

Report on numbers, trends and conservation status of tropical seabird species included in The Agreement

Project Report to Wetlands International

Project: Review of the Conservation Status of Selected Seabirds Populations Covered by the African-Eurasian Waterbird Agreement

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Summary

The following report including three annexed tables summarises the most recent available data on the population status of 18 subspecies of ten tropical seabird species, in the AEWA region. The population estimates are based on reported counts of breeding or observed birds, usually during peak breeding season or an annual average. Where numbers have been reported as pairs or occupied nests, they have been multiplied by three to get numbers of individuals. It was not possible to calculate any new trends with the the data provided, for the same reasons outlined in the previous report (Wanless 2011):

- Seabird biology - differs very substantially from that of migratory non-seabirds ('waterbirds' in the classical sense of the word). Some tropical seabirds (e.g. Lesser Noddy) breed at periodicities of less than a year. Other species (e.g. tropicbirds) may breed year-round, with spatio-temporal variation in seasonal peaks. This makes deductions about trends from a single datum from a given species/island/year very unreliable. Without details of what a given count for a given island represents (e.g. when it was undertaken, and what proportion of the total population was counted, etc.), the count cannot be construed as a true census in the way that counts at a colony of an annual breeder can.

- Gaps in the data - this is another significant obstacle to defining trends. Census counts are not conducted annually at all sites. Nor do they use standardized methods (see below). This has the effect of creating huge gaps in the data, further complicating any trend analysis. Although TRIM can account for some data gaps, the lack of historical datasets (no multiple-year, island-by-island counts were made available to us) meant that for few species/subspecies could we even acquire a complete count from each colony in any year.
- Uncertainty surrounding census techniques used - a slightly less important issue is the lack of data on count methods employed. Census techniques vary widely, and produce quite variable results. In addition, some census techniques are more vulnerable to observer effects. This further erodes confidence in the quality of the data.

The 2011 trends have therefore been retained unless researchers or data holders have indicated a significant new trend for a particular population. It is worth repeating for the sake of emphasis that new trends are assessed on the basis of expert opinion, not from analysis of count data submitted to for this report. There are updated population numbers for all ten species and most sub-species.

An online search for published literature was carried out for each of the species and sub-species within the geographical areas of relevance. In addition we contacted researchers and data holders directly and requested recent census data and local colony information for each species. Exhaustive attempts were made to obtain the most up-to-date estimates, however many researchers are understandably reluctant to give up unpublished data. In a more positive vein, the World Seabird Union (www.seabirds.net) is currently collecting data for a global Seabird Colony Register. This is expected to make future assessments easier and, ideally, based on more recent datasets.

Results

Tropical and subtropical seabird population estimates – data and contacts

Regional comments and information for AEWA species of concern:

St. Helena - Population information and trends

New population estimates from St. Helena provided by Ms Annalea Beard, Environmental Management Division of St. Helena. The population status was updated for the three AEWA species of concern: Red-billed Tropicbird (*Phaethon aethereus aethereus*), Masked Booby (*Sula dactylatra dactylatra*) and Sooty Tern (*Onychoprion [Sterna] fuscata fuscata*), breeding on St. Helena mainland and offshore islands. The main offshore islands known to hold breeding seabird colonies are: Speery, Thompson Valley, Peaked, Egg Island, Shore and George islands, the mainland cliffs opposite Peaked Island, Great Stone Top, James Bay to Rupert's Bay, Lots' Wife and Blue Point. Of these Speery, Shore and George islands, hold the highest diversity and abundance of seabirds. These islands have not been monitored on a regular basis and this constitutes a major data gap in the colony information. These and other main offshore islands have now been earmarked for on-going monitoring which will in future provide a more accurate picture of the abundance and diversity of the breeding seabird colonies of St. Helena (A. Beard 2014 pers. comm.). The following information for the breeding seabirds of St. Helena was provided by A. Beard 2014 pers. comm., a review of the analysed monitoring data between 2004-2011 (Beard et al. 2013), and other cited references.

Ascension Island - Population information and trends

New data from Boatswainbird Islet and offshore stacks of Ascension Island was provided by Dr Hughes. No recent surveys have been conducted on mainland since 2007 (Ratcliffe et al. 2009), confirmed by researchers Dr Nicola Weber and Dr Eliza Leat from the Conservation Department of Ascension Island. Four AEWA species of concern breed on the island and associated islets: Red-billed Tropicbird (*P. a. aethereus*), White-tailed Tropicbird (*P. lepturus ascensionis*); Masked Booby (*S. d. dactylatra*) and Sooty Tern (*O. f. fuscata*).

