002 in demersal longline fisheries (Moreno *et al.* 2003) and 2 individuals per year in 2007-2009 in the industrial pelagic longline fisheries (Gonzalez *et al.* 2012). Another potential threat in Chile is interaction with jiggers for squid, based on dietary studies of this species in the breeding colonies (C.G. Suazo pers. comm. 2016). In Argentina, it is taken incidentally in trawl fisheries by impact with the third cable (Tamini pers. comm. 2016). This species continues to be taken as bycatch as part of the finfish trawl fishery in the Malvinas, with an estimated 55 birds in 2014-2015 (Kuepfer 2016).

Due to its circumpolar distribution, *T. chrysostoma* is potentially vulnerable to Southern Ocean pelagic fisheries worldwide. The extensive use of the Subtropical Convergence and Sub-Antarctic Zones by incubating birds from Marion Island, especially females, bring them into contact with intense southern bluefin tuna *Thunnus maccoyii* longline fishing activity in international waters (40-45°) (ACAP 2009). Mortality of breeding birds is also recorded in

longline fisheries targeting Patagonian toothfish in shelf areas (ACAP 2009). In Australian waters, up to c.400 individuals (>80% juvenile) were killed annually in 1989-1995 by Japanese longliners (Gales *et al.* 1998). In the Indian Ocean, illegal or unregulated fishing for Patagonian toothfish *Dissostichus eleginoides* killed an estimated 10,000-20,000 albatrosses (mainly this species) in 1997 and 1998 (CCAMLR 1997, CCAMLR 1998). At Campbell, the long-term decline, which began well before local longline fishery development, appears to be caused by environmental factors, possibly rising sea-surface temperatures resulting in food shortages, but longline fisheries beyond the New Zealand Exclusive Economic Zone (EEZ) may also contribute (Waugh *et al.* 1999). The species is not caught on fishing vessels monitored by New Zealand observers within the EEZ (G. Taylor *in litt.* 2008).

Conservation

CMS Appendix II and ACAP Annex 1. Population monitoring and foraging studies are being undertaken at South Georgia, Diego Ramirez, Marion, Macquarie and Campbell Islands. Macquarie and Campbell are World Heritage Sites and the Prince Edward Islands are a Special Nature Reserve.

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

Black-browed Albatross forages widely in the Patagonia Sea, but breeding colonies are restricted to the Malvinas and southern Chile. The two main breeding colonies in Chile (Diego Ramirez and Ildefonso with 95% of Chilean population) represents about 20% of the global population and have increased 23% between 2002 (58,000 individuals) and 2011 (71,000). Regionally, populations in Chile are increasing, and populations in Argentina and the Malvinas are stable/increasing. Although interaction with fisheries is an important threat to this species in the region, it is not currently impacting the population at rates approaching the thresholds for listing under criterion A. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., García Borboroglu, P., Simeone Cabrera, A., Stanworth, A., Tamini, L. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Arata, J., BirdLife International, Croxall, J., Huin, N., Misiak, W., Phillips, R. & Robertson, G.

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - DIOMEDEIDAE - Thalassarche – melanophris – (Temminck, 1828)

Common Names: **Albatros ceja negra (Spanish),** Black-browed Albatross (English)

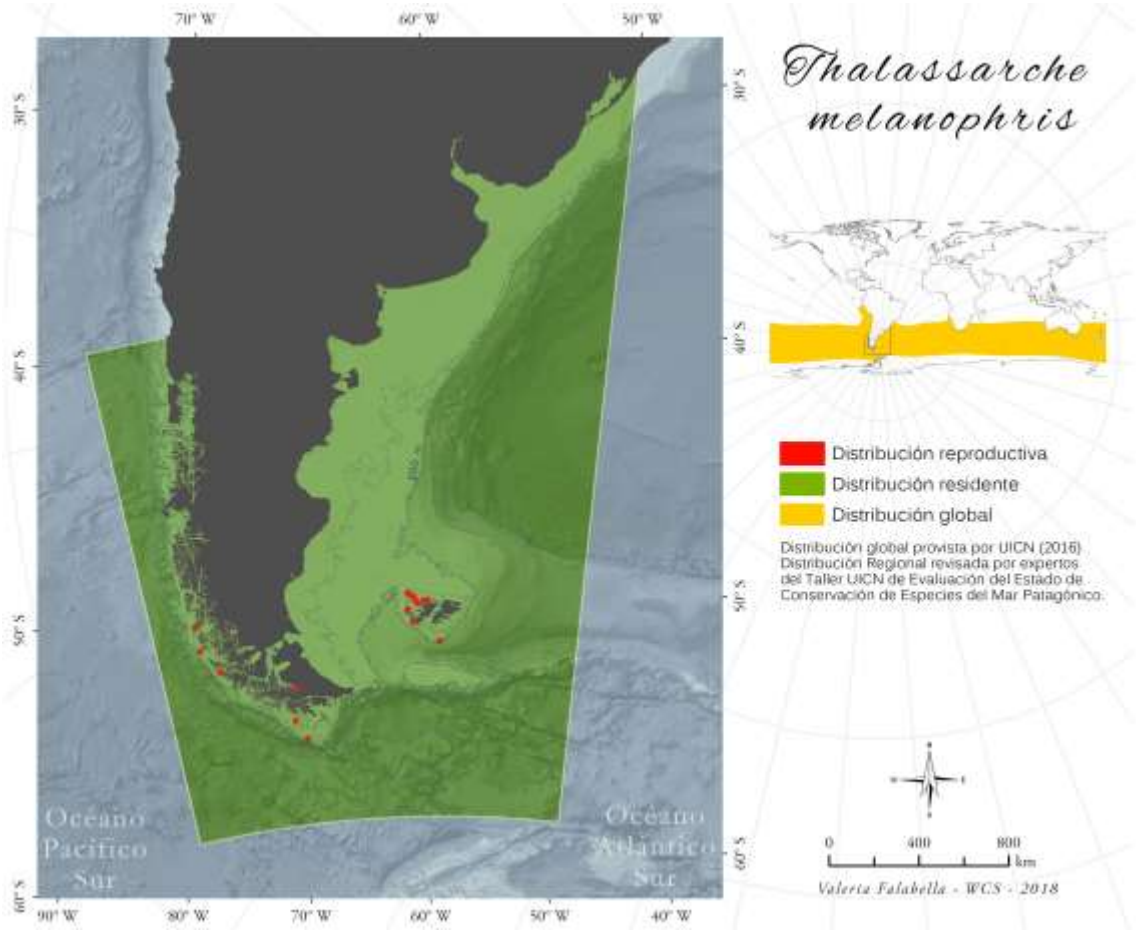
Synonyms**:** *Thalassarche melanophris* ssp. *melanophris* — Christidis and Boles (2008); *Thalassarche melanophrys* (Temminck, 1828)

Note**:** *Thalassarche melanophris* (del Hoyo and Collar 2014) was previously listed as *T. melanophrys*.

Geographic Range

This species forages widely in the **Patagonia Sea**, but breeding colonies are restricted to the Malvinas/Falkland Islands, and Islas Diego Ramirez, Ildefonso, Diego de Almagro and Isla Evangelistas in southern Chile (Schlatter & Riveros 1997, Arata *et al.* 2003, Lawton *et al.* 2003, Moreno & Robertson 2008). A new tiny colony at Islote Albatros, Seno Almirantazgo, Chile, was discovered in 2003 (Aguayo *et al.* 2003).

Globally, *Thalassarche melanophris* has a circumpolar distribution ranging from subtropical to polar waters (ACAP 2009), breeding in the Malvinas, Chile , South Georgia (Georgias del Sur), Crozet and Kerguelen Islands (French Southern Territories), Heard and McDonald Islands and Macquarie Island (Australia), and Campbell and Antipodes Islands, New Zealand (Croxall and Gales 1998). One colony was also recorded on Snares Island in 1986 (ACAP 2009).



Population

In the Patagonian Sea the species breeds only in Malvinas/Falkland Islands and Chile. The two main breeding colonies in Chile (Diego Ramirez and Ildefonso with 95% of Chilean population) represents about 20% of the global population and have increased 23% between 2002 (58,000 individuals) and 2011 (71,000)**,** (Roberson *et al.* 2014). Regionally, populations in Chile are increasing, and populations in Argentina and the Malvinas are stable/increasing (Wolfaardt, 2012). The annual breeding population in the Malvinas was estimated at 475,500-535,000 pairs in 2010 (Wolfaardt 2012).

The total breeding population was estimated at c.700,000 pairs in 2010, c.72% at the Malvinas, 19% in Chile and 8% at South Georgia (ACAP unpubl. data). Numbers in the Malvinas apparently increased substantially during the 1980s, and were thought to have since declined, however aerial and ground-based surveys conducted in 2010 revealed an increase of at least 4% per annum between 2005 and 2010 (Wolfaardt 2012). The small population on Heard Island (c.600 pairs) appears to have increased over the past 50 years. Trends are still uncertain for the populations in Chile. Adult survival on South Georgia decreased from 93% pre-1970 to 89% in 1987, and breeding success also decreased over the same period from 36% to 18% (Croxall 2008).

Habitats and Ecology

This is a colonial, annually breeding species, although only 75% of successful breeders and 67% of failed breeders breed the following year. The species nests colonially on steep slopes

with tussock grass, sometimes on cliff terraces, but the largest colonies in the Malvinas are on flat ground along the shore line. Individuals arrive at colonies in September, laying in early October with chicks hatching in December and fledging between April and May. Immature birds begin to return to land at the age of two with the numbers of returning birds increasing up to the age of six. The median age of first breeding is 10 years (range 8-13) (ACAP 2009). During incubation, breeding birds tend to remain in areas adjacent to or to the north of their colonies in the shelf, shelf-break and shelf-slope waters (ACAP 2009). During chick-rearing, breeding *T. melanophris* initially stay in shelf to shelf-slope areas very close to their colonies (within c. 500 km). Later, birds from Chile and South Georgia / Islas Georgias del Sur may also travel up to c. 3,000 km from their breeding sites, especially to the Antarctic Peninsula and South Orkney Islands, but birds from the Malvinas and Kerguelen continue to remain close to their colonies (ACAP 2009). After breeding, birds from the Malvinas winter on the Patagonian Shelf (N. Huin *in litt* 2008), whereas birds from South Georgia predominantly migrate to South African waters, spending the first half of the winter in the highly productive Benguela Current (Phillips *et al.* 2005). Black-browed Albatross from Chile make use of the Chilean Shelf, the Patagonian Shelf, and some spend the non-breeding season around north New Zealand. It feeds mainly on crustaceans, fish and squid, and also on carrion and fishery discards (Cherel *et al.* 2002, Arata *et al.* 2003, Xavier *et al.* 2003). A Wilson's Storm-petrel was recorded in the stomach contents of a bycaught individual on the Patagonian Shelf (Seco Pon and Gandini 2008), and while various Sphenisciformes and Procellariiformes have been found in the stomachs of albatrosses, penguins tend to be recorded more frequently, although none are typical prey items (Seco Pon and Gandini 2008). The exact composition of its diet varies depending on locality and year (ACAP 2009).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 21.5 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Interaction with fisheries is an important threat to this species in the Patagonian Sea**.** Black-browed albatross is one of the most frequently killed species in many longline fisheries including the pelagic longline swordfish fishery off Chile and Argentine longliners targeting toothfish and kingclip on the Patagonian shelf (Murray *et al.* 1993, Gales *et al.* 1998, Ryan and Boix-Hinzen 1998, Schiavini *et al.* 1998, Stagi *et al.* 1998, Ryan *et al.* 2002 Reid and Sullivan 2004, Bugoni *et al.* 2008). Capture rates can vary greatly according to season, number of hooks and type of longline (Bugoni *et al.* 2008). Over recent years, mortality in trawl fisheries has been identified as a major source of mortality for this species over the Patagonian Shelf (Sullivan and Reid 2002). In Argentina, it is estimated that 13,500 individuals (range 8,000-19,600) are killed each year in freezer trawlers due to interactions with the trawl warp cable (Tamini *et al.* 2015). In Malvinas/Falkland Islands, fishery mortality due to interaction with the trawl warp cable during 2014-2015 was estimated in 887 for the finfish fleet and 95 for the calamari squid trawl fleet (Kuepfer 2016). In Chile, artisanal demersal longline may result in minor mortalities, but was not quantified (Suazo *et al.* 2014), Industrial pelagic longline kills c.32 individuals per year between 2007 and 2009 (Gonzalez *et al.* 2012). Industrial demersal longline kills 1,555 individuals in 2002, and due mitigation measures from 2006 onwards there have been no documented mortalities (Robertson *et al.* 2014). The industrial demersal trawl (central Chile) reached a maximum of 506 individuals between 2011 and 2012 (BirdLife 2013).

At land, the main threat for this species in Chile are invasive species by potential predation on

eggs, chicks and adults as in the case of Albatross islet in the south of Tierra del Fuego. This colony located in the inner channels with around 62 described breeding pairs (Moreno & Robertson 2008) was recently affected by the invasive American mink (Neovison vison) on the whole nesting pairs during two consecutive seasons. Natural perturbations (e.g., fire, lightning strikes) can have major impacts on the breeding colonies in the Malvinas (Wolfaardt *et al.* 2012).

Globally the interaction with fisheries is one of the most important threat for this species. Black-browed albatross is frequently killed in longline fisheries and also died for collisions with the warp cable in trawling fisheries.

Conservation

The species is listed in the CMS Appendix II and ACAP Annex 1. It is monitored in Diego Ramirez and the Malvinas. Most breeding sites are reserves. An initial census of Chilean islands has been completed (Robertson *et al.* 2014).

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

The Grey-backed storm petrel primary breeding area in the Patagonian Sea is Malvinas/Falkland Islands. Population was estimated to number c.1,000-5,000 breeding pairs based on two probable breeding sites. There are another 13 probable breeding sites. There is no evidence of population decline. Main potential threat for breeding population is the introduction of rodents. Breeding areas for this species are currently free of rodents, however it is suspected that the introduction or recolonization of rodents could have a substantial effect on the breeding populations of this species within a relatively short period of time. The possibility that this would happen is uncertain, however, the recolonization or invasion of all the islands with breeding areas is highly unlikely. Therefore, this species is listed as **Least Concern.**

Assessor(s): Stanworth, A. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - OCEANITIDAE - Garrodia – nereis (Gould, 1841)

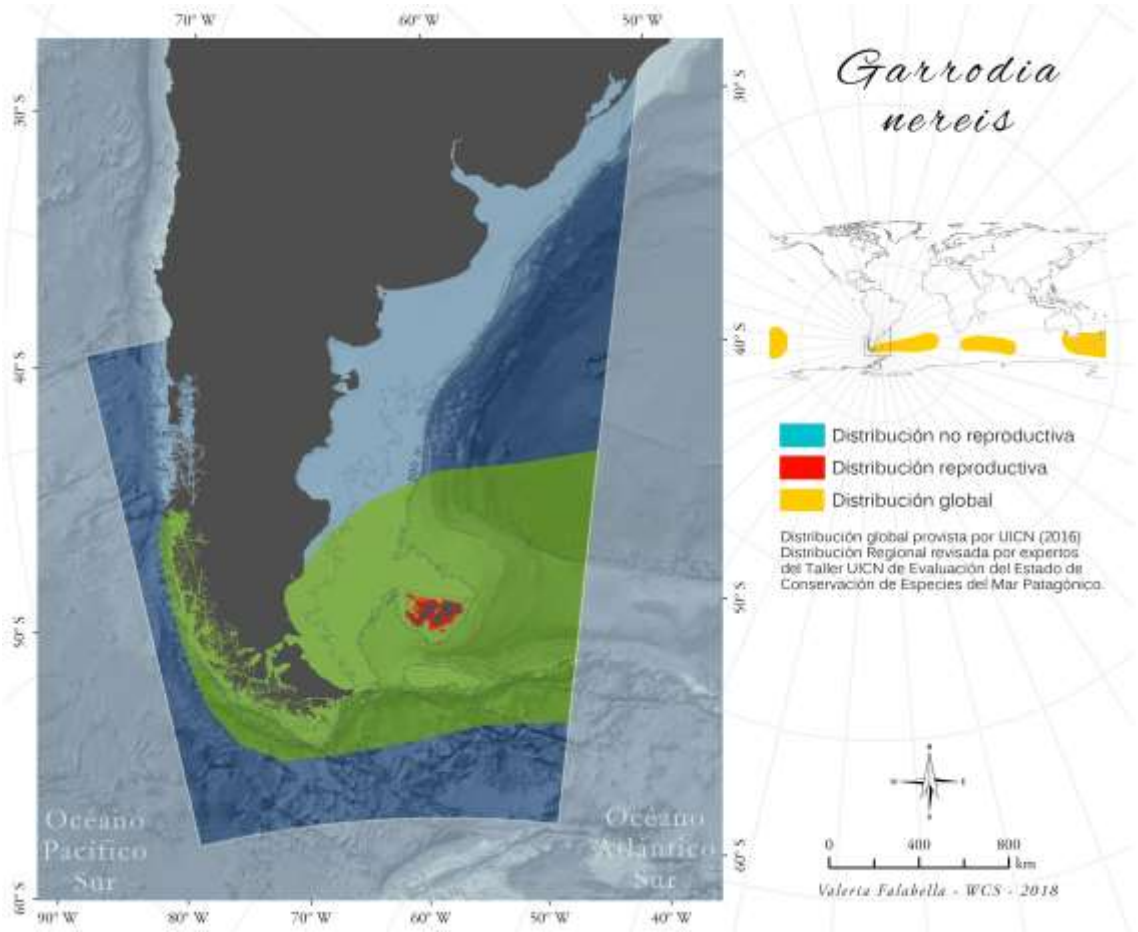
Common Names: Paíño gris (Spanish), Grey-backed Storm-petrel (English), Gray-backed Storm-Petrel (English), Grey-backed Storm Petrel (English), Grey-backed Storm-Petrel (English)

Synonyms: Oceanites nereis nereis Turbott (1990)

Geographic Range

The Grey-backed Storm-petrel primary breeding area in the Patagonian Sea is the Malvinas/Falkland Islands. Currently, there are two confirmed breeding sites with another 13 as probable breeding areas (Falklands Islands Government 2016. Falkland Islands Biodiversity Database).

This species has a circumpolar distribution in the subantarctic islands. Individuals can winter nearer to the continents, being found off the extreme southern coast of Argentina, and south-east Australia and Tasmania (del Hoyo *et al.* 1992).



Population

Population in the Patagonian Sea was estimated to number c. 1,000-5,000 breeding pairs based on two probable breeding sites located in Malvinas/Falkland Islands (Woods and Woods 1997). There is no evidence of population decline (Woods and Woods 1997).

Global population was estimated to potentially number over 200,000 individuals (Brooke 2004).

Habitats and Ecology

This marine species occurs in the cool waters of the subantarctic zone. Its breeding season starts in October or November, with individuals forming loose colonies on oceanic islands, creating burrows in vegetation or nesting in crevices in rocks (del Hoyo *et al.* 1992). In Malvinas the Grey-backed Storm Petrel has been found only on islands with tussac, used for nesting (Woods and Woods 1997). The species is strictly nocturnal at the nest and most birds do not return until two to three hours after sunset. This difficult to record their presence during surveys (Woods and Woods 1997). It is generally found over the edge of the continental shelf and is apparently only pelagic during dispersal. Its diet comprises mainly of immature barnacles and other crustaceans, but also small squid and occasionally small fish. It catches prey mostly by pattering over the surface whilst in flight, but also by dipping and shallow plunging. It has been seen to attend trawlers and occasionally follows ships.

Generation length, calculated based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 15.2 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

The main potential threat in the of this species in the Patagonian Sea is the introduction of rodents. Currently, breeding areas are free of rodents. It is suspected that the introduction or recolonization of rodents at these sites could have a substantial effect on the breeding populations within a relatively short period of time (Woods and Woods 1997).

Conservation

Without information for the Patagonian Sea

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

The Wilson's Storm-petrel primary breeding area in the Patagonian Sea is the Malvinas-Falkland Islands. Population has been estimated to number c.5,000 breeding pairs or more based on two confirmed breeding sites. Some others breeding locations at the islands have not been confirmed. No population trends are currently known. Ten individuals were reported in the Wollaston and Hermite Islands Group, Cape Horn, Chile. Main threat to the breeding population is the introduction of rodents. Currently, known and suspected breeding areas are free of rodents. It is suspected that the introduction or recolonization of rodents at these sites could have a substantial effect on the breeding populations within a relatively short period of time. The possibility that this would happen at any of the given islands is uncertain. However, it is highly unlikely that all islands with breeding areas would be invaded or recolonized. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., Tamini, L., Simeone Cabrera, A., Stanworth, A. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

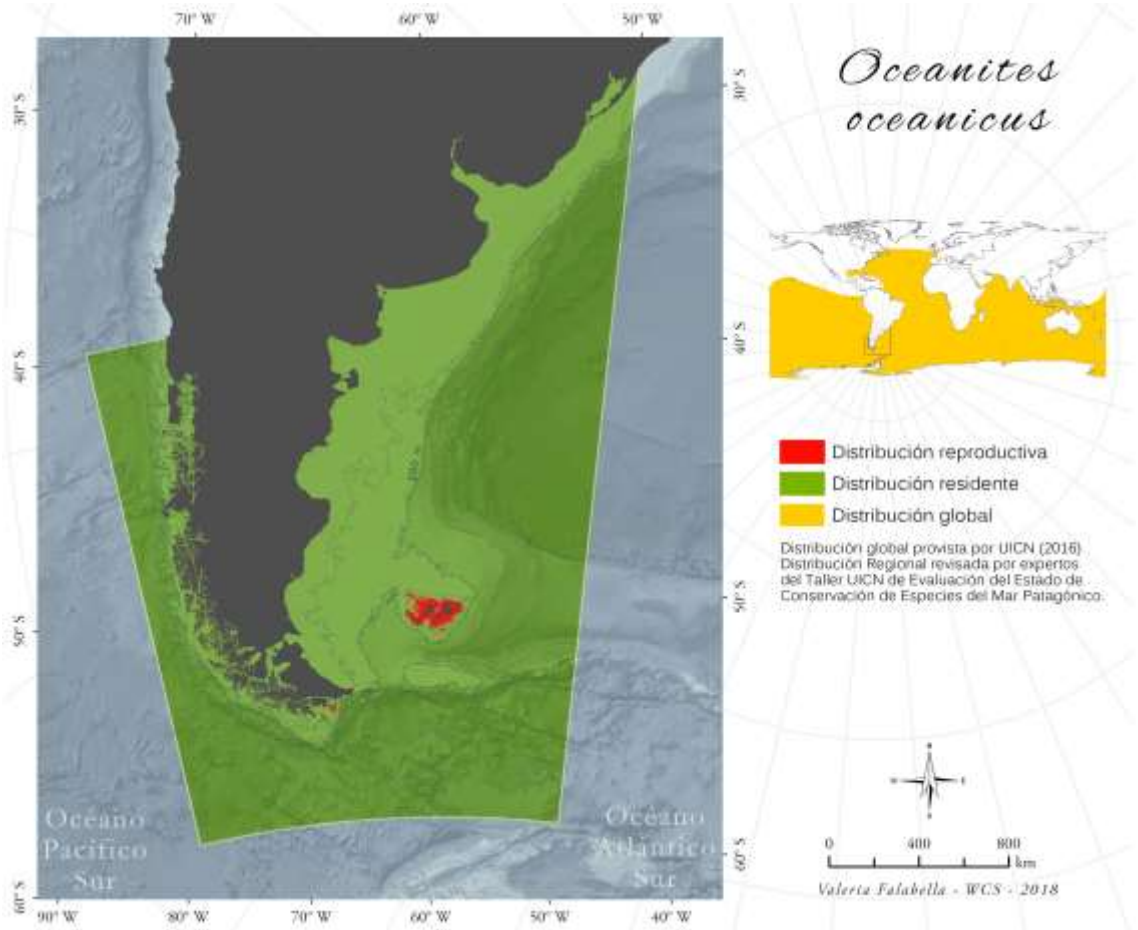
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - OCEANITIDAE - Oceanites – oceanicus – (Kuhl, 1820)

Common Names: **Paíño común (Spanish),** Wilson's Storm-petrel (English), Océanite de Wilson (French), Wilson's Storm Petrel (English), Wilson's Storm-Petrel (English)

Geographic Range

The Wilson's Storm-petrel primary breeding area in the Patagonian Sea is the Malvinas-Falkland Islands. Breeding was confirmed at Grand Jason and Beauuchéne Island, Malvinas, but the status of this species in the archipelago is poorly known and information on its breeding biology is minimal (Woods and Woods 1997). Other breeding locations are probable (A. Stanworth pers. comm. 2016). The species was also located at the Wollaston and Hermite Islands Group, Cape Horn, Chile (Reyes-Arriagada 2013).

Global breeding range of this species includes subantarctic islands from Cape Horn (Chile) east to the Kerguelen Islands (French Southern Territories), and also includes coastal Antarctica. It undergoes trans-equatorial migration, spending the off-season in the middle latitudes of the north Atlantic and north Indian Ocean. A lower number of individuals also migrate to the Pacific (Woods and Woods 1997).



Population

Total population at Malvinas/Falkland Islands has been estimated to number c.5,000 breeding pairs (Woods and Woods 1997). No population trends are currently known. Ten individuals were reported at the Wollaston and Hermite Islands Group, Cape Horn, Chile (Scofield and Reyes-Arriagada 2013).

Global population was estimated to number c.4,000,000-10,000,000 breeding pairs, equating to 12,000,000-30,000,000 individuals (Brooke 2004).

Habitats and Ecology

Wilson's Storm-petrel breeds on rocky islets, on cliffs and amongst boulder scree. It prefers to feed mainly in cold waters over continental shelves or inshore, with a diet of comprised mainly of planktonic crustaceans (especially krill) and fish (del Hoyo *et al.* 1992). Its diet shifts from mainly crustaceans during egg formation to an increased proportion of fish during chick-rearing and moulting (Quillfeldt *et al.* 2005).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 15.6 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Main potential threat to the breeding population in the Patagonian Sea is the introduction of rodents (Woods and Woods 1997). Currently all known and suspected breeding areas in the islands are free of rodents. However, it is suspected that the introduction or recolonization of rodents at these sites could have a substantial effect on the breeding populations within a relatively short period of time.

Conservation

No targeted actions are known.

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DD, Data Deficient, (IUCN version 3.1)

Assessment Rationale:

This newly described storm-petrel appears to be one of the commonest seabirds within its small known range within the Patagonian Sea. It may prove to be of Least Concern. However, until more is known of where it breeds, its likely population size and trends, and the likely severity of any threats, it has been classified as **Data Deficient.**

Assessor(s): Frere, E., García Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Bourne, W. & BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

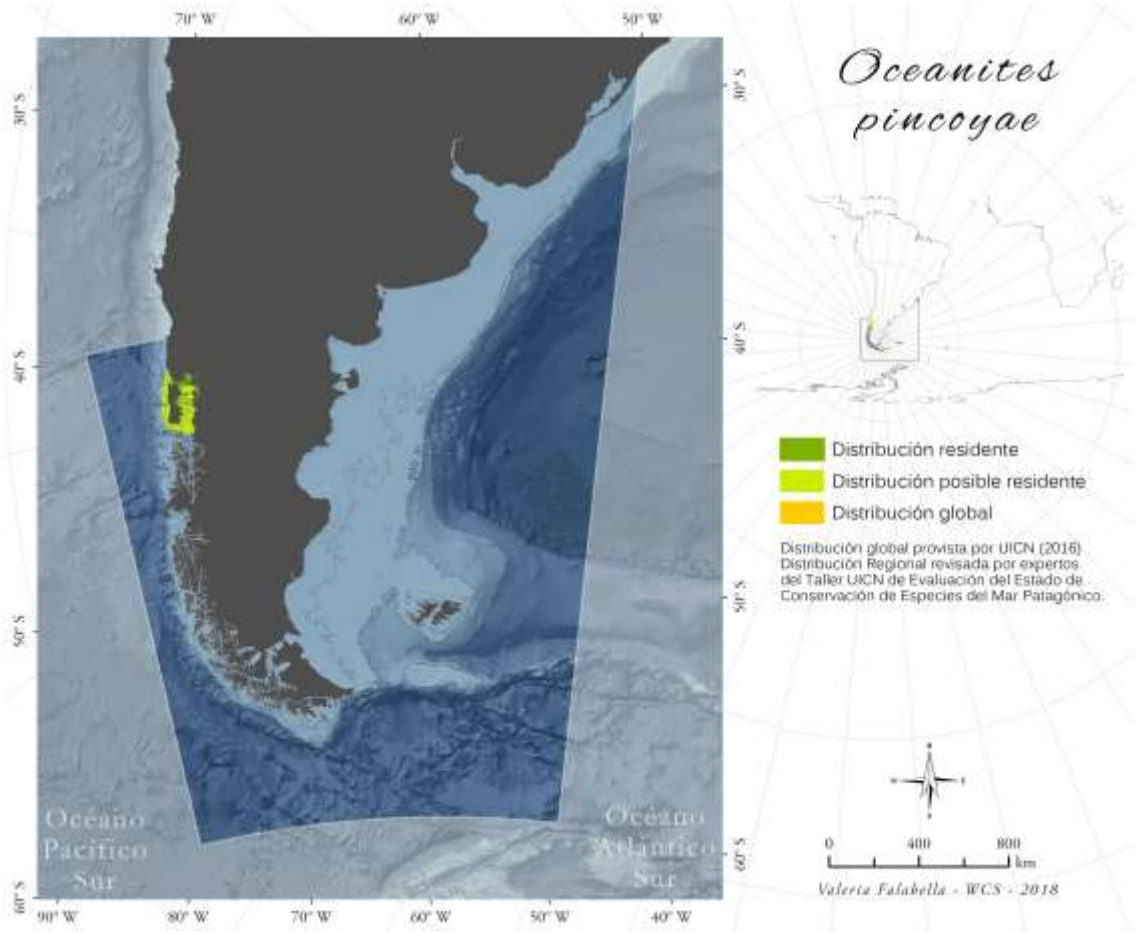
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - OCEANITIDAE - Oceanites – pincoyae – (Harrison, Sallaberry, Gaskin, Baird, Jamarillo, Metz, Pearman, O'Keeffe, Dowdall, Enright, Fahy, Gilligan & Lillie, 2013)

Common Names: **Paíño pincoya (Spanish; Castilian),** Pincoya Storm-petrel (English),

Note: *Oceanites pincoyae* (del Hoyo and Collar 2014) was newly described by Harrison *et al*. (2013).

Geographic Range

Oceanites pincoyae is known only from the Puerto Montt and Chacao Channel area, in Chile (Harrison *et al.* 2013), and from two specimens taken inland at El Bolson, Argentina.



Population

More than 1,000 individuals were seen daily during an at-sea exploration of the Seno Reloncavi in February 2011, with the total population estimated at approximately 3,000 individuals (Harrison *et al*. 2013), which roughly equates to 2,000 mature individuals.

Habitats and Ecology

This species is only known from at-sea observations in the Seno Reloncavi and Puerto Montt area of Chile and two specimens collected (in 1972 and 1983) inland at El Bolson, Argentina (Harrison *et al.* 2013). It has been suggested that the species is resident in this area and has been postulated to breed either on islands or sea cliffs or possibly inland (Harrison *et al.* 2013). The species forages from the ocean surface or in flight and may make short dives of 1-3 seconds; it also moves across the ocean surface by means of 'mouse-runs', running with closed wings between foraging sites.

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 15.6 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

There are potential threats to the species in the form of oil spills from marine vessels and contamination of the sea with granular polystyrene from the break-up of buoys (Harrison *et al*. 2013). The human population in the area is increasing, and boat traffic is expected to increase as a result.

Conservation

No targeted actions are known.

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del Hoyo, J.; Collar, N.J. 2014. *HBW and BirdLife International Illustrated Checklist of the Birds of the World. Volume 1: Non-passerines*. Lynx Edicions BirdLife International, Barcelona, Spain and Cambridge, UK.

CR - Critically Endangered, D (IUCN version 3.1)

Assessment Rationale:

In the Patagonian Sea Great Shearwater breeds only in Malvinas/Falkland Islands. There is one known breeding site on Kidney Island with estimated 15 pairs and one breeding site on mainland east Malvinas where one individual was retrieved from a burrow. Other breeding sites are suspected, but have not been confirmed. Upper limit estimation for this species is close to 100 pairs in Malvinas. Given the uncertainty in the breeding population size in the region, this species could qualify for either Endangered or Critically Endangered. Interactions with fisheries in the foraging grounds in the northern Patagonian region are a potentially important threat to the breeding individuals. Although an influx of breeding individuals from the larger population at Tristan is theoretically possible, the likelihood of recolonization is considered to be low. Therefore, the breeding population is listed as **Critically Endangered, D** in the Patagonian Sea.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Ardenna – gravis – (O'Reilly, 1818)

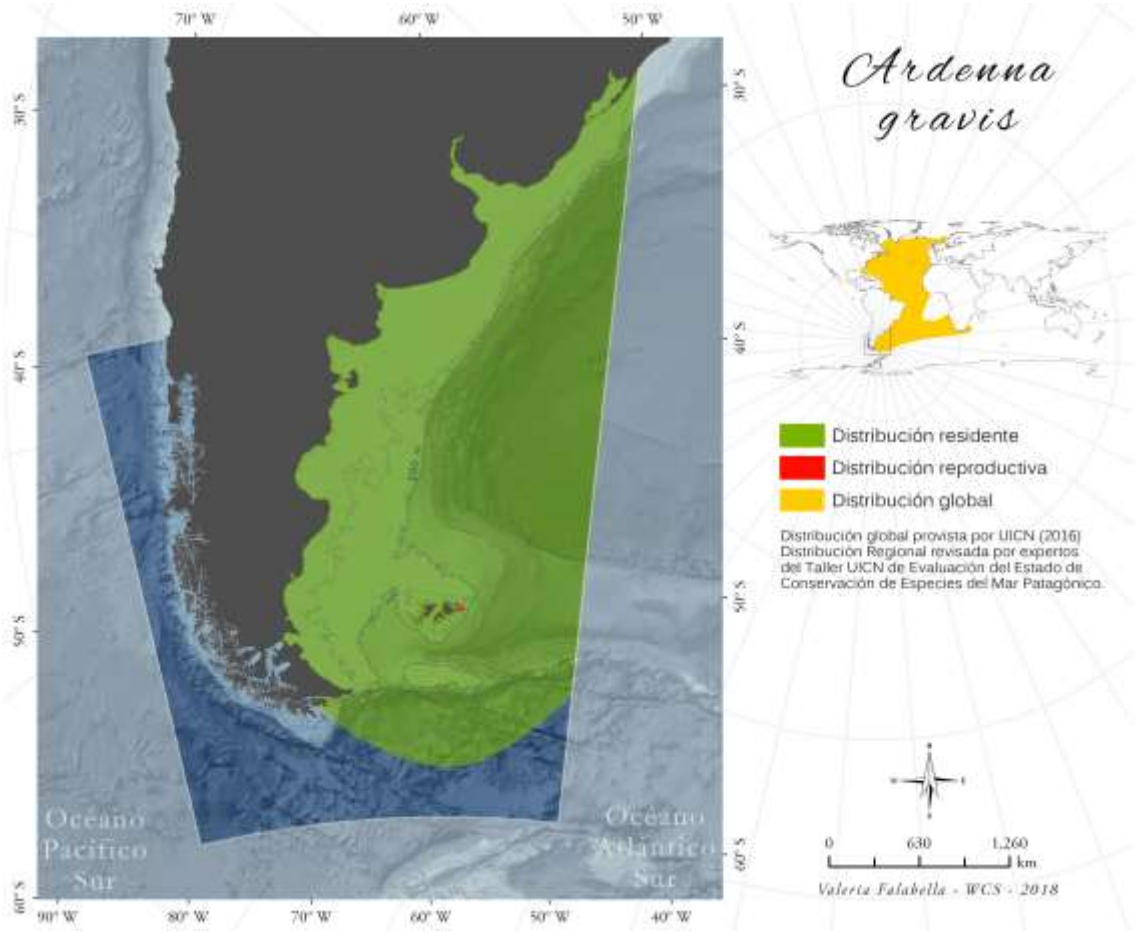
Common Names: Pardela cabeza negra (Spanish), Great Shearwater (English), Greater Shearwater (English), Puffin majeur (French)

Note: *Ardenna gravis* (del Hoyo and Collar 2014) was previously placed in the genus *Puffinus*.

Geographic Range

In the Patagonian Sea, Great Shearwater is found in the Atlantic Ocean, and breeds in small numbers in the Malvinas/Falkland Islands, with one confirmed site at Kidney Island (Woods 1988), and one potential site near Wineglass Hill, East Malvinas, (Woods and Woods 1997).

This species also breeds at Nightingale and Inaccessible islands and Gough Island, Tristan da Cunha, UK (Snow and Perrins 1998, Carboneras 1992).



Population

The species breeds in small numbers in the Malvinas/Falkland Islands. There is one known breeding site on Kidney Island with estimated 15 pairs (Woods 1988) and one breeding site near Wineglass Hill, on mainland East Malvinas where one individual was retrieved from a burrow (Woods and Woods 1997). Other breeding sites are suspected, but have not been confirmed, such that Woods and Woods (1997) provide an upper limit estimate of 100 pairs in the Malvinas.

Global population is estimated to number at least 15,000,000 individuals (Brooke 2004). A minimum of 5,000,000 pairs are thought to breed at Tristan da Cunha, and 600,000 to 3,000,000 pairs at Gough (Carboneras 1992).

Habitats and Ecology

Adults begin a transequatorial migration in April, moving north-west to South America, up to Canada, past Greenland and onto the north-east Atlantic before returning south in November to the breeding islands (Carboneras 1992, Harrison 1985). The species breeds on sloping ground, mainly in areas of tussock grass or Phylica woodland. It feeds mostly on fish, squid and fish offal (attending trawlers, sometimes in large numbers), and also on some crustaceans (Carboneras 1992).

Generation length calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival is 18.3 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Although there is no real evidence of threats to the tiny confirmed Malvinas breeding population, predation by feral cats at Wineglass Hill would be a threat to any breeding there (R. Woods *in litt.* 1999). This species is incidentally captured in several fisheries in Buenos Aires Province, Argentina (González-Zevallos, *et al.* 2007, Favero, *et al.* 2011).

At the global range, several thousand adults and c. 50,000 chicks are harvested every year from Nightingale Island by Tristan Islanders, which could lead to the collapse of the population without research into sustainable harvesting levels (Carboneras 1992).

Conservation

Without information for the Patagonian Sea.

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

This species forages throughout the entire Patagonian Sea, with breeding colonies in the Malvinas and along the coast of Chile. Interactions with fisheries and direct harvesting are thought to be impacting the global population, but appear to be minor in the Patagonian Sea. The population in the region is considered at least stable, with local indications of increase in higher latitudes such as in Diego Ramirez islands, south from Cape Horn, Chile. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., García Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Ardenna - grisea

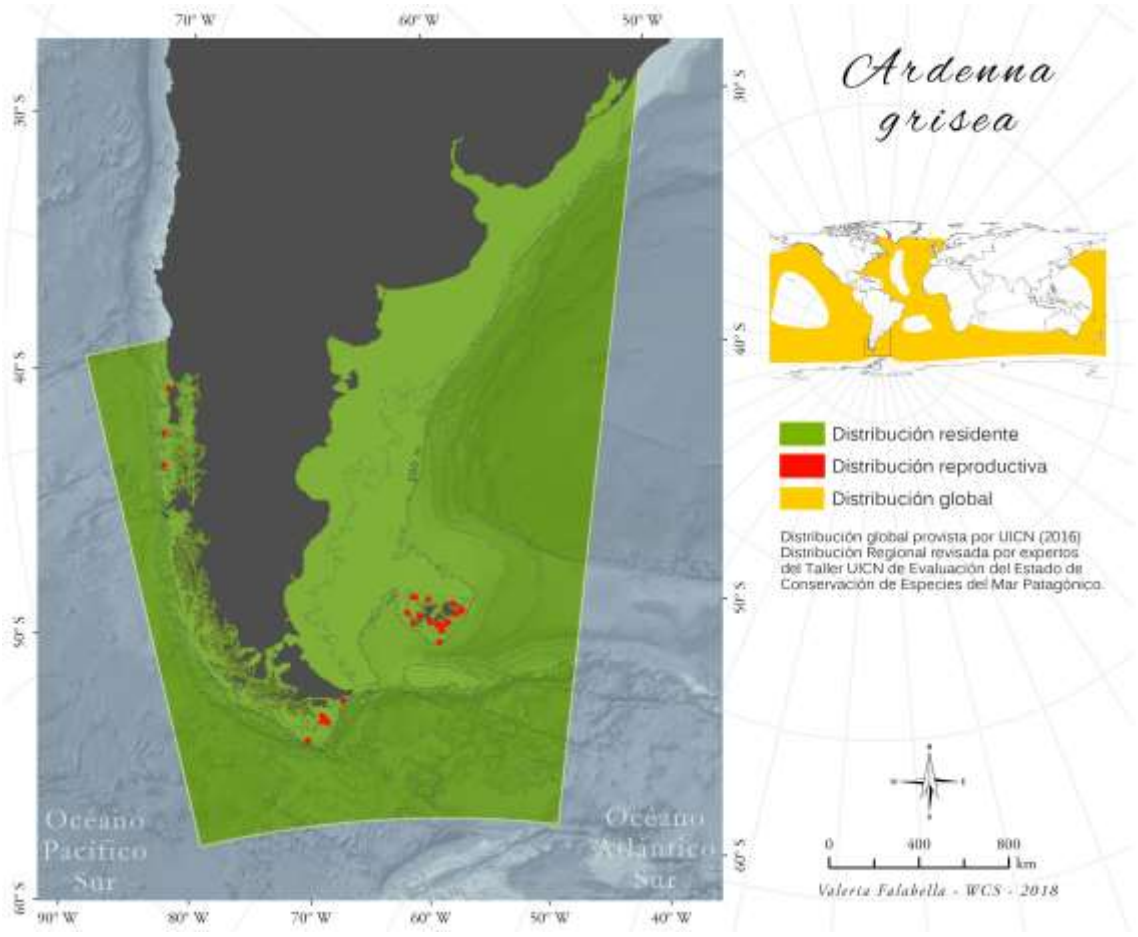
Common Names: **Pardela oscura (Spanish; Castilian),** Sooty Shearwater (English), Fardela negra (Spanish; Castilian), Puffin fuligineux (French)

Synonyms: Ardenna grisea ssp. grisea — Christidis and Boles (2008); Puffinus griseus (Gmelin, 1789)

Note: *Ardenna grisea* (del Hoyo and Collar 2014) was previously placed in the genus *Puffinus* as *P. griseus*.

Geographic Range

Ardenna grisea forages throughout the entire Patagonian Sea, with breeding colonies in the Malvinas and along the coast of Chile. (C.G. Suazo pers. comm. 2016). Outside the region, the species also breeds on New Zealand and Australia.



Population

The population in the Patagonian Sea is considered at least stable, with local indications of increase in higher latitudes such as in Diego Ramirez islands, south from Cape Horn, Chile (C.G. Suazo pers. comm. 2016). There are several colonies in southern Chile with aproximately 200,000 pairs and up to 4 million birds on Isla Guafo (Reyes-Arriagada *et al.* 2007). Population in Malvinas is estimated of c10,000-20,000 pairs.

The global population is roughly estimated to number > c.20,000,000 individuals (Brooke, 2004, Heather and Robertson 1997). Although this is an extremely numerous species, there are persistent signs of a current decline (Brooke 2004). In New Zealand, the number of burrows in the largest colony (on the Snares islands) declined by 37% between 1969-1971 and 1996-2000, and burrow occupancy may also have declined, indicating that an overall population decline may have occurred (Warham and Wilson 1982; Scofield 2002). Elsewhere the mainland New Zealand, colonies are in decline and certain offshore colonies have not responded to predator control (Gaze 2000; Jones 2000). In the California Current, Sooty Shearwater numbers have fallen by 90% in the last 20 years (Veit *et al.* 1996). It remains uncertain whether this has resulted from population declines or distributional shifts (Spear and Ainley 1999).

Habitats and Ecology

It nests on islands and headlands in large colonies. Burrows are dug for breeding under tussock grass, low scrub and on the Snares Islands under *Olearia* forest. Birds typically do not return to their natal colonies until age four. It feeds on fish, crustacea and cephalopods, caught while diving. Short (1-3 days) and long (5-15 days) provisioning trips are made by parents; longer trips allow foraging along the Antarctic Polar Front, reducing competition close to breeding grounds and allowing vast colonies to persist.

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 21.2 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Interactions with fisheries and direct harvesting are thought to be impacting the global population, but appear to be minor in the Patagonian Sea (C.G. Suazo pers. comm. 2016).

Incidental mortality, harvesting and predation are major thrests for this species worldwide. Longline fisheries are responsible for large numbers of deaths of this and many other seabird species. Populations are no longer ravaged by pelagic drift-nets which formerly drowned up to 350,000 birds annually (Ogi *et al.* 1993). Harvesting young birds or 'muttonbirding' have also been described as a threat, taking of around a quarter of a million birds annually in the past (del Hoyo *et al.* 1992; Heather and Robertson 1997), but is unlikely to account for the scale of the global decline. Some authorities postulate that the decline may be associated with climate change, as investigation into the biological impact of recent climatic trends suggests either large-scale shifts in the foraging distribution of the species during the Boreal summer, or dramatic reductions in abundance and survival rate (Ainley *et al* 1995; Veit

et al. 1996, 1997; Spear and Ainley 1999; Wahl and Tweit 2000; Oedekoven *et al*. 2001; Hyrenbach and Veit 2003; Veit *et al.* 1996). Rats (*Rattus rattus* and *R. norvegicus*) have been shown to predate on eggs and chicks, although the extent of the impact is unknown (Jones *et al.* 2008).

Conservation

The species is monitored at some sites and has been extensively studied in parts of its range. Some breeding grounds are protected and have benefited from eradications of introduced predators.

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LC – Least Concern, (IUCN version 3.1)

Assessment Rationale:

Blue petrel forages throughout most of the Patagonian Sea, but breeding colonies are only reported from southern Chile, such as Diego Ramirez Archipelago. The population is large, where this petrel is recognised as one of the main burrowing seabird species in southern Chile. The population is considered stable or perhaps increasing. Therefore, this species is listed as **Least Concern**.

Assessor(s): Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

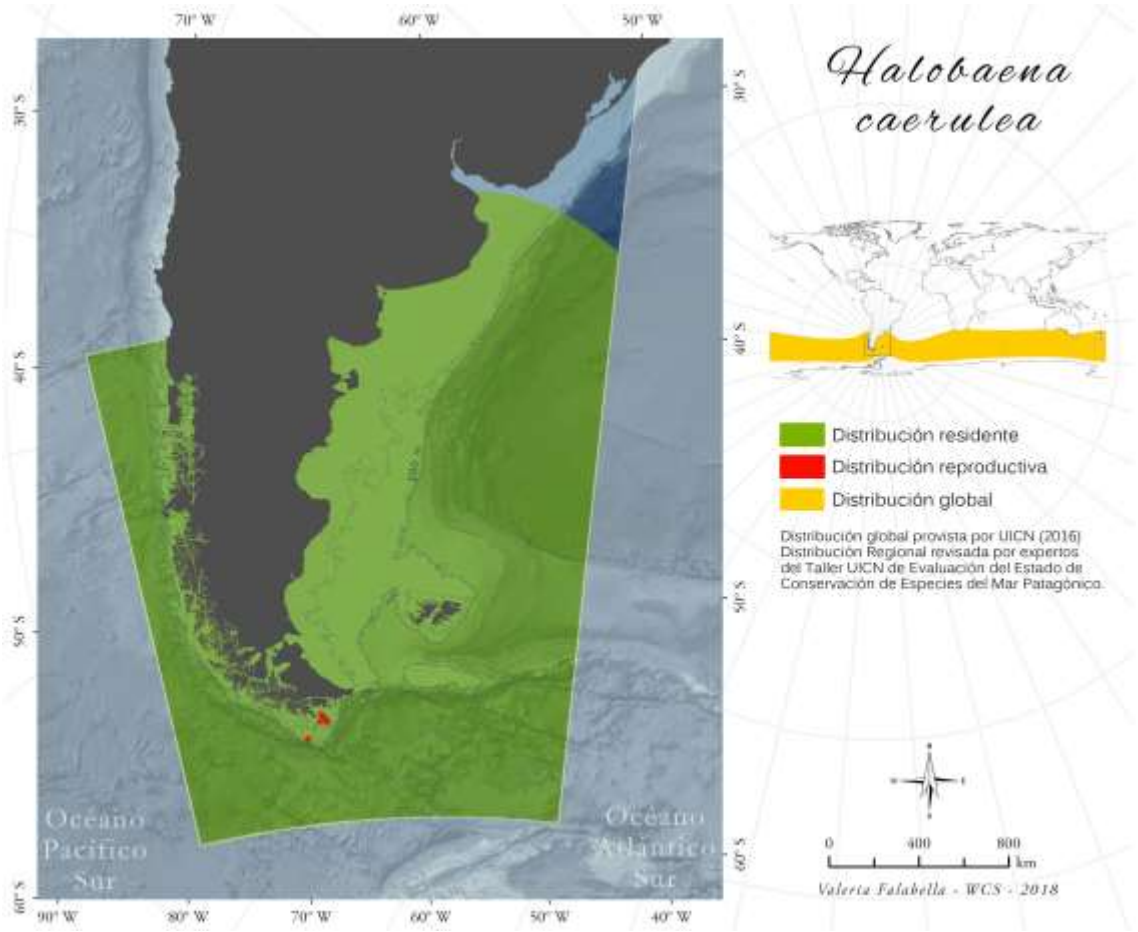
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Halobaena – caerulea – (Gmelin, 1789)

Common Names**: Petrel azulado (Spanish),** Blue Petrel (English), Pétrel bleu (French)

Geographic Range

Blue petrel forages throughout most of the Patagonian Sea**,** but breeding colonies are only reported for southern Chile, such as Diego Ramirez Archipelago (Schlatter & Riveros 1997) and a tiny colony at Cape Horn area (Scofield & Reyes-Arriagada 2013).

Globally, the species is found throughout southern Oceans. Breeding sites include the Crozet Islands and Kerguelen Island (French Southern Territories), Marion Island and Prince Edward Island (South Africa), Macquarie Island (Australia) and South Georgia (Georgias del Sur). Adults are perhaps mainly sedentary, though young birds are more dispersive (del Hoyo *et al.* 1992).



Population

The Patagonian Sea population of blue petrel is large. This petrel is recognised as one of the main burrowing seabird species in southern Chile (Lawton *et al.* 2006). The population of this species is thought to be at least stable, or perhaps increasing. Schlatter and Riveros (1997) estimated nearly 2 million individuals in Diego Ramirez and Lawton *et al.* (2006) estimated 1.35 million pairs at the same area. About 8 individuals were recorded breeding at Cape Horn area (Scofield & Reyes-Arriagada 2013).

Global population was estimated to number at least 3,000,000 individuals (Brooke 2004).

Habitats and Ecology

Breeding begins in September, occurring in colonies where it nests in long burrows excavated in soft soil under grass tussocks (del Hoyo *et al.* 1992). Foraging during the chick-rearing period at the Kerguelen Islands involves regular alternation between short trips in the vicinity of the island and long trips to Antarctic waters. Short trips enable an increase of chick-feeding frequency at the expense of energy reserves built up during long trips. Diet comprises of crustaceans (especially krill), fish, squids and some insects (del Hoyo *et al.* 1992, Cherel *et al.* 2002).

Generation length calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival is 11.7 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Without information for the Patagonian Sea.

Conservation

Without information for the Patagonian Sea.

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del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. *Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks*. Lynx Edicions, Barcelona, Spain.

LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

Southern Giant Petrel forages throughout the entire Patagonian Sea. Breeding occurs in a number of sites, including about 38 sites in the Malvinas with 19,500 pairs recorded in 2004-2005. Annual monitoring indicates a general increasing trend over the last 15 years, with two sites in southern Chile and three sites in Argentina increasing in population size. Interactions with fisheries may be an important threat in the region: annually, at least 600 individuals are killed in the freezer trawler fishery due to interaction with the trawl warp cable in Argentina; small numbers (several tens) are killed in the finfish trawl fishery in the Malvinas and marginal numbers in the artisanal and industrial demersal longline fisheries in Chile. Human disturbance in the Malvinas may negatively impact the breeding sites, but this has not been quantified. Despite these threats, the regional population is at least stable, and there are local indications of increase. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu , P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International, Bretagnolle, V., Cooper, J., Croxall, J., Deliry, C., Fraser, W., Hilton, G., Keys, H., Patterson-Fraser, D., Phillips, R., Pistorius, P. & Ryan, P.G.

Facilitators/Compilers: Ralph, G.

Taxonomic information

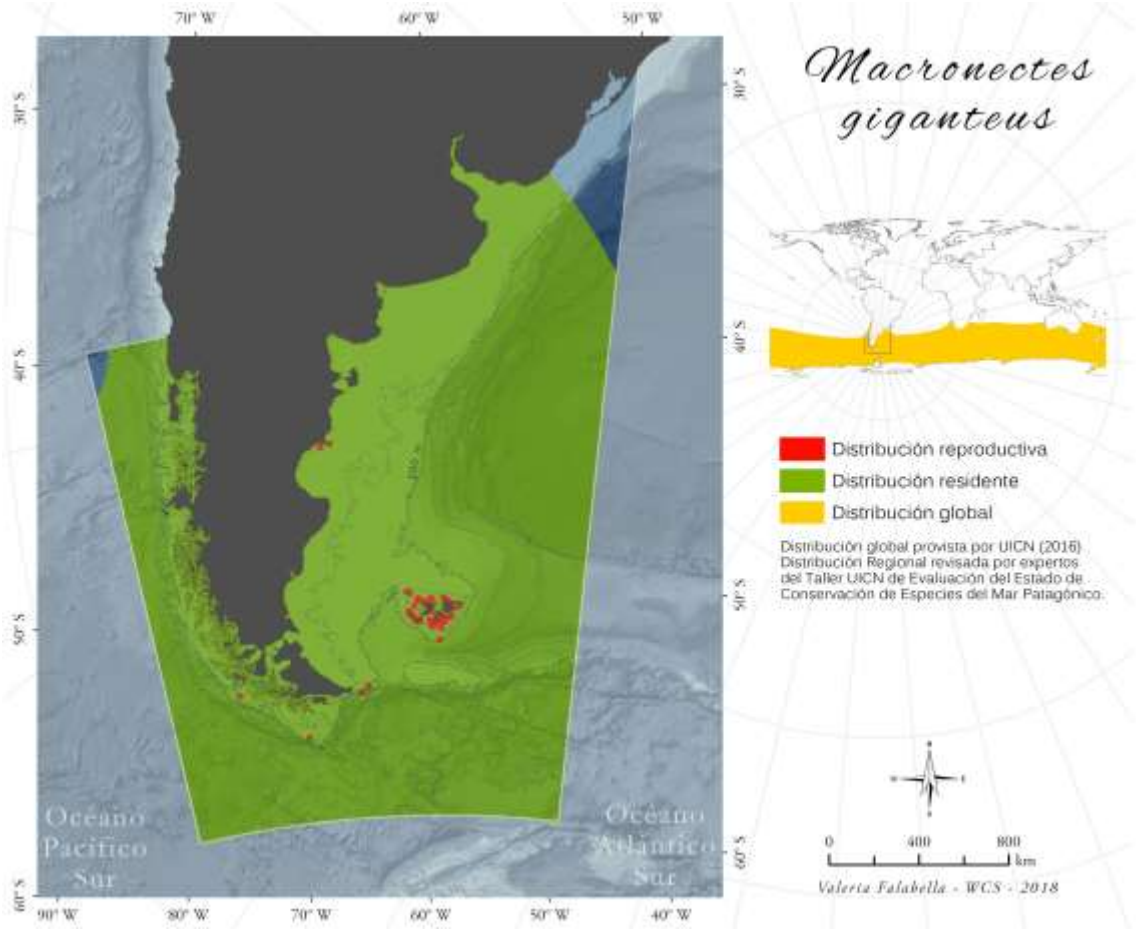
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Macronectes – giganteus – (Gmelin, 1789)

Common Names: Petrel gigante común (Spanish, Castilian), Southern Giant Petrel (English), Antarctic Giant-Petrel (English), Petrel gigante del Sur (Spanish; Castilian), Pétrel géant (French),

Geographic Range

Macronectes giganteus forages throughout the entire Patagonian Sea. In the region, the breeds on the Malvinas/Falkland Islands, Staten Island and islands off Chubut Province (Argentina), Diego Ramirez and Isla Noir (Chile).

Outside the Patagonian Sea, southern giant petrel also breeds at South Georgia (Georgias del Sur), the South Orkney (Orcadas del Sur) and South Shetland Islands (Shetland del Sur), islands near the Antarctic Continent and Peninsula, Prince Edward Islands (South Africa), Crozet Islands (French Southern Territories), Heard Island and Macquarie Island (Australia), with smaller populations on Gough Island, Tristan da Cunha (St Helena to UK), Kerguelen Islands (French Southern Territories), and four localities on the Antarctic Continent including Terre Adélie.



Population

In the Patagonian Sea, breeding occurs in Argentina, Malvinas/Falkland Islands and Chile. About 38 sites in Malvinas with 19,500 pairs were recorded in 2004-2005 (Reid and Huin 2008), where annual monitoring indicates a general increasing trend over the last 15 years (Stanworth 2015). Two sites are located in southern Chile, Noir Island, with 220 pairs and a current estimate of 1,000 pairs (Clark *et al.* 1984, Kusch *et al.* 2007), and Diego Ramirez Archipelago with 90 pairs (Schlatter and Riveros 1997, Suazo pers. comm. 2016). Three sites have been described in Argentina (Yorio *et al.* 2005), 2,300 pairs in the northern two breeding colonies (Isla Arce and Gran Robredo) with positive trend from 1987 to 2004, and 530 pairs in the southern breeding colony, Isla de los Estados (Quintana *et al.* 2006).

Global Population have been estimated to number c.46,800 pairs and approaching 100,000 mature individuals, roughly equating to 150,000 total individuals (estimated from Patterson *et al.*,in press, and unpublished data from Falklands Conservation and British Antarctic Survey). This consists of an estimated 19,500 pairs on the Malvinas, 5,500 pairs on South Georgia (Georgias del Sur), 5,400 pairs on South Shetland Islands (Shetland del Sur), 3,350 pairs on South Orkney Island (Orcadas del Sur) (British Antarctic Survey unpubl. data), 2,500 pairs on Heard and MacDonald Islands (DPIW unpubl. data), 2,145 pairs on Macquarie Island, 2,300 pairs in South America, 2,300 pairs on the Tristan da Cunha Islands, 280 pairs on the Antarctic Continent. In addition, Patterson *et al.* (*in litt.* undated) estimate 1,190 pairs on the Antarctic Peninsula, 1,550 pairs on the South Sandwich Islands, 1,800 pairs on Prince Edward Islands, 1,060 pairs on Iles Crozet and four pairs in Iles Kerguelen.
In the 1980s, the population was estimated at 38,000 pairs (Hunter 1985), declining by 18% to 31,000 pairs in the late 1990s (Rootes 1988). Populations at Heard and Macquarie islands, and many Antarctic Peninsula populations decreased to the mid-1980s. However, recent data indicate a number of populations have stabilised or increased, e.g. Possession Island (Crozet) (Patterson *et al.* undated), Gough Island (Cuthbert and Sommer *in litt* 2004)and Heard Island (Woehler 2006). Similarly, a comprehensive survey of all known breeding sites in the South Georgia archipelago, between 2005 and 2006, indicates a population increase since the 1980s (Poncet *et al. in litt.* 2008).

Habitats and Ecology

Southern giant petrel typically nests in loose colonies on grassy or bare ground. However, in the Malvinas it can nest in large, relatively dense colonies (Reid and Huin 2005). Average age of first breeding is c.10 years, and mean adult annual survival at South Georgia is 90% (Hunter 1984a). It feeds on carrion, cephalopods, krill, offal, discarded fish and refuse from ships, often feeding near trawlers and longliners (Hunter and Brooke 1982, Hunter 1983). Males and females exhibit clearly defined spatial segregation in their foraging ranges (Gonzalez-Solis *et al.* 2000, Quintana and Dell' Arciprete 2002, BirdLife International 2004).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 21.3 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Interactions with fisheries may be an important threat in the Patagonian Sea**.** Annually, at least 600 individuals are killed in the freezer trawler fishery due to interaction with the trawl warp cable in Argentina (Tamini *et al.* 2015); small numbers (several tens) are killed in the finfish trawl fishery in the Malvinas (Kuepfer 2016, Sullivan *et al.* 2006) and marginal numbers in the artisanal and industrial demersal longline fisheries in Chile (Moreno *et al.* 2003, 2006). Human disturbance in the Malvinas may negatively impact the breeding sites, but this has not been quantified (A. Stanworth pers. comm. 2016).

Outside the region, a total of 2,000-4,000 giant-petrels were estimated killed in illegal or unregulated Southern Ocean longline fisheries for Patagonian toothfish *Dissostichus eleginoides* in 1997-1998 (CCAMLR 1997, CCAMLR 1998). However, improved mitigation in many longline fisheries appears to have reduced bycatch levels of this species around some breeding colonies (Quintana *et al.* 2006). Localised decreases have also been attributed to reductions in southern elephant seal *Mirounga leonina* (an important source of carrion), human disturbance and persecution (Hunter 1984a, P. G. Ryan *in litt.* 1999, Pfeiffer and Peters 2006).

Conservation

CMS Appendix II and ACAP Annex 1.

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

The Slender-billed prion forages throughout the Patagonian Sea, but breeding sites are known only from Chile and the Malvinas. Knowledge about this species in Chile is limited, with no information about breeding sites or potential threats. The only population estimates are from the 1980s and indicate that there might be thousands of birds at Isla Noir. There is uncertainty around the number of sites in the Malvinas, but there are at least 11 sites currently known. Croxall (1984) reported more than 1 million pairs at New Island, and about 2 million pairs were estimated there more recently. No population trend data are available. The primary threat in the Malvinas is introduced predators, including rats and cats, as well as competition with and predation by the *Striated caracara*. Environmental variables, specifically those that impact food availability, may cause population fluctuations. In the absence of any documented population declines, this species is listed as **Least Concern.**

Assessor(s): Frere, E., Garcia Borboroglu , P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

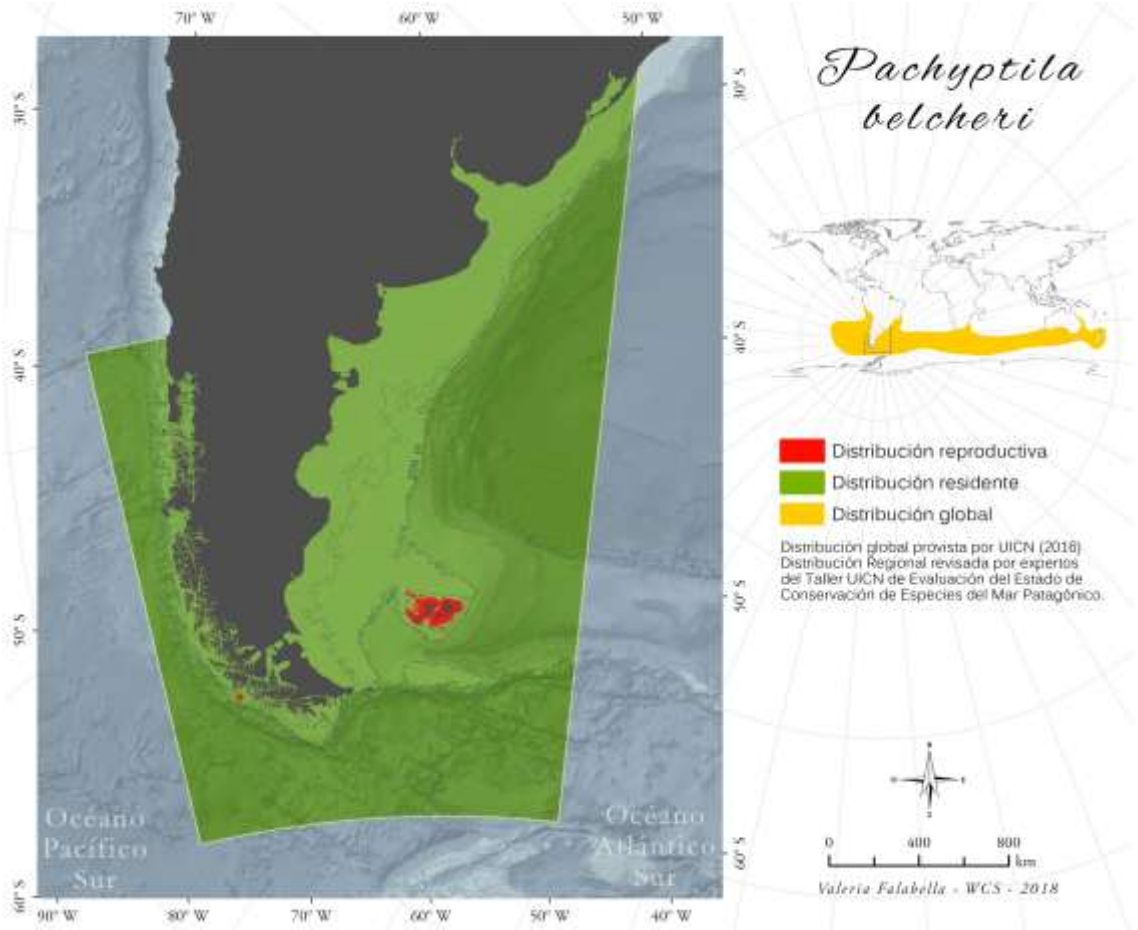
Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Pachyptila – belcheri – (Mathews, 1912)

Common Names: Prión pico fino (Spanish), Slender-billed Prion (English), Prion de Belcher (French)

Geographic Range

The Thin-billed Prion forages throughout the Patagonian Sea, but breeding sites are known only for Chile and the Malvinas/Falkland Islands. The species also breeds at the Crozet and the Kerguelen Islands (French Southern Territories). Outside the breeding season it can be found over much of the Southern Ocean, including the coasts of South Africa, Australia and South America as far north as Uruguay and southern Peru.



Population

In Chile, the only population estimates are from the 1980s and indicate that there might be thousands of birds at Isla Noir (Clark, *et al.*, 1984).There is uncertainty around the number of sites in the Malvinas, but there are at least 11 sites currently known (Standworth A. comm. pers. 2016). Croxall (1984) reported more than 1 million pairs at New Island; more recently, about 2 million pairs were estimated there (Catry *et al.* 2003). No population trend data are available.

Global population was estimated to number at least 7,000,000 individuals (Brooke 2004).

Habitats and Ecology

This marine species can usually be found over pelagic waters but will feed inshore or in shallow offshore waters during the breeding season. It feeds mostly on crustaceans with a heavy dependance on amphipods (particularly *Themisto gaudichaudii*). It can also take small fish and squid. It catches prey mainly by surface-seizing, dipping and pattering at night. Breeding starts in October in loose colonies in costal areas with soft or stony soil and low vegetation. It nests in burrows (del Hoyo *et al.* 1992).

Generation length, calculated based on a published estimate of mean age at first breeding and extrapolated mean annual survival, is 13 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

The primary threat in the Malvinas is introduced predators, including rats and cats (e.g., Woods and Woods 1997), as well as competition with and predation by the *Striated caracara*. Environmental variables, specifically those that impact food availability, may cause population fluctuations.

Conservation

Without information for the Patagonian Sea

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

In the Patagonia Sea, this species has only one breeding site in Beauchene Island, Malvinas/Falkland Islands. The population size could be as many as 10,000 pairs. Although the extent of occurrence and area of occupancy of the breeding population are very small, there are no known major threats to this species. A plausible potential threat that could substantially impact this species is the introduction of rats or mice on the only known breeding site, as has occurred in other islands in the Malvinas. However, the site is managed effectively and this is unlikely to occur in the near future. Therefore, this species is listed as **Least Concern.**

Assessor(s): Stanworth, A.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

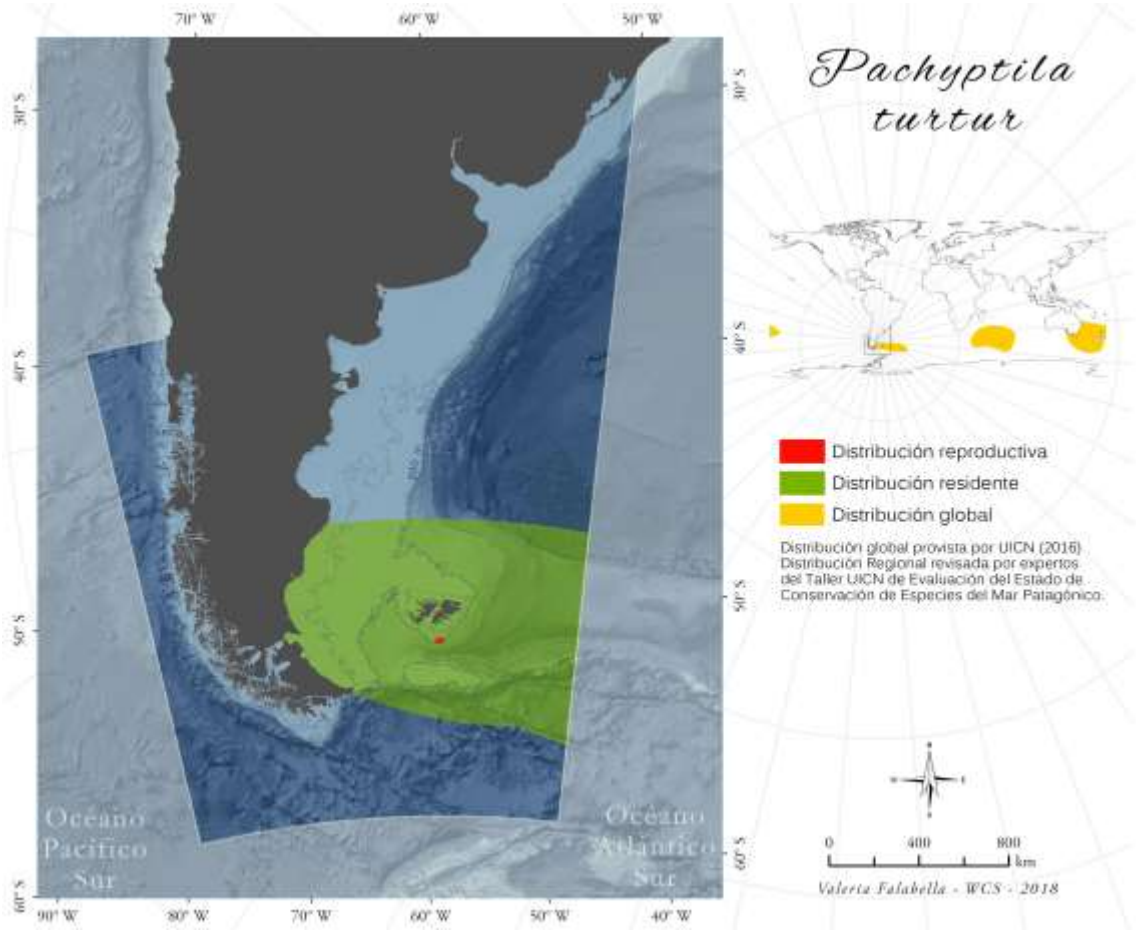
Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Pachyptila – turtur – (Kuhl, 1820)

Common Names: Prión pico corto (Spanish), Fairy Prion (English), Prion colombe (French)

Geographic Range

The fairy prion is found throughout oceans and coastal areas in the Southern Hemisphere. In the **Patagonia Sea**, the species has only one breeding site in Beauchene Island, Malvinas/Falkland Islands. Other colonies can be found on the Chatham Islands, Snares Islands and Antipodes Islands of New Zealand, the Bass Strait Islands of Australia, the Crozet Islands (French Southern Territories) in the south Indian Ocean and the Malvinas and South Georgia (Georgia del Sur) in the south Atlantic (del Hoyo *et al.* 1992).



Population

The Patagonian population size could be as many as 10,000 pairs (Woods and Woods 1997). Global Population was estimated to around 5,000,000 individuals (Brooke 2004).

Habitats and Ecology

This marine species apparently occurs mainly offshore, but may move inshore during stormy weather. Its diet is comprised mostly of crustaceans (especially krill), but occasionally includes some fish and squid. It feeds mainly by surface-seizing and dipping, but can also catch prey by surface-plunging or pattering. It often associates with other prions and storm-petrels when feeding around boats. The breeding season starts in September and the species is highly colonial, creating burrows in coastal sites on oceanic islands (del Hoyo *et al.* 1992).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 10.8 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

Without information for the Patagonian Sea

Conservation

Without information for the Patagonian Sea

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LC, Leas Concern, (IUCN version 3.1)

Assessment Rationale:

The Magellanic Diving-petrel is endemic to the Patagonian Sea region, founded throughout much of the southern tip of South America, including southern Chile, southern Argentina and the Malvinas. Although breeding colonies have not been specifically identified, it is suspected that they occur along the Chilean fjords in western Patagonia. Some records of potential breeding of this species were obtained for Cape Horn. Since there are no known major threats affecting this species, it is listed as **Least Concern**.

Assessor(s): Suazo, C.G., Tamini, L. & Stanworth A.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

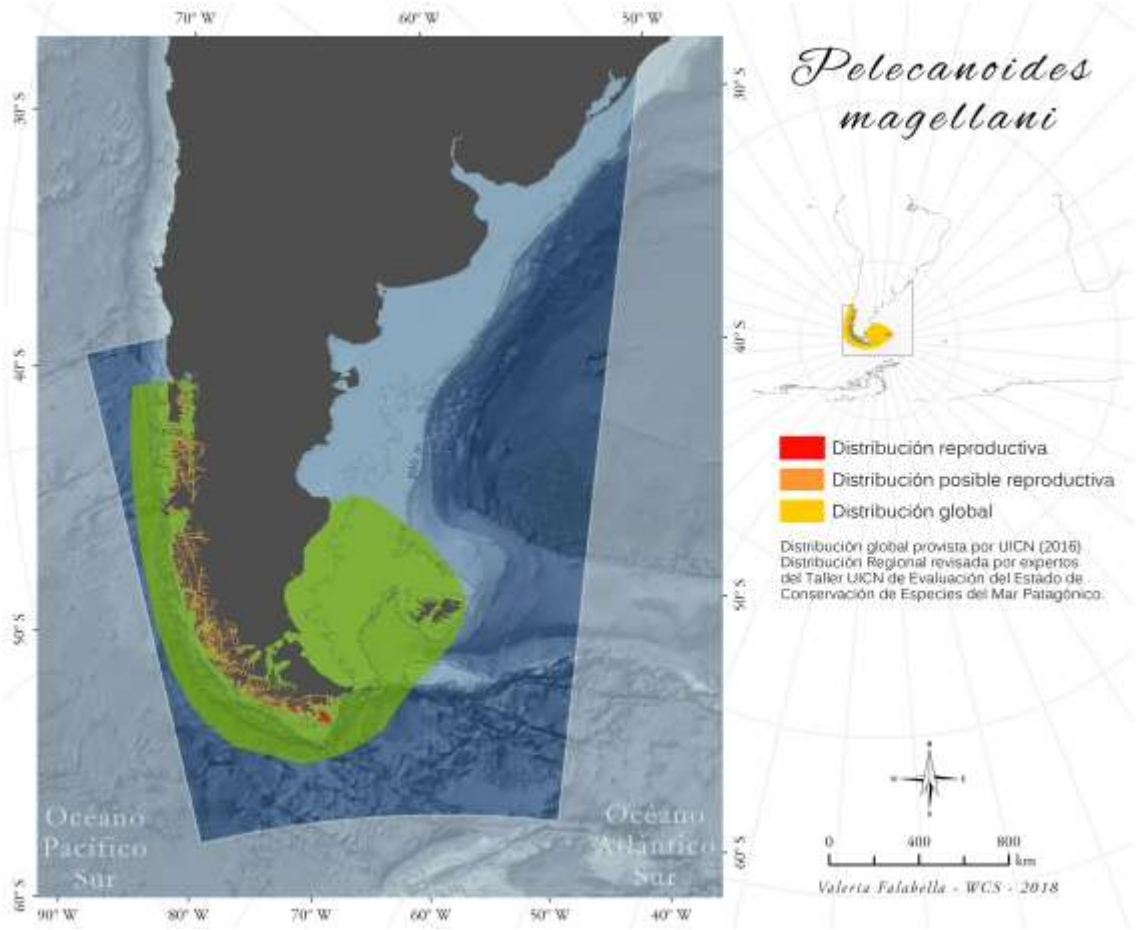
Taxonomic information

ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Pelecanoides – magellani – (Mathews, 1912)

Common Names: **Yunco magallánico (Spanish),** Magellanic Diving-petrel (English), Magellanic Diving Petrel (English), Magellanic Diving-Petrel (English)

Geographic Range

The Magellanic Diving-petrel is endemic to the Patagonian Sea region, founded throughout much of the southern tip of South America, including southern Chile, southern Argentina and the Malvinas. Although breeding colonies have not been specifically identified, it is suspected that they occur along the Chilean fjords in western Patagonia.



Population

Total population was estimated to number tens of thousands to hundreds of thousands of individuals (Brooke 2004). The population trend is unknown. Scofield & Reyes-Arriagada (2013) obtained some records of potential breeding sites in Cape Horn.

Habitats and Ecology

This species is found mainly over inshore and offshore waters, feeding by diving under water both from the surface and from the air. Breeding begins in November or December in colonies, mostly on small inshore islands in channels and fjords. It has been recorded up to 128 km from land (del Hoyo *et al.* 1992).

Generation length, based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 11.7 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

There are no known major threats to this species. Invasive species (e.g., mice and rats) may negatively impact breeding colonies, but these have not yet been identified.

Conservation

Without information for the Patagonian Sea.

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del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. *Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks*. Lynx Edicions, Barcelona, Spain.

LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

Common Diving-petrel forages through much of the Patagonian Sea, and breeding colonies occur in Chile and the Malvinas. In Chile, 296,000 individuals were found in Diego Ramirez and later 268,000 individuals. In the Malvinas there are 3 confirmed and 14 suspected breeding sites. The only population estimate is 5,000 to 10,000 individuals in the early 1990s. Invasive rats and mice are a threat in the Malvinas, and other threats are unknown. The species is listed as **Least Concern.**

Assessor(s): Stanworth, A., Tamini, L. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

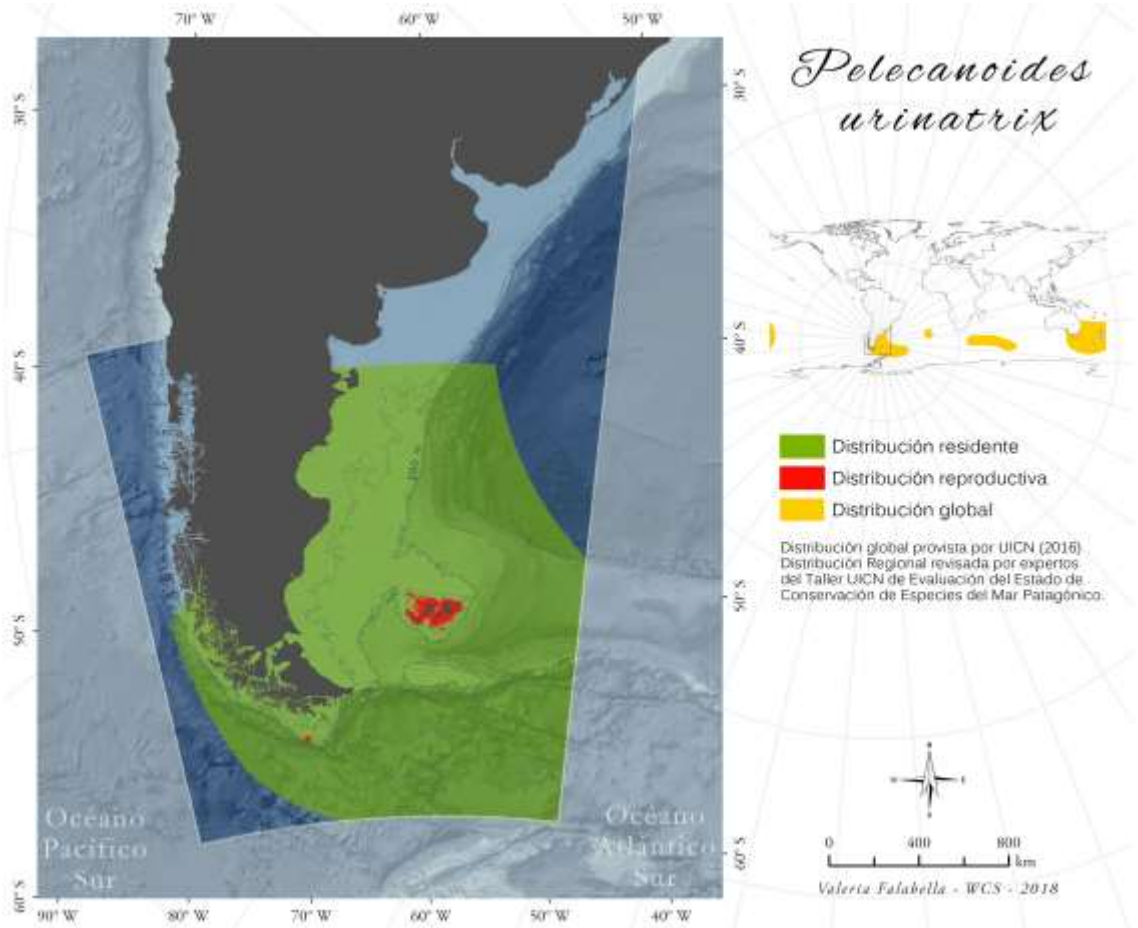
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Pelecanoides – urinatrix – (Gmelin, 1789)

Common Names: Yunco común (Spanish), Common Diving-petrel (English)

Geographic Range

The Common Diving-petrel forages through much of the Patagonian Sea, and breeding colonies occur in Chile and the Malvinas.

Globally, the species has discrete ranges surrounding oceanic islands in the south Atlantic, at South Georgia/Georgias del Sur, Malvinas/Falkland Islands, Tristan da Cunha and Gough Island (St Helena to UK), in the south Indian Ocean, south and east of New Zealand (e.g. Antipodes Islands), and also on New Zealand's north island and Tasmania (Australia). Very little is known of their range when not breeding, but they are thought to be fairy sedentary, remaining in coastal waters adjacent to colonies (del Hoyo *et al.* 1992).



Population

In the Patagonian Sea, the species breed in Chile and Malvinas/Falkland Islands. In Chile, 296,000 individuals (148,000 pairs) were found in Diego Ramirez (Schlatter & Riveros 1997). This number was later updated to 268,000 individuals (Lawton *et al.* 2006). In Malvinas there are 3 confirmed breeding sites (Woods and Woods 1997) and 14 suspected breeding sites (Islands Database). The only population estimate is between 5,000 to 10,000 individuals in the early 1990s (Woods and Woods 1997).

Global population was estimated to exceed 16,000,000 individuals (Brooke 2004).

Habitats and Ecology

This species can normally occurs over inshore waters but can also be found over offshore waters. Diet comprises mainly of planktonic crustaceans, which are caught under water in pursuit-diving either from the surface or after plunging. Its breeding season is variable according to locality, forming colonies with up to 1500 individuals in burrows on steep slopes and also on flat ground of oceanic islands. Colonies are normally coastal, but may occur well inland (del Hoyo *et al.* 1992).

Generation length, based on published and/or extrapolated estimates of mean age at first breeding, maximum longevity in the wild and mean annual adult survival, is 12.1 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea

Threats

Invasive rats and mice are a threat in the Malvinas (A. Standworth pers. comm. 2016). Other threats are unknown.

Conservation

Without information for the Patagonian Sea

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del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. *Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks*. Lynx Edicions, Barcelona, Spain.

VU - Vulnerable, (IUCN version 3.1)

Assessment Rationale:

White-chinned Petrel have two confirmed and one suspected breeding site(s) in the Malvinas/Falkland Islands, with approximately 300-500 pairs. Suggestions of potentially higher estimates for one of the known breeding sites may increase total population at the Patagonian Sea closer to one thousand. The high end of this estimate qualifies the breeding population of this species for listing as Vulnerable under criterion D1. Interactions with fisheries in the foraging grounds in the northern Patagonian region are a potentially important threat to the breeding individuals. Although an influx of breeding individuals from the larger population at South Georgia is theoretically possible, the likelihood of recolonization is considered low. Therefore, the breeding population is listed as **Vulnerable, D1** in the Patagonian Sea.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): ACAP Secretariat, Barbraud, C., BirdLife International, Bugoni, L., Colabuono, F., Cooper, J., Croxall, J., Hirst, P., Makhado, A., Martin, T., Misiak, W., Phillips, R., Robertson, C., Small, C. & Taylor, G.A.

Facilitators/Compilers: Ralph, G.

Taxonomic information

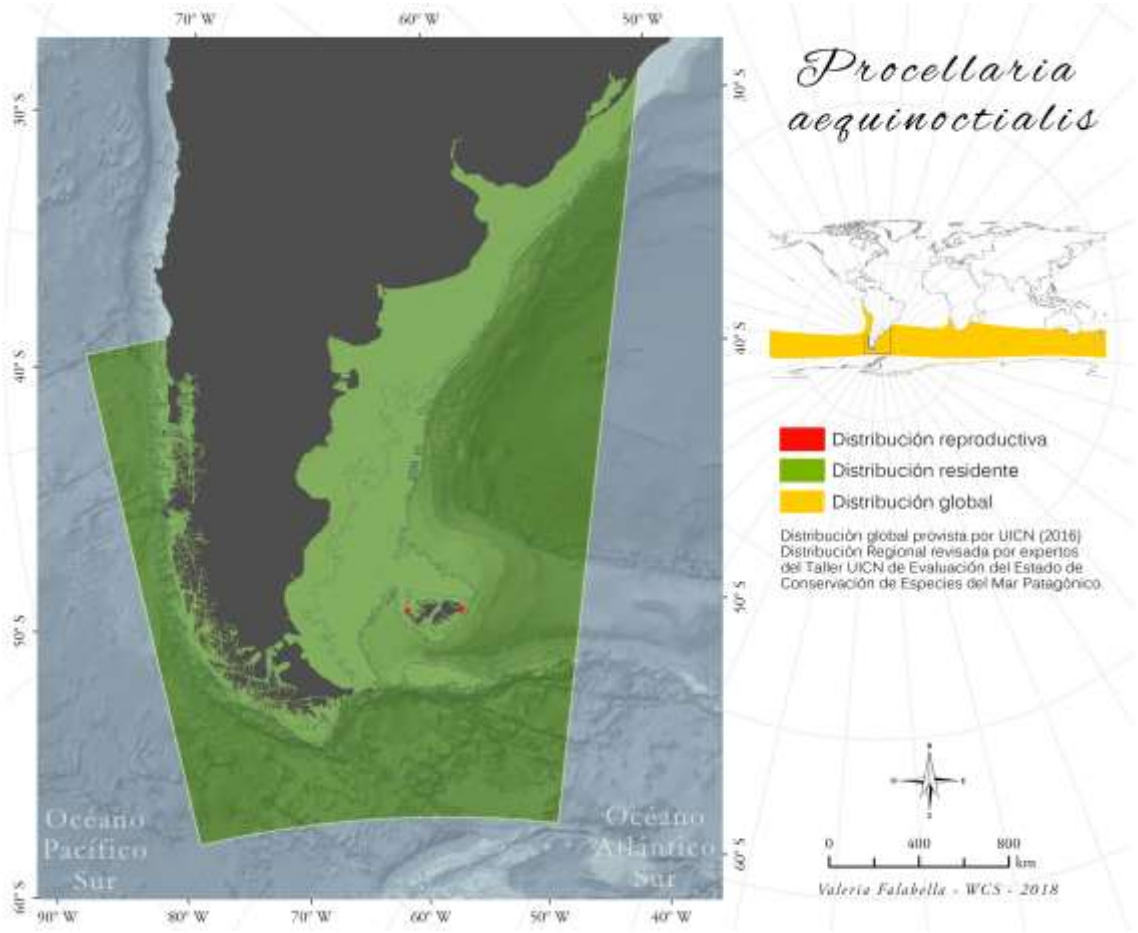
ANIMALIA - CHORDATA - AVES - PROCELLARIIFORMES - PROCELLARIIDAE - Procellaria – aequinoctialis – (Linnaeus, 1758)

Common Names: Petrel barba blanca (Spanish), White-chinned Petrel (English), Pardela Gorgiblanca (Spanish; Castilian), Pardela-preta (Portuguese), Pétrel à menton blanc (French)

Geographic Range

The white-chinned petrel is distributed widely in all southern oceans (Croxall *et al*. 1984). In the Patagonian Sea, the species has two confirmed and one suspected breeding site(s) in the Malvinas/Falkland Islands.

Outside the Patagonian Sea, the species breeds on South Georgia (Georgias del Sur), Prince Edward Islands (South Africa), Crozet Islands, Kerguelen Islands (French Southern Territories), Auckland, Campbell and Antipodes Islands (New Zealand).



Population

On the breeding sites in the Patagonian Sea there approximately 300-500 pairs (A. Stanworth pers. comm. 2016), although suggestions of potentially higher estimates for one of the known breeding sites (Poncet et al 2012) may put the number closer to one thousand.

Recently revised population estimates give a global population of approximately three million individuals. This is based on estimates of 773,150 breeding pairs on South Georgia in 2007 (ACAP 2012), 23,600 breeding pairs (9,800 to 36,800) on Crozet (Barbraud *et al. in litt.* 2008), 186,000-297,000 pairs on the Kerguelen Islands (Barbraud *et al.* 2009), at least c.100,000 on Disappointment (Auckland) in 1988 (ACAP 2012), 10,000 on Campbell in 1985 (ACAP 2012) and 58,725 on the Antipodes in 2011 (ACAP 2012). A survey in 2009 estimated the number of occupied nests to be 24,000 on Marion Island (20,000-28,000) and 9,000-15,000 on Prince Edward Island (Ryan *et al*. 2012). On Bird Island (South Georgia), the population has apparently decreased by 28% over 20 years (Berrow *et al.* 2000), while in Prydz Bay (Antarctica), the number of birds at sea decreased by 86% during 1981-1993 (Woehler 1996).

Habitats and Ecology

It is a burrow-nesting annual breeder, laying in mid-October to mid-November (ACAP 2009). Chicks usually fledge in late April (Barbraud *et al*. 2009). Outside the chick-rearing period, White-chinned Petrels breeding on South Georgia travel to Patagonian Shelf waters to feed (Phillips *et al*. 2006). Satellite tracking and ring recoveries from birds on Crozet Islands show that they spend the non-breeding season off the coasts of South Africa and Namibia (Barbraud *in litt.* 2008). Individuals from the Kerguelen Islands also winter off the coasts of South Africa and Namibia over the Benguela Current (Péron *et al*. 2010a).

It feeds on cephalopods, crustaceans and fish (Berrow *et al*. 1999, Catard *et al.* 2000, Delord *et al*. 2010) and fisheries processing waste or discarded longline baits. Cephalopods were found to comprise the greatest component of the diet in one study (91% occurrence, 92% number, 90% mass) (Colabuono and Vooren 2007). Birds range widely when searching for food resources, travelling up to 8,000 km on feeding forays in the breeding season (Berrow *et al.* 2000, Catard *et al.* 2000, Phillips *et al*. 2006, Delord *et al*. 2010a). Individuals breeding at the Crozet and Kerguelen islands display a bimodal foraging strategy, conducting either short trips to the surrounding shelf or long trips ranging from subtropical waters in the north to Antarctic waters in the south (Catard *et al.* 2000). Individuals breeding at the Kerguelen Islands target the seasonal ice zone where melting sea ice is gradually broken into floes and forage almost exclusively in open water (Péron et al. 2010b).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 24.7 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

This species constitutes the majority of bird bycatch in Southern Ocean longline fisheries. It is one of the commonest species attending longline vessels off south-east Brazil during winter (Olmos 1997, Bugoni *et al*. 2008) and off Uruguay (Jiménez *et al*. 2009). This is the second most common species caught in the Argentinean longline fleet, with an average capture rate for the period 1999-2003 of 0.014 ± 0.09 individuals per 1,000 hooks (Laich and Favero 2007). During autumn-winter most captures took place in the north of the Patagonian Shelf, whereas in spring-summer most were to the south, between 45-50 degrees South (Laich and Favero 2007).

Fishery-related mortality is also a global threat for this species and exerts a greater pressure on the Indian Ocean population than the Atlantic Ocean population (Ryan *et al*. 2012). Between 2001 and 2003 the legal longline fishery for Patagonian toothfish *Dissostichus eleginoides* in the Indian Ocean killed c. 12,400 *P. aequinoctialis* per year (Delord *et al*. 2005). Following the introduction of mitigation measures this figure dropped to approximately 2,500 birds in the 2005-2006 season (CCAMLR 2006), and to 740 birds in the 2008-2009 season (CCAMLR 2010). In addition, an estimated 31,000-111,000 and 50,000-89,000 seabirds in 1997 and 1998 respectively, c.60% of which were *P. aequinoctialis*, were thought to be killed by IUU vessels (CCAMLR 1997, 1998). In recent years (2006) this figure has fallen to 4,583 seabirds in total (CCAMLR 2006).

Rats (*Rattus rattus* and *R. norvegicus*) are significant predators at some breeding sites, such as Crozet (Jones *et al.* 2008) and South Georgia (Clarke *et al*. 2012), and cats predate nests at Kerguelen (Barbraud *in litt.* 2008), Cochons Island (Crozets) and Marion Island (Carboneras *et al*. 2014). Predation by skuas (*Catharacta*) occurs at some sites, however the effects are not significant (Carboneras *et al*. 2014). At South Georgia, breeding habitat is extensively degraded owing to erosion by expanding populations of Antarctic fur seal *Arctocephalus gazella* (Berrow *et al.* 2000). Introduced reindeer *Rangifer tarandus* also degrade breeding habitat on South Georgia (Poncet 2007). Human exploitation is thought to be responsible for low numbers breeding on Tristan da Cunha and extinction on the Chatham Islands (Carboneras *et al*. 2014). Although no adverse effects have been proven until recently, there are now reports of relatively high frequencies of plastic ingestion (Ryan 2008, Colabuono *et al*. 2009), as well as the occurrence of persistent organic pollutants (Colabuono *et al*. 2012) in this species.

Conservation

CMS Appendix II ACAP Annex 1. Population monitoring and foraging ecology studies are being undertaken at South Georgia, Crozet, Prince Edward and Kerguelen (Poncet 2007). Several breeding sites are in protected areas.

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

King penguin is found in the southern Patagonian Sea with breeding colonies identified in southern Chile and the Malvinas. Up to 41 pairs reported from Bahia Inutil in Tierra del Fuego. The King Penguin recently recolonised a breeding site at Isla de los Estados with a few pairs. Malvinas/Falkland Islands is the main breeding site in the Patagonian Sea, with five confirmed colonies. The largest colony, Volunteer, typically produces about 750 pre-fledged chicks annually, probably equating to about 1000-2000 pairs at present. The population in Malvinas has been increasing since the first independent counts in 1980 (Stanworth 2015). Human disturbances through unregulated tourism has the potential to impact this species, but at present, the population in the Patagonian Sea is at least stable with local indications of increase. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu, P., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

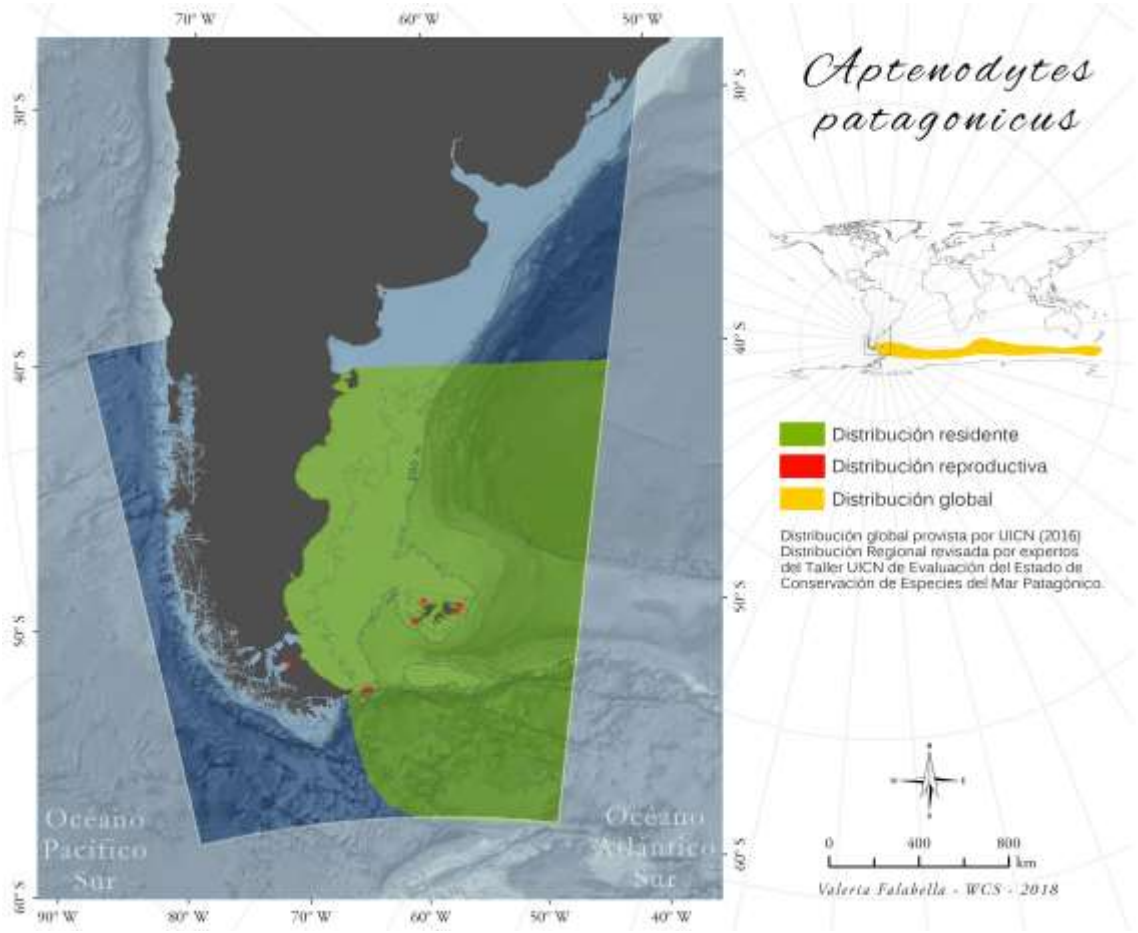
ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Aptenodytes – patagonicus – (Miller, 1778)

Common Names: Pingüino rey (Spanish; Castilian), King Penguin (English), Manchot royal (French)

Geographic Range

King penguin is found in the Southern Ocean (del Hoyo *et al.* 1992) with breeding colonies in southern Chile and the Malvinas/Falkland Islands. Recently, the species recolonised a breeding site at Isla de los Estados, Argentina, with a few pairs.

Outside the Patagonian Sea the species is also found in South Georgia (Georgias del Sur), Marion Island and Price Edward Island (South Africa), the Kerguelen Islands and Crozet Island (French Southern Territories), and Macquarie Island (Australia).



Population

In the Patagonian Sea, the most important breeding site for the king penguin is located at Malvinas/Falkland Islands, with five confirmed colonies. The largest colony, found at Volunteer, typically produces about 750 pre-fledged chicks annually, probably equating to about 1000-2000 pairs at present. This population has been increasing since the first independent counts in 1980 (Stanworth 2015).

Up to 41 pairs were reported from Bahia Inutil in Tierra del Fuego (Godoy Reyes pers. comm.). The King Penguin recently recolonised a breeding site at Isla de los Estados with a few pairs (A. Raya Rey pers. comm. 2016).

Habitats and Ecology

This marine species spends much of its time near breeding areas. It feeds mostly upon fish but will also take cephalopods. It captures prey by means of pursuit-diving, swimming at up to 12 km/h normally no deeper than 50 m. It arrives at colonies to breed between September and November, forming colonies on flattish beaches with no snow or ice which normally have easy access to the sea (del Hoyo *et al.* 1992).

Generation length calculated based on published estimate of mean age at first breeding and estimate of mean annual survival is 12.7 years.

General Use and Trade Information

Without information for the Patagonian Sea

Threats

Habitat loss, pollution, and fishing, all factors humans can readily mitigate, remain the primary threats for king penguin and all penguin species (Trathan *et al.* 2015). Global warming has been described as a serious extinction factor for this species (Le Bohec *et al.* 2008).

Conservation

Without information for the Patagonian Sea

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NT – Near Threatened, (IUCN version 3.1)

Assessment Rationale:

Southern Rockhopper Penguin is found throughout much of the Patagonian Sea. Colony specific population trends are variable. In Argentina, the number of breeding pairs is decreasing overall. In Chile, there are 12 reported colonies, including a total of nearly 400,000 pairs with an overall unknown population trend. In the Malvinas, the last population estimate was 319,000 breeding pairs at about 38 sites. This species appears to be fluctuating considerable, apparently due to mass mortalities, possibly in response to changes in environmental conditions. Over a longer time series, the annual index suggests that between mortality events/population declines, the subpopulation may not be able to recover to pre-event levels. However, consistent annual monitoring is not long enough for confidence in estimates of population trends for three generations (approximately 36 years).

The main documented threat in Chile is the exploitation of penguins for bait in the artisanal fishery of crustaceans and possible illegal trade, as reported for Isla Recalada. Introduced predators has also been described as a threat, but it is of lower concern for the Southern Rockhopper Penguin than the Macaroni Penguin. There is some evidence that bycatch of this species in the artisanal longline fisheries in the fjords of southern Chile and oil pollution may also be impacting this species in the region.

The majority of the global population occurs in the Patagonian Sea, and the global projections were driven heavily by the annual index from the Malvinas, which were at a historical low at the time of the global assessment. Since 2010, there are some indications of increase from this historical minimum in the Malvinas (Stanworth 2015). Other locations remain in decline (e.g., Isla de los Estados, Argentina), while others are increasing (e.g., Diego Ramirez, Chile). Therefore, we suspect that the regional population decline has approached, but not exceeded, 30% over the past three generations. This species is listed as **Near Threatened**.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International, Gales, R., Hilton, G., Huin, N., Kirkwood, R., Moore, P., Raya-Rey, A. & Schiavini, A.

Facilitators/Compilers: Ralph, G.

Taxonomic information

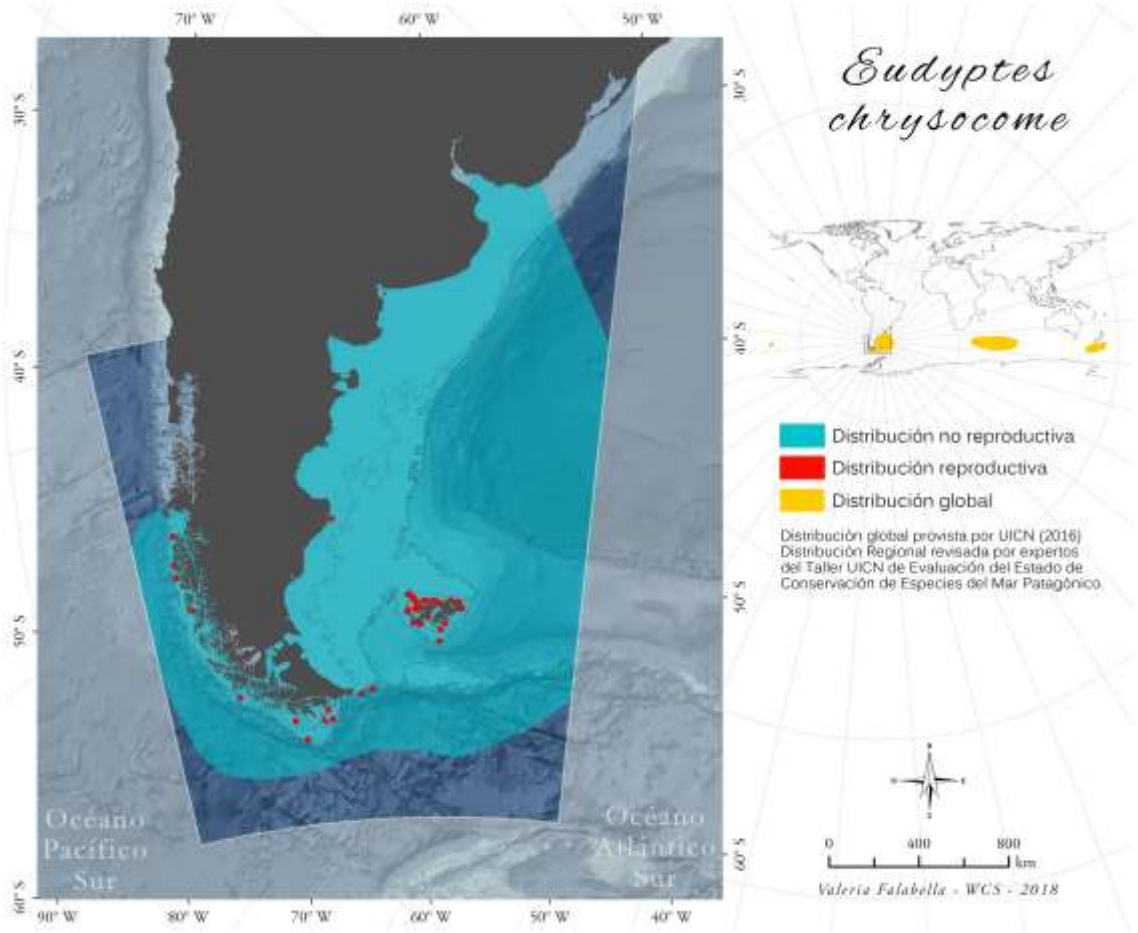
ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Eudyptes – chrysocome – (Forster, 1781)

Common Names: Pingüino de penacho amarillo (Spanish; Castilian), Southern Rockhopper Penguin (English), Rockhopper Penguin (English)

Geographic Range

Southern Rockhopper Penguin breeds on islands located in the South Atlantic, Indian and Pacific Oceans, ranging from 46º S in the South Atlantic Ocean and South Indian Oceans to Macquarie Island at 54ºS in the Southern Ocean. The species occurs as two subspecies. *Eudyptes chrysocome chrysocome* is found throughout much of the Patagonian Sea. It breeds on the Malvinas, at 38 distinct breeding colonies, and a number of offshore islands in southern Argentina and Chile (Isla de los Estados, Isla Pinguino, Isla Ildefonso, Diego Ramirez, Isla Noir, Isla Barnevelt, Cape Horn, Isla Terhalten and Isla Buenaventura [Shiavini *et al.* 2005, BirdLife International 2010, Gandini pers. comm. 2016]).

Subspecies *E. c. filholi* breeds on Prince Edward, and Marion Islands, (Crawford *et al.* 2009), Crozet Islands, Kerguelen Islands, Heard Island, Macquarie Island (Australia), Campbell, and Auckland and Antipodes Islands (New Zealand).



Population

Colony specific population trends are variable for the Patagonian Sea. (e.g., Malvinas: Stanworth 2015; mainland Argentina: Raya Rey *et al.* 2014, P. Gandini pers. comm. 2016).

In the Malvinas/Falkland Islands, the last population estimate was 319,000 breeding pairs at about 38 sites (Baylis *et al.* 2013). This species may have declined from more than 1.5 million breeding pairs in the mid-1930s to about 300,000 breeding pairs in the 1990s (Putz *et al.* 2003). Since the 1990s, the species appears to be fluctuating considerable, apparently due to mass mortalities, possibly in response to changes in environmental conditions. For example, subpopulation estimates range from 2000 300k, 2005 210k, 2010 320k based on island wide censuses completed approximately every 5 year (Baylis *et al.* 2013). Over a longer time series, the annual index suggests that between mortality events/population declines, the subpopulation may not be able to recover to pre-event levels (A. Stanworth pers. comm. 2016). However, consistent annual monitoring is not long enough for confidence in estimates of population trends for three generations (approximately 36 years).
In Argentina, the number of breeding pairs is decreasing overall. The larger colony, Isla de los Estados show 25% decrease between 1998 and 2010 (Raya Rey *et al.* 2014) with currently 174,000 (Putz *et al.* 2013). Isla Pinguino with a current population size of about 1,000 pairs was increasing during the last 30 years more than 7% per year (more than 1000% in 30 years) and during the last 10 years, the population increased by around 100% (P. Gandini pers. comm. 2016).

In Chile, there are 12 reported colonies, including a total of nearly 400,000 pairs with an overall unknown population trend (Putz *et al.* 2013). Isla Noir is the largest colony in Chile with an estimated 158,000 pairs in 2005 (Oehler *et al.* 2008). In Diego Ramirez, Schlatter and Riveros (1997) estimated 112,000 individuals in the early 1980s and Kirwood *et al.* (2007) estimated 133,000 pairs (266,000 individuals) in 2005. In Isla Ildefonso 86,400 pairs were estimated in 2006.

Global population is estimated at just over 1.23 million pairs (Birdlife International 2010). Population modelling, based on those breeding sites that have been accurately surveyed, indicates that over the past 37 years (three generations) the number of Southern Rockhopper Penguins has declined by 34% (BirdLife International 2010).

Habitats and Ecology

This species returns to its breeding colonies in October, which range from sea-level sites to cliff-tops, and sometimes inland. Two eggs are laid and incubated during November and December for 32-34 days. In February, the chicks fledge and depart the colony (BirdLife International 2010). At most breeding sites, only one chick is fledged by each successful pair. However, there is some evidence that it is not unusual for those in the Malvinas to raise two chicks (Clausen and Pütz 2002). They are opportunistic feeders, preying on a variety of fish, crustaceans and cephalopods (Williams 1995).

Generation length calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival is 11.5 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

It is not yet clear what is driving current population declines. Egg collection was common at some colonies until the 1950s, such as in the Malvinas, but is now prohibited.

The main documented threat in Chile is the exploitation of penguins for bait in the artisanal fishery of crustaceans and possible illegal trade (Oehler *et al.* 2007). The number of birds taken in recent years from other Chilean colonies is less than 500 individuals per year (BirdLife International 2010). The disappearance of the colony on Isla Recalada in Chile indicates that human depredation, in this case the collection of zoological specimens and as bait for crab pots (Oehler *et al.* 2007), is still a serious threat to colonies where sites are not well protected and are accessible. Introduced predators has also been described as a threat, but it is of lower concern for the Southern Rockhopper Penguin than the Macaroni Penguin (Putz *et al.* 2013). There is some evidence of bycatch of this species in the artisanal longline fisheries in the fjords of southern Chile (J. Ojeda pers. comm. 2016) and oil pollution may also be impacting this species in the region (Putz *et al.* 2013).
In Argentina, the effect of grazing by goats and deer at Isla de los Estados is not known and should be investigated. There are very few records of disease outbreaks, although few colonies are visited regularly. The massive mortality event on the Malvinas in 2002/2003 was due to a Harmful Algal Bloom (Uhart *et al.* 2007). The number of Southern Rockhopper Penguins affected by oil pollution is currently not thought to be as great as in the past, when 40,000 Magellanic Penguins *Spheniscus magellanicus* were estimated to be contaminated annually in Argentina (Gandini *et al.* 1994). In Patagonian coastal waters, hydrocarbon exploitation is a threat (Ellis *et al.* 1998).

Other important factors include interactions with fisheries, the effects of climate change, for example in causing a drop in primary productivity that reduces prey availability or causing bottom-up food web shifts that reduce prey availability, top-down changes in food web structure leading to increased inter-specific competition and top-down changes in food web structure leading to increased secondary predation. For example, one possible 'top-down' effect on the eudyptid penguins is competition with (and predation by) rapidly increasing pinniped—especially fur seal—populations (Barlow *et al.* 2002) which is also a common practice from South American sea lions (Cursach *et al.* 2014a) preying on this penguin species in the coast of Diego Ramirez islands, southern Chile. However, in this southern colony there are signals of increasing and expansion of the breeding habitat for this species (Cursach *et al.* 2014b) using the areal protection of higher tussock in slopes of the archipelago.

Conservation

Regular monitoring is undertaken on the Malvinas, Marion, and Campbell Islands (Cuthbert and Sommer 2004, Cuthbert and Sommer in press, Stanworth 2015). Several ecological and demographic studies have been undertaken (Ellis *et al.* 1998, Guinard *et al.* 1998). Marion islands with breeding colonies are reserves. Research has attempted to determine the cause of historic declines using stable isotope analysis of museum skins (G. Hilton *et al.* 2006). An International Species Action Plan and a series of Regional Action Plans have been developed (BirdLife International 2010).

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LC – Least Concern, (IUCN version 3.1)

Assessment Rationale:

The population of Macaroni Penguin in the Patagonian Sea is estimated at 25,000 breeding pairs. The Malvinas population is estimated at no more than a few hundred individuals. The rest of the population is contained in Chile in at least 12 known colonies. Diego Ramirez is the largest colony with 15,600 pairs. The main documented threat in Chile is the explotation of penguins for bait in the artisanal fishery of crustaceans and possibly for illegal trade, as reported for Isla Recalada. Introduced predators have also been described as a potential threat. This species qualifies as **Least Concern** regionally.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): Crawford, R., Croxall, J., Micol, T., Nisbet, I., Weimerskirsch, H. & BirdLife International

Facilitators/Compilers: Ralph, G.

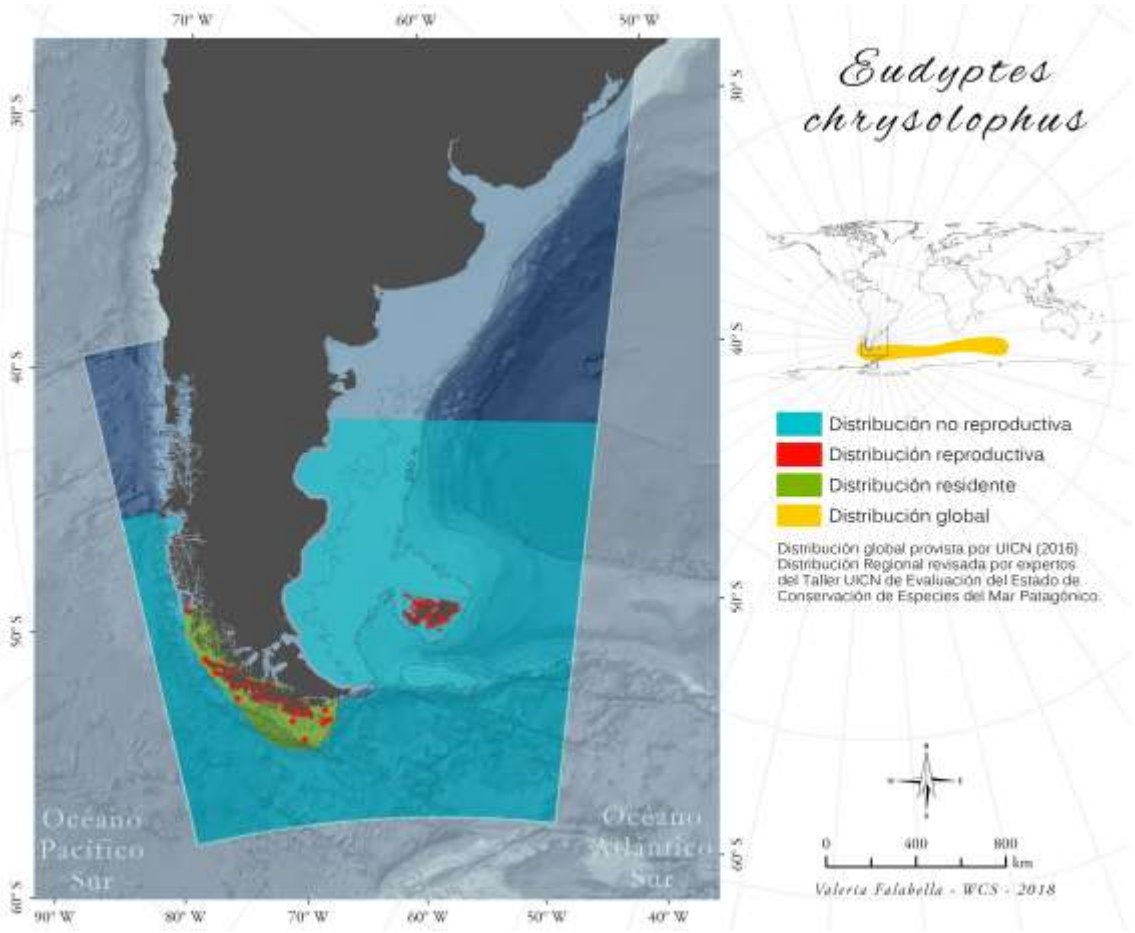
Taxonomic information

ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Eudyptes – chrysolophus – (Brandt, 1837)

Common Names: Pingüino macaroni o pingüino de penacho anaranjado (Spanish; Castilian), Macaroni Penguin (English), Gorfou doré (French),

Geographic Range

In the Patagonian Sea, Macaroni penguin breeds in Malvinas/Falklands Island and Chile. Worldwide, *Eudyptes chrysolophus* breeds in at least 258 colonies at c.55 breeding sites (Crossin *et al.* 2013), including South Georgia (Georgia del Sur) and the South Sandwich Islands (Islas Sandwich del Sur), the South Orkney and South Shetland Islands, Bouvet Island (to Norway), Prince Edward and Marion Islands (South Africa), Crozet Islands, Kerguelen Islands (French Southern Territories), Heard and McDonald Islands (to Australia) and very locally on the Antarctic Peninsula.



Population

The population in the Patagonian Sea is estimated at 25.000 breeding pairs (Kirkwood *et al.* 2007, Oehler *et al.* 2008, Crossin *et al.* 2013). The Malvinas population is estimated at no more than a few hundred individuals (Stanworth pers. comm.). The rest of the population is contained in Chile in at least 12 known colonies. Diego Ramirez is the largest colony with 15,600 pairs (Kirkwood *et al.* 2007). Populations in South America may be stable but data are few.

The global population is estimated at 6.3 million breeding pairs in at least 258 colonies at c.55 breeding sites (Crossin *et al.* 2013), with key populations on Isles Crozet (2,200,000 pairs, including 1 million on Ilots des Pingouins), Kerguelen (1.8 million pairs), Heard Island (1 million pairs), South Georgia (1 million pairs) and Marion Island (290,000 pairs). Previously, the global population had been estimated at c.9 million pairs (Woehler 1993, Ellis *et al.* 1998). The South Georgia and Bouvet populations probably increased substantially in the 1960s and early 1970s, but have subsequently decreased. At South Georgia, c.5 million pairs were estimated in the 1980s, falling to c.2.7 million pairs in the mid 1990s and to <1 million pairs in 2002 (Crossin *et al.* 2013). Volcanic activity eliminated a colony of c.1 million pairs on McDonald Island, although satellite images show unidentified penguins that may be recolonising individuals of this species (Crossin *et al.* 2013). Surveys on Heard Island (c.1 million pairs) suggest a decrease owing to losses in some smaller colonies. The population at Marion has decreased by over 30% from 434,000 pairs in 1994-1995 to 290,000 pairs in 2008-2009 (Crawford *et al.* 2009), and 267,000 pairs in 2012-2013 (Dyer and Crawford in press). However, populations on Kerguelen increased by c.1% per annum between 1962 and 1985, and subsequent data from 1998 indicated that colonies were stable or increasing (H. Weimerskirch *per* T. Micol *in litt.* 1999).

Habitats and Ecology

It nests on level to steep ground, often walking hundreds of metres across steep screes to nest-sites. Breeding areas usually have little or no vegetation due to erosion by birds. It feeds mainly on small krill (Marchant and Higgins 1990), although individuals from the Kerguelen Islands foraging in the Indian Ocean during winter do not feed on krill, taking other crustaceans instead (Bost *et al.* 2009).

Generation length calculated based on published estimate of mean age at first breeding and a published estimate of mean annual survival is 11.4 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Known threats at its main breeding grounds are those common to all Southern Ocean species, such as the existing and potential impact of commercial fishing, and ocean warming (Ellis *et al.* 1998), although oil pollution is no longer considered a likely threat (I. C. T. Nisbet *in litt*. 2010). The main documented threat in Chile is the exploitation of penguins for bait in the artisanal fishery of crustaceans and possibly for illegal trade, as reported for Isla Recalada (Oehler *et*

*al.*2008). Introduced predators have also been described as a potential threat (Crossin *et al.* 2013).

Conservation

Long-term monitoring programmes are in place at several breeding colonies (Ellis *et al.* 1998).

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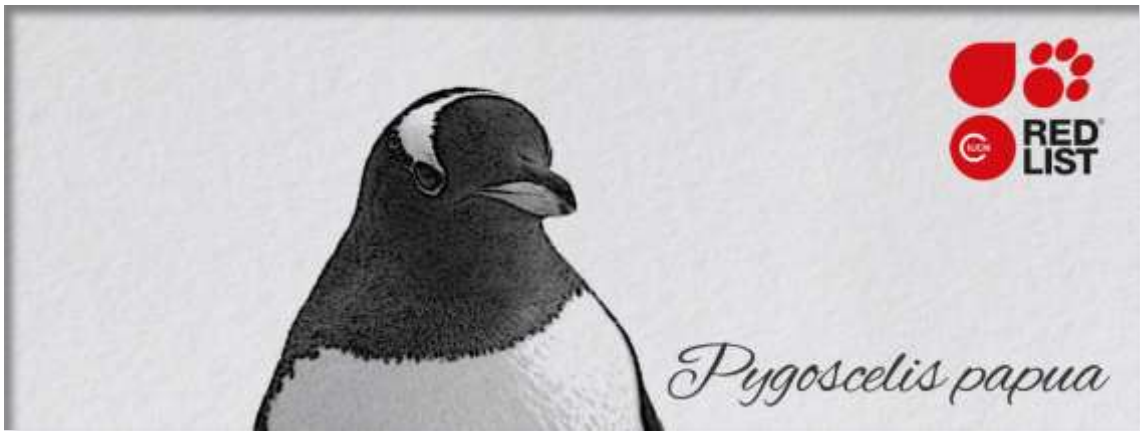


LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

The Patagonian Sea supports around 33 to 42% of the global population of Gentoo Penguin. Population size in Malvinas is estimated as 132,000 breeding pairs at about 84 breeding sites. A single breeding site at Isla Martillo, Argentina contains 12 pairs. The population exhibits considerable annual fluctuations which vary by location. There is evidence of large natural variation in the population over longer time scales, but indications are of positive trend over the last 25 years. Current population estimates are higher than any historic ones, reaching as far back as the 1930s. Threats to the species include avian pox/disease outbreaks and toxic algal blooms. Some egg harvesting also occurs within the Malvinas. Small numbers of birds are found oiled each year and potential hydrocarbon industry activities in the Malvinas could increase this impact. On the basis that the species does not meet area or population size criteria and is exhibiting an apparent positive trend, this species is considered **Least Concern** in the region.

Assessor(s): Frere, E., Garcia Borboroglu , P., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International & Croxall, J.

Facilitators/Compilers: Ralph, G.

Taxonomic information

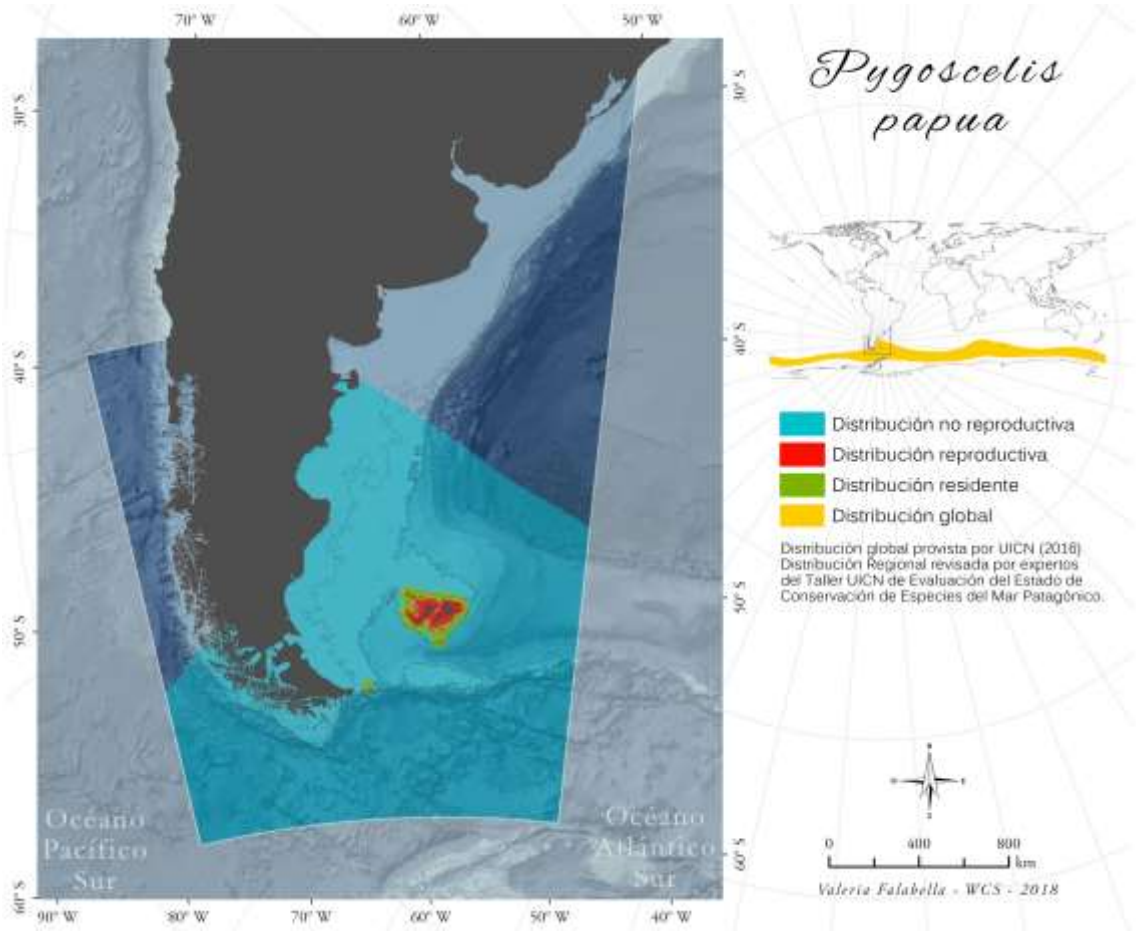
ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Pygoscelis - papua

Common Names: Pingüino de vincha (Spanish; Castilian), Pingüino papúa (Spanish; Castilian), Gentoo Penguin (English), Pingüino gentú (Spanish; Castilian)

Geographic Range

Pygoscelis papua has a circumpolar breeding distribution. In the Patagonian Sea, the species is found in Malvinas/Falkland Islands, Martillo Island and Isla de los Estados, Argentina (Baylis 2013, Bingham 1998, Ghys *et al*. 2008). The three most important locations, containing 80% of the global population, are the Malvinas with 132,000 breeding pairs (Baylis 2013), South Georgia with 98,867 individuals (Trathan *et al*. 1996) and the Antarctic Peninsula, including South Shetland Island, with 94,751 individuals (Lynch *et al*. Unpublished).

Other breeding locations are the Crozet Islands (Lynch *et al.* 2012), Kerguelen Island (Weimerskirch *et al*. 1988), Heard Island (Woehler 1993), South Orkney Islands (Lynch *et al*. Unpublished), Macquarie Island (Australia), South Sandwich Islands (Convey *et al*. 1999) and Marion Island (Crawford *et al*. 2009).



Population

The Patagonian Sea supports around 33 to 42% of the global population. The population in Malvinas is estimated as 132,000 breeding pairs at about 84 breeding sites (Baylis 2013). A single breeding site at Isla Martillo, Argentina contains 12 pairs (Lynch 2013). The population exhibits considerable annual fluctuations which vary by location (Stanworth 2015). There is evidence of large natural variation in the population over longer time scales, but indications are of positive trend over the last 25 years (Stanworth pers. comm. 2016). Current population estimates are higher than any historic ones, reaching as far back as the 1930s (Bingham 1998).

Global Population trends are difficult to establish because of large year-to-year fluctuations in the size of the breeding population, however, it is believed that several populations have experienced significant declines in the past. The global population was estimated at 314,000 breeding pairs (Woehler 1993), however, a more recent estimate of 387,000 pairs suggests that the population may be increasing, particularly in the south of its range (Lynch *et al.* 2012).

Habitats and Ecology

Nests on flat beaches or among tussock grasses in the Malvinas. Further south, on the Antarctic Peninsula, nests are typically on low lying gravel beaches and dry moraines. Colonies are much smaller than other Pygoscelids, with the largest including only c. 6,000 breeding pairs (Lynch *et al.* 2008). Opportunistic feeder, preying predominantly on crustaceans, fish, and squid. Preference for foraging inshore, close to the breeding colony.

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 7 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

In the Patagonian Sea**,** main threats to the species include avian pox/disease outbreaks and toxic algal blooms. Some egg harvesting also occurs within the Malvinas. Small numbers of birds are found oiled each year and potential hydrocarbon industry activities in the Malvinas could increase this impact.

Historically, egg collection was widespread on the Malvinas (Clausen and Pütz 2002), and some legal egg collection still continues (Otley *et al*. 2004). Increasing oil exploration around the Malvinas is a growing concern (Lynch *et al.* 2012). Disturbance from tourism has been shown to cause decreased breeding productivity (Trathan *et al*. 2008, Lynch *et al*. 2009) and the associated marine traffic is likely to impact penguins foraging in inshore waters (Lynch *et al*. 2010). Interactions with fisheries may also be a problem (Ellis *et al*. 1998).

Conservation

Without information for the Patagonian Sea.

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NT, Near Threatened (IUCN version 3.1)

Assessment Rationale:

Humboldt Penguin is distributed along the eastern coast of South America. In the Patagonian Sea, it is known only from the northwest Chiloe Island, Chile, and this represents less than 5% of its global distribution. Population is estimated to number between 150-200 pairs. Recent surveys in Patagonian region identified new colonies for the species. On this basis there is uncertainty as to whether the population is increasing or has been previously underestimated. Entanglement in artisanal fishery nets have been described for the region with unknown impact in the population size. There are reports of penguins taken for bait but it is not clear if Humboldts are affected. The population size for the region qualifies as D1 Vulnerable. However as immigration from northern colonies is likely to occur (Schlosser *et al.* 2009) then regional evaluation is **Near Threatened**.

Assessor(s): Simeone Cabrera, A., Frere, E., Garcia Borboroglu, P., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International, Knauf, G., Majluf, P., Roca, M. & Valqui, T.

Facilitators/Compilers: Ralph, G.

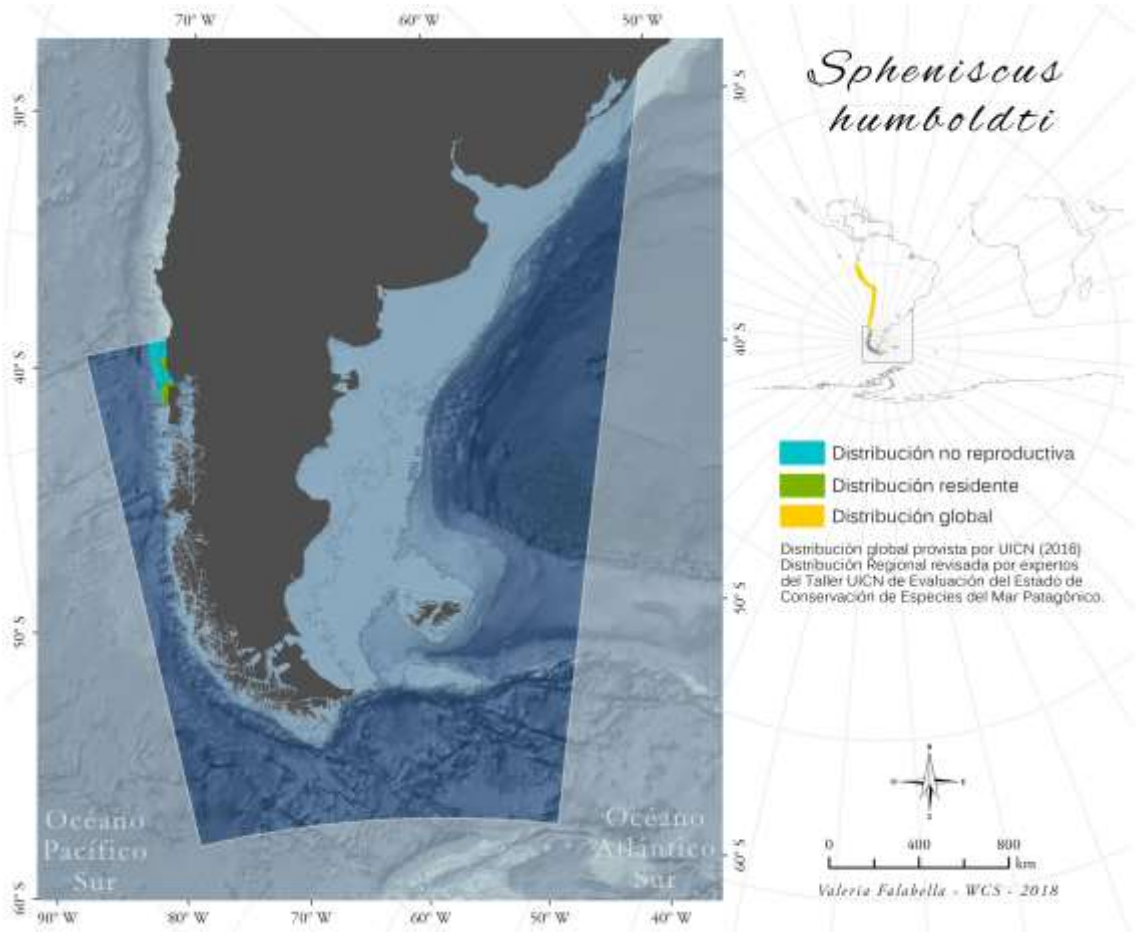
Taxonomic information

ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Spheniscus – humboldti – (Meyen, 1834)

Common Names: Pingüino de Humboldt (Spanish; Castilian), Humboldt Penguin (English), Peruvian Penguin (English)

Geographic Range

Humboldt Penguin is distributed along the eastern coast of South America, from Perú to Chile, with vagrants recorded north to Colombia (Morales Sanchez 1988). In the Patagonian Sea, it is known only from the northwest Chiloe Island, Chile, and this represents less than 5% of its global distribution. Recent surveys in Patagonian region identified new colonies for the species. On this basis there is uncertainty as to whether the population is increasing or has been previously underestimated (De la Puente *et al.* 2013, Vianna et al 2014).



Population

In the Patagonian Sea the population of Humboldt Penguin is estimated to number between 150-200 pairs (Raya Rey *et al.* 2013, Hiriart-Bertrand *et al.* 2010, Godoy Reyes pers. comm.).

The global population estimate is for up to 60,000 individuals (Vianna t al 2014,) or 30,000 to 40,000 birds (Boersma, 2008). However, the population estimate of derived from P. Majluf *in litt.* (1999) indicated 3,300-12,000 individuals placed *Spheniscus humboldti* in the band 2,500-9,999 mature individuals. The size and distribution of colonies in Peru and Chile changed considerably during 1984-2000 (American Bird Conservancy *in litt*. 2007, Cheney 1998, Ellis *et al.* 1998, Hays 1984, Hays 1986, Majluf *in litt*. 1999, Paredes *et al.* 2003, Valqui *in litt*. 1999).

Habitats and Ecology

It nests on islands and rocky coastal stretches, burrowing holes in guano and occasionally using scrape nests or caves (Cheney 1998, Ellis *et al.* 1998). It apparently prefers to breed on slopes at high elevation sites where guano deposits are available for burrow excavation (Paredes and Zavalaga 2001).

Breeding occurs year-round, but has two peaks, in May and July and from September to December. Reproductive success is reported as low, especially in Chile (Cheney 1998), though considerably higher at one rookery in Peru (Punta San Juan) (Paredes and Zavalaga 2001). There may be an extended migration route of c.700 km from Peru to north Chile, and adult birds regularly disperse up to 170 km in Peru and occasionally over 600 km (Culik and Luna-Jorquera 1997, Wallace *et al.* 1999).

Humboldt Penguins are central place foragers during the breeding season, since they must return to their nests between foraging trips. As a pelagic predator, the Humboldt Penguin is highly dependent on predictable food resources in coastal waters near its nesting sites (Taylor *et al.* 2001). It typically makes short, shallow dives within 30 m of the surface (Taylor *et al.* 2001). At Isla Pan de Azúcar, Chile, it was found that maximum dive depth was 53 m. Mean distance travelled during foraging trips was 26.5 km, with a minimum and maximum distance of 8.1 and 68.7 km respectively. 90% of the birds remained within 35 km of their breeding colony (Culik *et al.* 1998, Luna-Jorquera and Culik 1999). At Punta San Juan, Peru, the average maximum distance from the colony of all foraging trips was 19.8 km (Boersma *et al.* 2007). Following breeding failure, non-breeding birds take longer foraging trips, make deeper and longer dives and dive less often per hour at sea than do breeding birds (Taylor *et al.* 2002). Mean and maximum foraging trip duration were both significantly longer in failed breeders than in breeding birds (Taylor *et al.* 2004).

It feeds on schooling anchoveta *Engraulis ringens*, squid and other small fish, mainly caught in inshore waters, with failed breeders travelling further afield, as do breeders during ENSO years (Taylor *et al.* 2004).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 10.6 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Entanglement in artisanal fishery nets have been described in the Patagonian Sea (Skewgar *et al.* 2009) with unknown impact in the population size. There are reports of penguins taken for bait but it is not clear if Humboldts are affected.

The primary global threats for this species are mortality caused by entanglement in artisanal fishery nets, illegal capture for consumption and the pet trade (American Bird Conservancy *in litt*. 2007). Historical declines resulted from over-exploitation of guano (Williams, T. D. 1995). Guano is still harvested in Peru, and likely limits the availability of preferred nesting habitat (Paredes and Zavalaga 2001). Severe fluctuations in numbers are caused by (apparently increasing) ENSO events, and more recent underlying declines probably relate to over-fishing of anchoveta *Engraulis* spp. stocks (Williams, T. D. 1995, Cheney 1998, Wallace *et al.* 1999). Other threats include capture for use as fish bait, use of explosives by fishermen, mining activities, human disturbance, predation by Andean fox, rats and cats, and marine pollution (Cheney 1998, Ellis *et al.* 1998, Ayala *et al.* 2007). One of the major breeding sites in northern Chile is currently threatened by the construction of two coal-fired power stations (G. Knauf *in litt.* 2009).

Conservation

CITES Appendix I. CMS Appendix I. In Chile there is a 30-year moratorium (from 1995) on hunting and capture, and the four major colonies (not including intertidal and marine areas) are protected (Vilina *et al.* 1995, Cheney 1998).

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LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

Magellanic Penguin is distributed throughout much of the Patagonian Sea, with many breeding colonies identified. Along the Argentinian coast, there are no consistent population trends. In southern Patagonia, the population seems to had been stable during the last 30 years. In northern Patagonia, which is the stronghold of Argentinian population, there seems to be an overall slight decline; some large colonies are declining in the southern part of northern Patagonia, while further north, one large colony is growing and new colonies are being established and growing. The population trend in Chile is unknown. Additionally, since 1999, burrow occupancy at two sites in the islands fluctuated annually with no clear trend. Oil pollution is a major threat of this species in the region, with estimates of 40,000 birds oiled annually on the Argentinian coast; although these have been steeply reduced in recent years, there are tentative plans for offshore oil developments in the region. Mortality still persists during migration to Brazil. It is known that interactions of this species with fisheries, through bycatch mortality in gillnets, trawls and purse-seines along the coast of South America and potential reduction of prey resources, could pose a threat, but population trends in response to these threats have not been quantified. In fjords of Chile, eggs and adults are collected for human consumption and adults are taken for bait. The introduction of feral dogs and other invasive species in the breeding colonies have resulted in local extirpations, but population level declines have not been quantified. This species was previously listed as Near Threatened on the basis of population declines that approached but did not exceed the 30% threshold for listing as Vulnerable under criterion A2. In light of new data regarding population trends, and despite the numerous threats affecting this species, the population declines for this species over the past three generation lengths do not justify listing this species as Near Threatened any longer. The potential for further oil development in the region may impact this species, but the extent of these developments and the degree of the potential impacts on the species are currently too uncertain to project population declines in the future with confidence. Therefore, this species has been listed as **Least Concern.**

Assessor(s): García Borboroglu, P., Frere, E., Simeone Cabrera, A., Stanworth, A., Tamini, L. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International, Boersma, P., Frere, E., Komar, O., Nisbet, I. & Woods, R.W.

Facilitators/Compilers: Ralph, G.

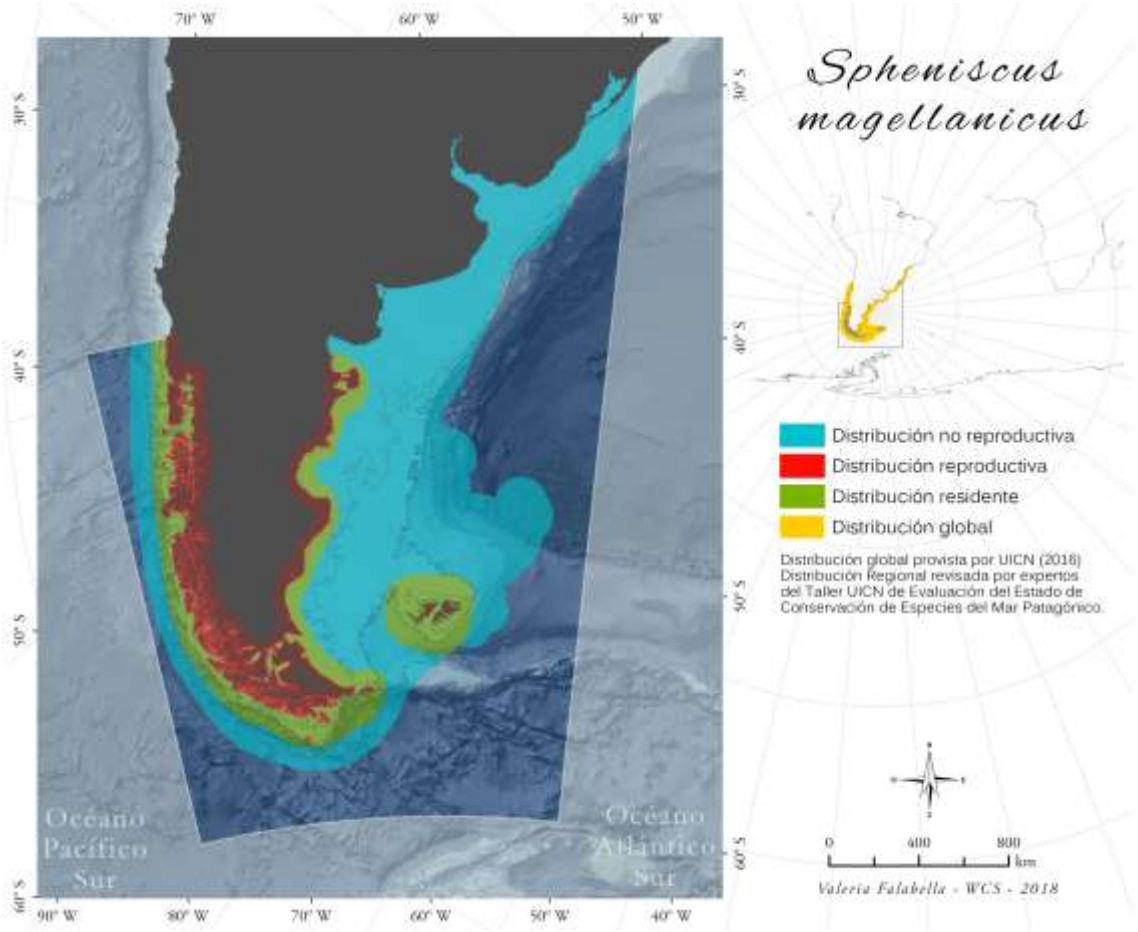
Taxonomic information

ANIMALIA - CHORDATA - AVES - SPHENISCIFORMES - SPHENISCIDAE - Spheniscus – magellanicus – (Forster, 1781)

Common Names: Pingüino de Magallanes (Spanish; Castilian), Pingüino patagónico (Spanish; Castilian), Magellanic Penguin (English),

Geographic Range

Spheniscus magellanicus is distributed throughout much of the Patagonian Sea, with many breeding colonies identified. The species breeds on the Atlantic and Pacific coasts of South America, in Argentina (at 63 sites), Chile (at least 10 locations), and the Malvinas/Falkland Islands (Ellis *et al.*1998), with some migrating north to southern Brazil (Frere *et al.*1996). Vagrants have been found as far north as El Salvador in 2007 (O. Komar *in litt.* 2007), and south to Avian Island (67°, 46'S) on the Antarctic Peninsula (Barbosa *et al.*2007), as well as Australia and New Zealand.



Population

Along the Argentinian coast, there are no consistent population trends in the 66 colonies that contain at least 900,000 breeding pairs. In southern Patagonia, the population seems to be stable during the last 30 years (E. Frere pers. comm. 2016). In northern Patagonia, which is the stronghold of Argentinian population, there seems to be an overall slight decline; some large colonies are declining in the southern part of northern Patagonia, while further north, one large colony is growing and new colonies are being established and growing (Boersma *et al.*2015, Schiavini *et al.*2005). Although little is known about the population size in Chile, 31 breeding sites are known; the 14 breeding sites that have been surveyed have 144,000 pairs, so the Chilean population is presumed much larger than that (Boersma *et al.*2015). Population trend in Chile is unknown. In the Malvinas, the historical population estimate was 100,000 pairs at 41 breeding sites (Croxall *et al.*1984) and later Woods and Woods (19957) reported 76,000-142,000 pairs at about 100 breeding sites; however, the Croxall *et al.*(1984) was reported as a minimum, and it is not thought that these changed numbers represent a true increase in the population size. Since 1999, burrow occupancy at two sites in the islands fluctuated annually with no clear trend (Stanworth 2015).

The world population is estimated at 1.3 million pairs: 950,000 along the Argentinian coast, at least 100,000 in the Malvinas and at least 200,000 in Chile (Ellis *et al.*1998). Overall, trends are uncertain but there are significant declines in some areas and substantial mortality owing to a variety of ongoing threats.

Habitats and Ecology

Magellanic Penguins tracked by satellite and global location sensor tags during incubation typically foraged more than 100 km, and sometimes as much as 600 km from various colonies in Argentina (Boersma and Rebstock 2009). Individuals show high site fidelity, with nearly all birds returning to the colony in which they were born, and most adults using the same burrow year after year (Boersma 2009).

Generation length, calculated based on a published estimate of mean age at first breeding and a published estimate of mean annual survival, is 8.7 years (good data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Oil pollution is a major threat for this species in the region, with estimates of more than 20,000 adults and 22,000 juveniles oiled annually on the Argentinian coast (Gandini *et al.*1994). Although oil pollution have been steeply reduced in recent years (Boersma and E. Frere pers. comm. 2016), there are tentative plans for offshore oil developments in the region (Garcia Borboroglu *et al.*2006). Mortality still persists during migration to Brazil (Garcia Borboroglu *et al.*2006).

It is known that interactions of this species with fisheries, through bycatch mortality in gillnets, trawls and purse-seines along the coast of South America (Tamini *et al.*2002; Skewgar *et al.*2009; Schlatter *et al.*2009; Suazo *et al.*2014, 2016; Boersma *et al.*2015; L. Tamini pers. comm. 2016) and potential reduction of prey resources (Boersma *et al.*2015), impact on the species. But population trends in response to these threats have not been quantified. Fisheries may be having an additional effect, as bycatch includes juvenile hake and anchovy, which are an important part of the species's diet (Gandini *et al.*1999, Pütz *et al.*2001). The expanding Argentinian anchovy fishery may threaten the largest known colony at Punta Tumbo, and there is no mechanism to quantify the impact of the fishery (BirdLife 2007). In fjords of Chile, eggs and adults are collected for human consumption and adults are taken for bait (Suazo *et al.*2013). The introduction of feral dogs and other invasive species in the breeding colonies have resulted in local extirpations (Suazo *et al.*2013), but population level declines have not been quantified.

El Niño Southern Oscillation events can cause range-wide disruption of breeding (Ellis *et al.*1998). If precipitation regimes at nesting colonies change resulting in more than 2.5 inches of rain falling during a year, a possible consequence of climate change, most chicks will not survive due to burrow collapses and hypothermia (Boersma 2009). Tourism may also disturb individuals at breeding colonies (Boersma 2009).

Conservation

Radio-tracking has shown that breeding birds regularly travel long distances, and were found to be frequenting shipping lanes, where many birds were getting oiled. Changes in Chubut provincial law moved the shipping lane after the findings were given significant publicity, and thus the oiling threat has been somewhat reduced (Boersma *in litt.* 2007).

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LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

Imperial Shag occurs throughout most of the coastal area of the Patagonian Sea such as among the Chilean fjords and channels, which represents the majority of this species distribution. The population trend is not known, but the population is not believed to be decreasing sufficiently rapidly to be listed as threatened. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu , P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - SULIFORMES - PHALACROCORACIDAE - Leucocarbo – atriceps – (King, 1828)

Common Names: Cormorán imperial (Spanish), Imperial Shag (English)

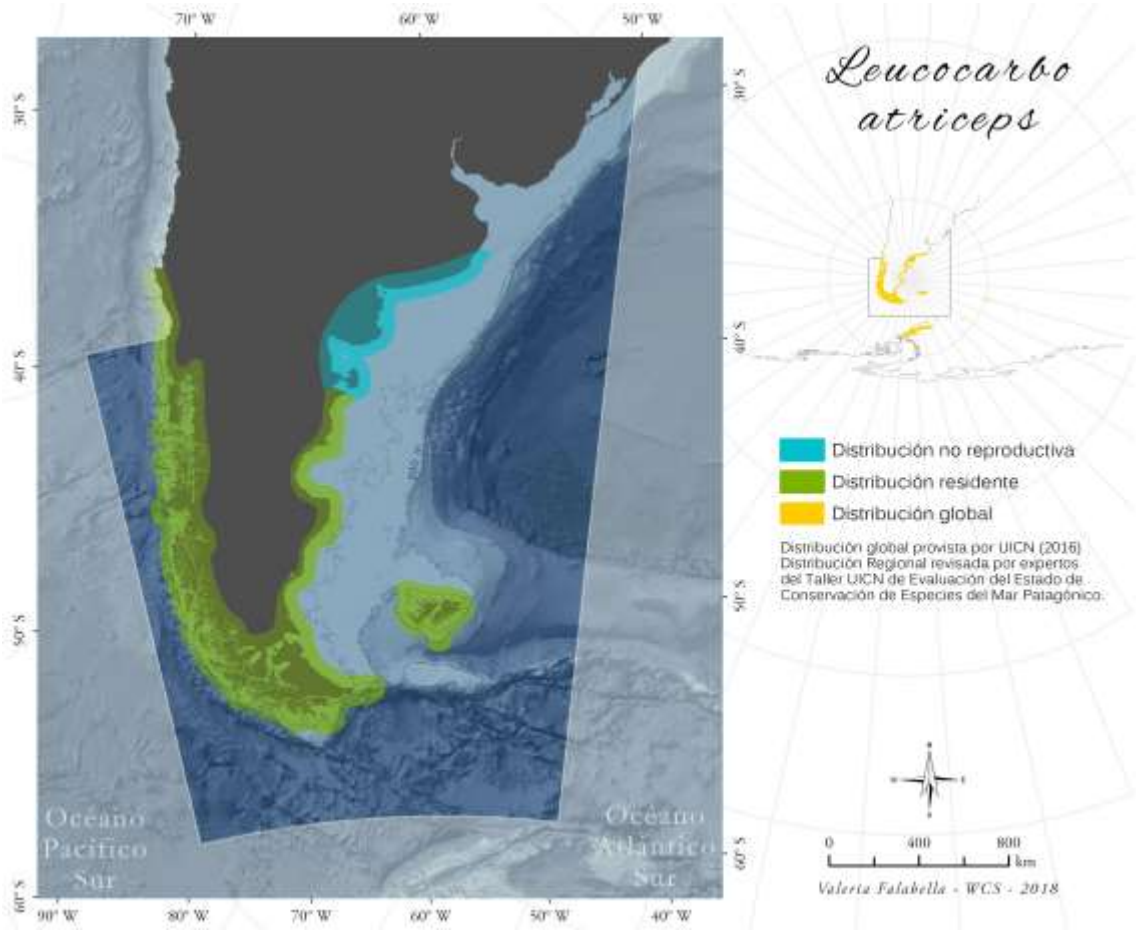
Synonyms: *Leucocarbo atriceps; Phalacrocorax atriceps* King, 1828

Note: Following Kennedy and Spencer (2014) the genus *Phalacrocorax* has been divided into six genera, with P. magellanicus, P. bougainvilliorum, P. atriceps, P. verrucosus, P. *carunculatus, P. chalconotus, P. onslowi, P. campbelli, P. ranfurlyi* and *P. colensoi* moved into *Leucocarbo* (HBW and BirdLife International 2018).

Geographic Range

Imperial shag occurs throughout most of the coastal area of the Patagonian Sea such as among the Chilean fjords and channels (Cursach *et al.* 2010, Kusch & Marín 2013), which represents the majority of this species distribution.

Leucocarbo (atriceps) bransfieldensis breeds on the Antarctic Peninsula and the South Shetland Islands. *Leucocarbo (atriceps) georgianus* is found on the islands of South Georgia/ Georgia del Sur, the South Orkney Islands, South Sandwich Islands / Islas Sandwich del Sur and Shag Rocks (Scotia Sea). In the Indian Ocean, *Leucocarbo (atriceps) melanogenis* occupies the Crozet Islands (French Southern Territories), *Leucocarbo (atriceps) nivalis* is found on Heard Island (to Australia) and *Leucocarbo (atriceps) purpurascens* is restricted to Macquarie Island (to Australia) (del Hoyo *et al.* 1992).



Population

Total population and trend is not known. It is not believed to be decreasing sufficiently rapidly to be listed as threatened

Habitats and Ecology

This marine species forages in subantartic and Antarctic waters along the coast and around islands. It feeds in inshore waters. Breeding begins in either October or November, forming colonies up to hundreds of thousands of birds, which are very dense (del Hoyo *et al*. 1992).

Generation length, calculated based on a published estimate of mean age at first breeding and extrapolated mean annual survival, is 11.3 years (medium data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Without information for the Patagonian Sea.

Conservation

Without information for the Patagonian Sea.

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CR - Critically Endangered, D (IUCN version 3.1)

Assessment Rationale:

Guanay Cormorant is distributed primarily along the western coast of South America. In the Patagonian Sea, vagrant individuals are found along the northern Chilean fjords during El Niño years. There was a breeding population in Argentina in the late 1960s, but after a large storm, this species dispersed. When surveyed in 1999, there were only four breeding pairs. These individuals may be breeding with other species of cormorant, and it is unclear whether the individuals identified as *L. bourgainvilliorum* represent this species or hybrids. Therefore, this species is assessed as **Critically Endangered, D** in Patagonia. Surveys for this species in Isla Cumbre may find that this species is regionally extinct.

Assessor(s): Frere, E.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International, Engblom, G., Majluf, P. & Roca, M.

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - SULIFORMES - PHALACROCORACIDAE - Leucocarbo – bougainvilliorum – (Lesson, 1837)

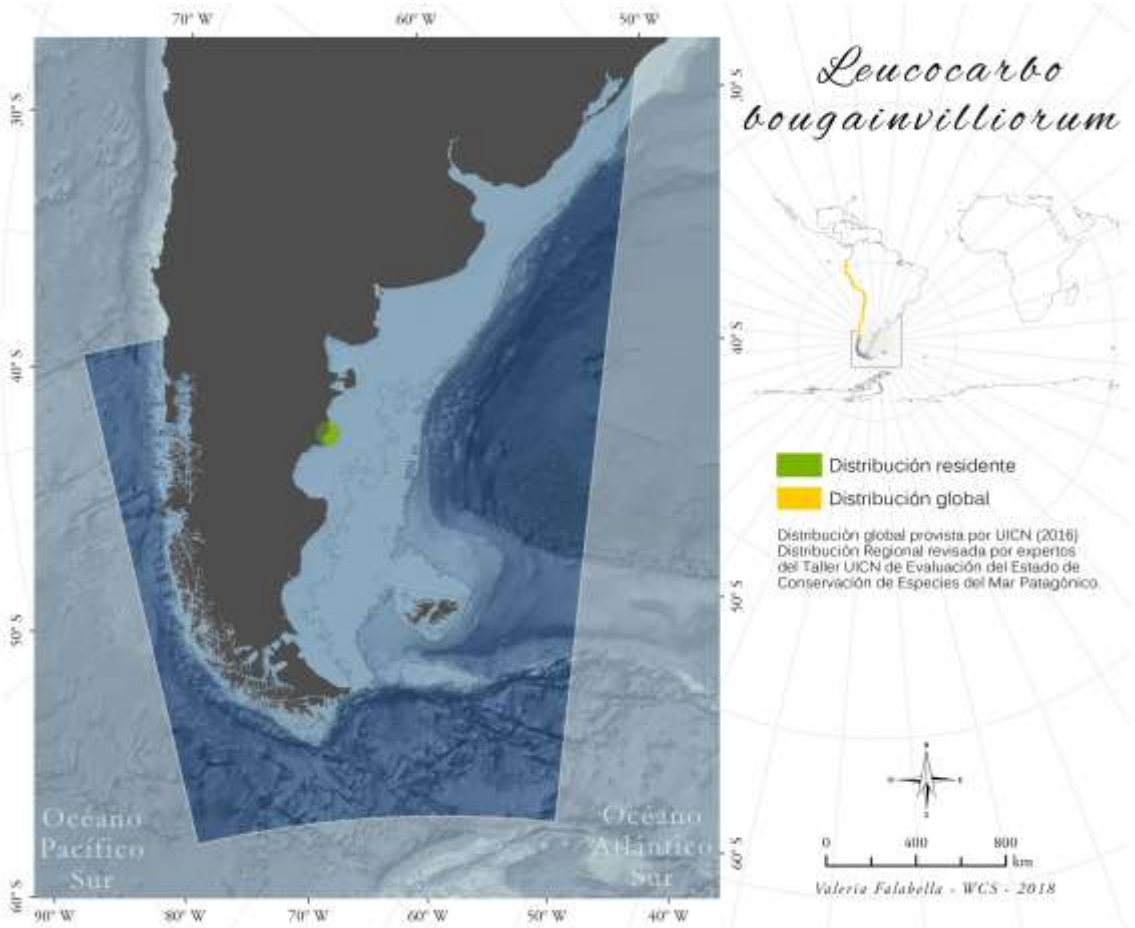
Common Names: Cormorán Guanay (Spanish; Castilian), Guanay Cormorant (English),

Synonyms: *Phalacrocorax bougainvillii*; *Phalacrocorax bougainvilliorum* (Lesson, 1837)

Note: Following Kennedy and Spencer (2014) the genus *Phalacrocorax* has been divided into six genera, with *P. magellanicus, P. bougainvilliorum, P. atriceps, P. verrucosus, P. carunculatus, P. chalconotus, P. onslowi, P. campbelli, P. ranfurlyi* and *P. colensoi* moved into *Leucocarbo* (HBW and BirdLife International 2018).

Geographic Range

Leucocarbo bougainvilliorum is distributed primarily along the western coast of South America. In the Patagonian Sea there was a breeding population in Argentina in the late 1960s, but after a large storm, this species dispersed. When surveyed in 1999, there were only four breeding pairs. These individuals may be breeding with other species of cormorant, and it is unclear whether the individuals identified as *L. bourgainvilliorum* represent this species or hybrids. Vagrant individuals are found along the northern Chilean fjords during El Nino years.



Population

The Guanay Cormorant is probably extinct in the Patagonian Sea. Global population is estimated to number c.3.7 million individuals (Zavalaga & Paredes 1999). From historical times, the Guanay cormorant has been the dominant avian species in the Peruvian Coastal Current in terms of numbers and consumption of marine resources. The population in Peru was estimated as <4 million birds during the period 1909-1920; 21 million were estimated in 1954 and 3.7 million were estimated on the north-central Peruvian coast in 1996 (Zavalaga and Paredes 1999). Mass dispersal, breeding failures and temporary declines have resulted periodically from El Niño Southern Oscillation (ENSO) events, and both fish-stocks and the populations of seabirds that depend on them are adapted to these fluctuations. Although the species is now protected in Peru, fishing for anchoveta is banned, and the guano industry is adequately regulated, there are concerns that this species has been badly affected by the ENSO event of 1998 (G. Engblom *in litt.* 2003) with a global decline close to 30% over three generations (33 years in this species).

Habitats and Ecology

Breeding occurs year round with an egg-laying peak in November-December (on the northern coast of Peru, breeding starts in June). It breeds on offshore islands and remote coastal headlands and feeds exclusively in the inshore environment usually within 3 km of colonies (Zavalaga and Paredes 1999). Unlike other cormorants it is not primarily a benthic feeder but preys mainly on the schooling Peruvian anchovy *Engraulis ringens,* Peruvian silverside *Odonthestes regia* and mote sculpin *Normanichythes crockeri* found in the cold water of the Humboldt Current (del Hoyo *et al.* 1992, Zavalaga and Paredes 1999).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 11 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

The Guanay Cormorant is probably extinct in the Patagonian Sea. In 1999, only four individuals were detected in one colony and all were hybrids due to mating with king cormorants (Bertellotti *et al.* 2003).

Historical global declines were due to guano exploitation and overfishing of key food sources (del Hoyo *et al.* 1992). These threats are now managed to some degree. Consumption of birds perhaps represents the biggest current threat with around 20,000 birds taken each year in Northern Peru (P. Majluf *in litt.* 2007). Another potential cause of population declines in Peru is high predation rates on eggs and small chicks by Band-tailed Gull *Larus belcheri*. Declines have been particularly evident since the final collapse of the anchoveta stocks in 1974 (del Hoyo *et al.* 1992).

Conservation

Without information for the Patagonian Sea.

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LC, Least Concern, (IUCN version 3.1)

Assessment Rationale:

Rock Shag occurs throughout most of the coastal area of the Patagonian Sea and the Malvinas/Falkland Islands, which represents the majority of this species distribution. The population trend is not known, but it is not believed to be decreasing sufficiently rapidly to be listed as threatened. Therefore, this species is listed as **Least Concern.**

Assessor(s): Frere, E., García Borboroglu, P., Tamini, L., Simeone Cabrera, A., Stanworth, A. & Suazo, C.G.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - SULIFORMES - PHALACROCORACIDAE - Leucocarbo - magellanicus

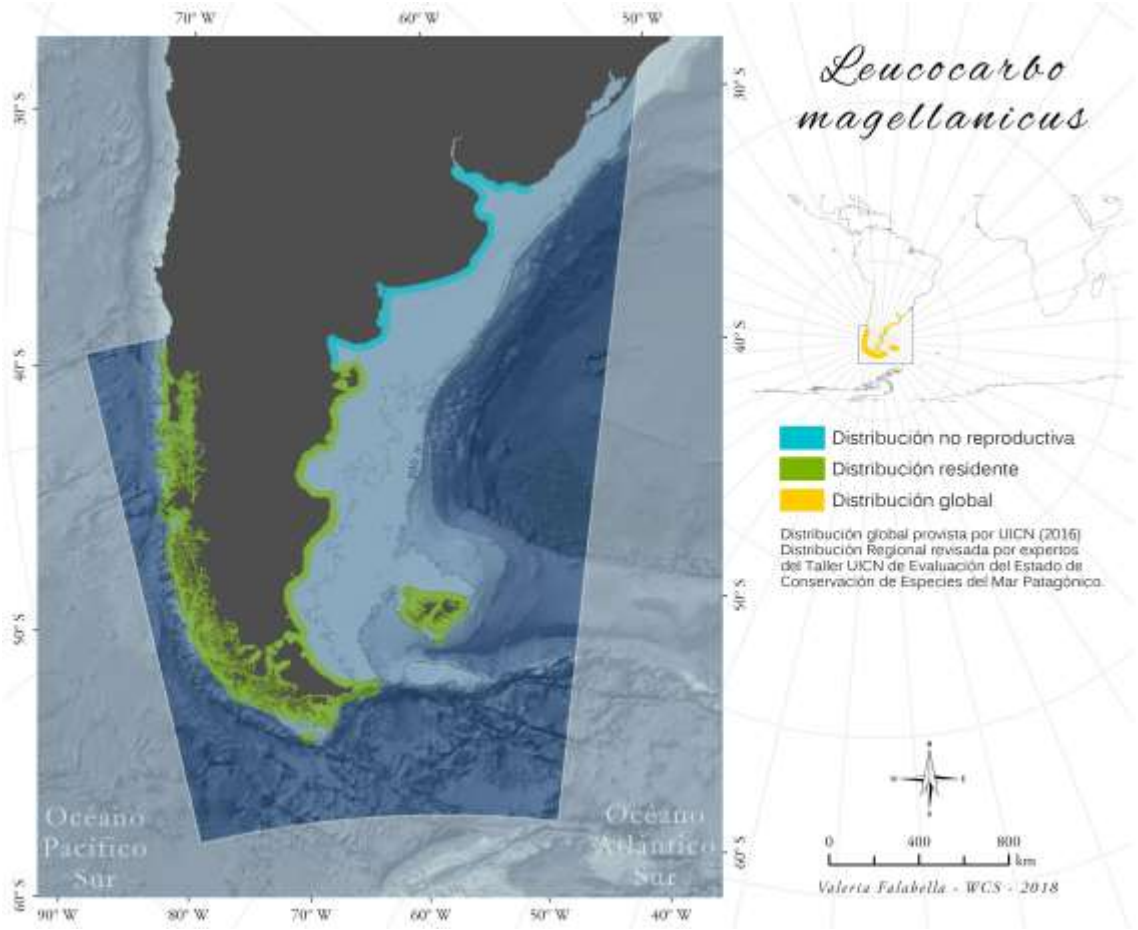
Common Names: Cormorán cuello negro (Spanish), Rock Shag (English), Magellan Cormorant (English)

Synonyms: Phalacrocorax magellanicus (Gmelin, 1789)

Note: Following Kennedy and Spencer (2014) the genus *Phalacrocorax* has been divided into six genera, with *P. magellanicus, P. bougainvilliorum, P. atriceps, P. verrucosus, P. carunculatus, P. chalconotus, P. onslowi, P. campbelli, P. ranfurlyi* and *P. colensoi* moved into *Leucocarbo* (HBW and BirdLife International 2018).

Geographic Range

The Rock Shag breeds on the southern coasts of Argentina and Chile, including Tierra del Fuego and the Malvinas/Falkland Islands. It can be found wintering as far north as Uruguay.



Population

There is no population information for this species.

Habitats and Ecology

The Rock Shag is a foot-propelled pursuit diver widely distributed in southern South America. It generally forages within 5 km of the colony, and eats a variety of primarily benthic prey. It principally forages during daylight hours, with occasional nighttime trips during moonlit nights when birds forage in similar locations and depths as during the day (Sapoznikow and Quintana 2002). At Punta Loma, Argentina, during the chick-rearing period, birds spent 36% of daylight hours away from the colony on feeding trips, and 92% of the foraging trip was spent diving (Quintana 2001). Shags fed mainly in water less than 10m deep, with a gravelly sand bottom and within 5 km of the shore (Quintana 2001). The mean foraging ranges were 3.8 ± 2.6 km and 2.6 ± 2.3 km in 1996 and 1997 respectively (Quintana 2001). These results are consistent with observations made in Bahia Bustamante, Argentina, where the observed foraging range was between 50-2000 m from the coast (Punta *et al.* 1993). Typically, the species forages in inshore waters less than 20m deep (Quintana 1999). Using a published relationship between dive depth and dive duration in Shags (depth (m) = (dive time (s)-35)/1.28), the mean diving depth for Rock Shags was estimated at 12.7 ± 7.5 m, with 86% of dives under 20 m (Quintana 1999). In Port Stanley Harbour, Falklands, birds foraged mainly in or just outside giant kelp beds (*Macrocystis spp. and Lessonia spp.)*, within 50 m of shore and where the water was 1-6 m deep (Wanless and Harris 1991). Fewer birds foraged up to 100 m out, in water 7-13 m deep but not over kelp beds (Wanless and Harris 1991). The mean water depth for dives was 4.5 m (Wanless and Harris 1991). At Bahia Bustamante and Melo, Argentina, birds either foraged within bays, or else at a distance of less than 200 m from the shore and among kelp (*Macrocystis pyrifera*) beds (Punta *et al.* 1993). They foraged in areas, which were 2 - 12 m deep, and contained algae (Punta *et al.* 1993). Foraging occurred at the bottom throughout the year, but occasionally also in mid-water during the breeding season (Punta *et al.* 1993). At Punta Loma, Argentina, the seabed in all the foraging areas consisted of bands of shallowly-sloping, gravelly sand sediments, with tuffs and wave cut platforms in some areas (Quintana 2001). The features of the seabed at foraging sites were consistent with the habitat requirements of the principal prey species, i.e. sandy sea floors and seaweeds (Quintana 2001). Shags used the same feeding areas during the two study years (Quintana 2001).
It forages solitarily, in strictly coastal areas, and feeds at the seabed (Punta *et al.* 1993). At Punta Loma, Argentina, the main prey are benthic fish *Riberoclinus eigenmant* and the polychaete *Eunice sp.*, both associated with sandy seafloors and seaweeds (Quintana 2001). At Bahias Bustamante and Melo, Argentina, the species fed mainly on Rock Cod (*Notothenia spp.*), which were present in 87% of breeding and 91% of non-breeding regurgitated pellets (Punta *et al.* 1993).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 8.7 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Without information for the Patagonian Sea.

Conservation

Without information for the Patagonian Sea.

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LC - Least Concern, (IUCN version 3.1)

Assessment Rationale:

Neotropical Cormorant occurs throughout most of the coastal area of the Patagonian Sea, which represents the majority of this species distribution. The population trend is not known, and it is not believed to be decreasing sufficiently rapidly to be listed as threatened. Therefore, this species is listed as **Least Concern**.

Assessor(s): Frere, E., Garcia Borboroglu, P., Seco Pon, J., Simeone Cabrera, A., Stanworth, A., Suazo, C.G. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

ANIMALIA - CHORDATA - AVES - SULIFORMES - PHALACROCORACIDAE - Nannopterum – brasilianus – (Gmelin, 1789)

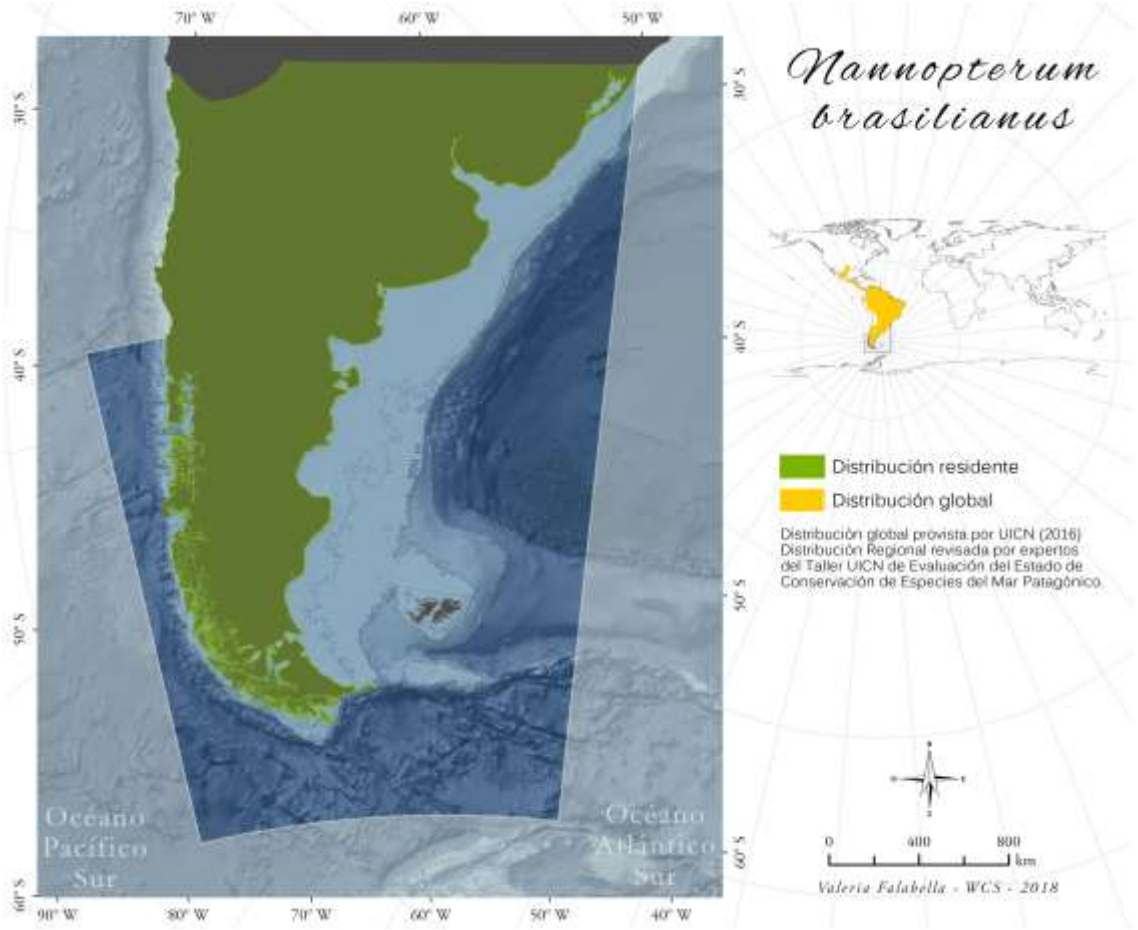
Common Names: **Biguá (Spanish),** Neotropical Cormorant (English)

Synonyms: *Phalacrocorax brasilianus* (Gmelin, 1789)

Note: Following Kennedy and Spencer (2014) the genus *Phalacrocorax* has been divided into six genera, with *P. auritus, P. brasilianus* and *P. harrisi* moved into *Nannopterum* (HBW and BirdLife International 2018).

Geographic Range

Neotropical Cormorant occurs throughout most of the coastal area of the Patagonian Sea**,** which represents the majority of this species distribution. Global distribution includes all the continent of South America, ranging as far north as the Bahamas and Cuba, north-western Mexico and southern United States.



Population

Total population and trend in the Patagonian Sea is not known, but it is not believed to be decreasing sufficiently rapidly to be listed as threatened. Global population is estimated to number 2,000,000 individuals.

Habitats and Ecology

This species occupies a wide range of habitats in fresh, brackish or salt water. Its diet it equally varied, including small fish, crustaceans, frogs, tadpoles and aquatic insects, with the exact composition varying locally. It feeds mainly by pursuit-diving, but also by plung-diving at sea. It often fishes co-operatively. Breeding occurs all year round with the peak varying locally. It forms colonies, sometimes thousands of pairs strong. It forms nests in trees and bushes or on rocky ground (del Hoyo *et al.* 1992).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 8.7 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Without information for the Patagonian Sea.

Conservation

Without information for the Patagonian Sea.

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LC, Least Concern (IUCN version 3.1)

Assessment Rationale:

Red-legged Cormorant is distributed in Argentian and Chilean waters in the Patagonian Sea, with approximately 50% of the breeding population in each country. The subpopulation declined in Argentina between 1990 and 2002, but more recently is recovering. Population trends in Chile are unknown, but presumed stable. At present, population declines in the Patagonian Sea do not approach the threshold required for listing under criterion A; therefore, this species is listed as **Least Concern.**

Assessor(s): Frere, E. & Tamini, L.

Reviewer(s): Shope, M. & Falabella, V.

Contributor(s): BirdLife International

Facilitators/Compilers: Ralph, G.

Taxonomic information

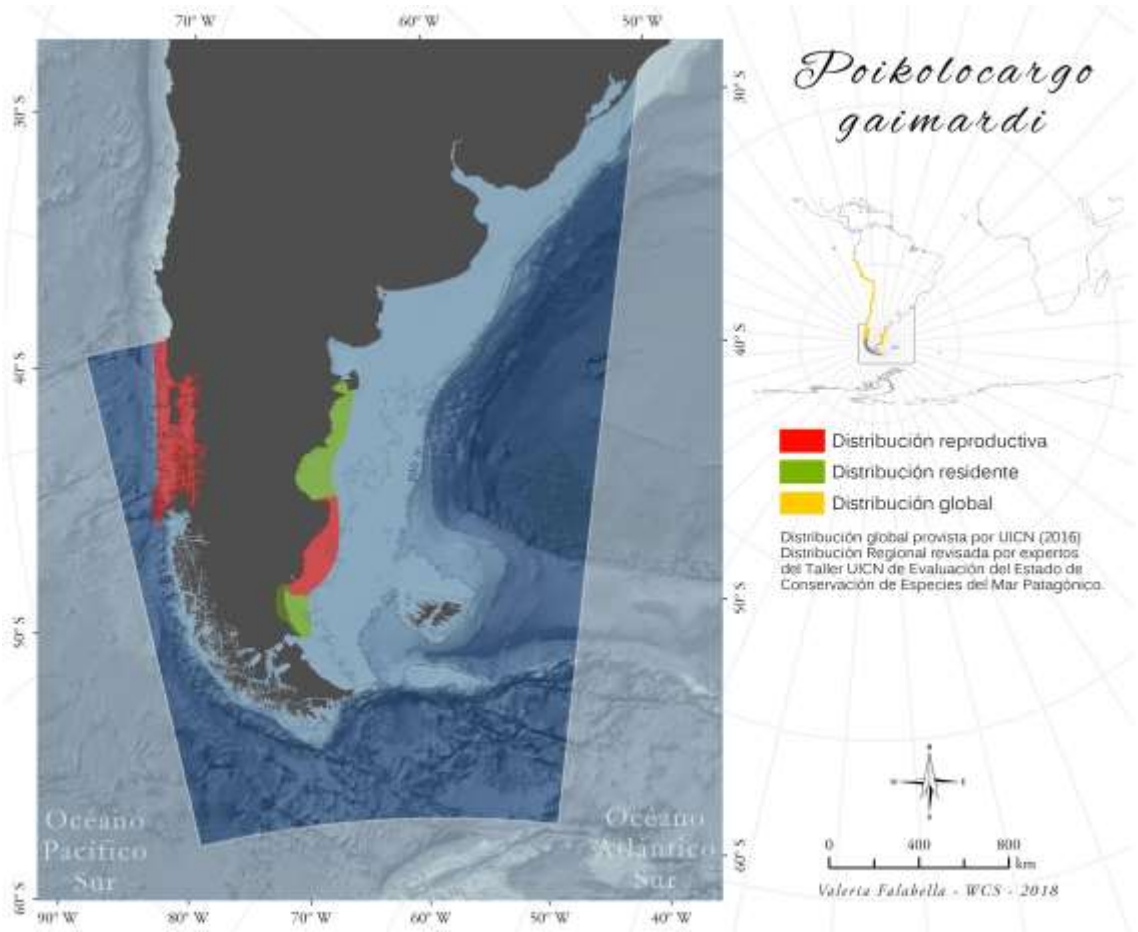
ANIMALIA - CHORDATA - AVES - SULIFORMES - PHALACROCORACIDAE - Poikilocarbo – gaimardi – (Lesson & Garnot, 1828)

Common Names: Cormorán gris (Spanish; Castilian), Red-legged Cormorant (English), Chuita (Spanish; Castilian),

Synonyms: *Phalacrocorax gaimardi* (Lesson & Garnot, 1828)

Geographic Range

Red-legged Cormorant occurs on the coasts of southern South America. In the Patagonian Sea, the species is distributed in Argentian and Chilean waters, with approximately 50% of the breeding population in each country.



Population

In Chile, surveys during 1998-2000 produced an estimate of 5,018-5,218 breeding pairs distributed along 40 breeding sites (Frere *et al.* 2004). Then, during 2010-2012, 10 unsurveyed sites were described and the known population increased to 8,193-8,393 breeding pairs (Barros *et al.* 2014). Although El Niño Southern Oscillation (ENSO) events may have led to distributional changes (with southern regions having become particularly important for the species), the population declines reported in Peru do not seem to have been mirrored in Chile (Frere *et al.* 2004) where the population trend is unknown, but is presumed to be stable. In Argentina breeding population is estimated to number c.1,800-2,000 individuals, found in 13 localities of Santa Cruz Province (Frere *et al.* 2004, 2005; Millones *et al.* 2015). About 93% of this population breeds near coastal cities (Gandini & Frere 1995; Frere *et al.* 2005), where coastal development is increasing rapidly (Gandini & Frere 1995). Between 1990 and 2002 the breeding population of Argentina showed a declined of 32% (Millones *et al.* 2015). More recently, the population appears to be recovering and the overall decline from 1990 to 2009 was 11%, with an estimated annual reduction of about 1.2% per year (Millones *et al*. 2015). The world population has been estimated at 40,000 individuals (Barros *et al*. 2014).

Habitats and Ecology

It favours rocky coastline with cliffs for nesting and shallow cold productive offshore waters for feeding. It nests in inaccessible areas rather than the tops of rocky islets. Sometimes nests in loose aggregations approaching colonies. Generally solitary when feeding but may occur in flocks. Red-legged Cormorants are inshore feeders (less than 3 km from the colony) and forage in shallow waters (<15 m) on benthic fish and invertebrates (Frere *et al.* 2004). Often found coexisting with rock shags *Leucocarbo magellanicus*, sharing the same cliffs but not mixing nest sites, its breeding success shown to increase with this sympatry (Millones *et al.* 2008). In two of eight localities it also breeds sympatrically with imperial cormorants *Leucocarbo atriceps* (Millones *et al.* 2008). Avian predation of eggs and wind exposure at nest sites are important factors influencing chick mortality, with studies showing highest densities of active nests in areas protected from prevailing wind conditions (Millones *et al.* 2008).

Generation length, calculated based on extrapolated mean age at first breeding and extrapolated mean annual survival, is 8.8 years (poor data quality).

General Use and Trade Information

Without information for the Patagonian Sea.

Threats

Most threats in the Patagonian Sea result from interactions with fishers and fisheries: directly through entanglement in equipment, and indirectly through competition with fishers targeting benthic invertebrates and also when fishers take adults, chicks and eggs at a subsistence level. The main colonies in Argentina are concentrated around San Julián (1,164 mature individuals) and Puerto Deseado (588 mature individuals) (Gandini & Frere 1995; Millones *et al.* 2015), where there is an intensive fisheries activity and traffic harbour (Frere *et al.* 2004). The increase in fishing activity that would follow this development would favour its main predator, Kelp Gull *Larus dominicanus* (Frere *et al.* 2004) which is known to heavily impact breeding success (Millones *et al.* 2008).

Outside the Patagonian Sea, the species has been detrimentally affected by ENSO events in the north of its range, particularly in northern Peru where dramatic declines have been recorded owing to kelp die-off caused by sea temperature rises.

Conservation

Without information for the Patagonian Sea.

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