Middle East (Red Sea, Gulf of Aden, Persian Gulf and Arabian Sea) - Population information and trends

This region includes the Middleeastern countries (range states and contracting parties, to AEWA) bordering the Red Sea, Gulf of Aden, Persian Gulf and Arabian Sea. Four AEWA species of concern breed in this region: Red-billed Tropicbird (*P. a. indicus*), Masked Booby (*S. d. melanops*), Bridled

Tern (*O. anaethetus fuligula*) and the Brown Noddy (*Anous stolidus plumbeigularis*). There have been no new comprehensive estimates for the seabirds breeding in the area since the PERSGA report (2003). A recent publication by Shobrak & Aloufi (2013) updated the status of breeding seabirds on 16 islands in the northern part of the Red Sea, in Saudi Arabian territorial waters, including the Bridled Tern, but no new population estimate was provided. Shobrak & Aloufi (2013) suspect that the Farasan islands probably have a higher breeding population than the Al Wajh Bank islands, the former estimated at 37,000 individuals (Shobrak & Aloufi 2013). Semere et al. (2008) undertook the first comprehensive survey of the Eritrean islands including the Dehalak Archipelago and Beilul islands, from 2001 to 2007. Surveying the breeding species of seabirds and waterbirds, including the Red-billed Tropicbird, Masked Booby, Bridled Tern and Brown Noddy on 325 islands. What follows is a summary of the data collected for the species of concern.

The Malagasy region, Western Indian Ocean- Population information and trends

The Malagasy Region in the Western Indian Ocean is currently recognised as a distinct zoogeographic region based on faunal phylogenetics (Safford & Hawkins 2013). It includes four countries, Madagascar, Seychelles, Union of the Comoros and Mauritius as well as islands under French administration (for a comprehensive description of the regions islands and territories, refer to Safford & Hawkins (2013). Eight AEWA sub-species of concern breed in this region, namely, Red-tailed Tropicbird (*P. r. rubricauda*), White-tailed Tropicbird (*P. l. lepturus*), Masked Bobby (*S. d. melanops*), Great Frigatebird (*Fregata minor aldabrensis*), Lesser Frigatebird (*F. ariel iredalei*), Bridled Tern (*O. a. antartica*), Sooty Tern (*O. f. nubilosa*) and Lesser Noddy (*Anous tenuirostris tenuirostris*). Recent population estimates and trends for the region were made available by Dr Tatayah Vikash, Mauritian Wildlife Foundation, Mr Adrian Skerrett, Island Conservation Society, Seychelles, and researchers Dr Matthieu Le Corre, University of La Reunion, France and Mr Daniel Danckwerts, Rhodes University, South Africa.

Species accounts and trends

***Phaethon aethereus aethereus* (Red-billed Tropicbird)**

St. Helena: This species breeds on the coastal cliffs and offshore islands around St Helena with large mainland colonies situated at Ladder Hill, Great Stone Top, Munden's and The Asses Ears.

The population is estimated to be between 100-200 pairs which represents 1.2% – 2.5% of the global population (ca. 8000 pairs) (Beard et al. 2013). Accurate estimates are not possible however partly due to the lack of a comprehensive list of all tropicbird colonies, and also because monitoring is carried out at midday, which does not coincide with peak activity time, primarily during dusk and dawn (Beard et al. 2013). The main colony at Great Stone Top appears to be decreasing, possibly due to poor breeding success although this could not be statistically confirmed (A. Beard 2014 pers. comm.).

Ascension Island: This species breeds on Boatswainbird Islet and offshore stacks, with very small numbers on mainland (8 pairs in 2007) (Ratcliffe et al. 2009). Hughes (2013 and references therein) traces the reported breeding numbers in the literature from late the 1950s where a 1000 pairs were reported, in the late 1980s between 50-100 pairs, and the most recent estimate from 2000 of 1,100 pairs. It is not possible to estimate trends given the lack of reliable surveys, however the population seems to be stable (Hughes 2013).

Overall population estimate is of 3,600 – 3,900 individuals which is an increase from the previous estimate of 1,728 individuals (Wanless 2011). However expert opinion from the islands is that it is not possible to reliably determine a trend at this point for St. Helena (Annalea 2014 pers. comm.). Similarly a lack of reliable surveys from Ascension Island also prevents this, although the population seems to be stable (Hughes 2013).

***Phaethon aethereus mesonauta* (Red-billed Tropicbird)**

Cape Verde: This is the only AEWA species of concern breeding on the Cape Verde Islands. This species was reported breeding within the protected area of Santa Luzia, Branco and Raso, but no recent population estimates are available (T. Melo 2014 pers. comm.). The main threats from humans, primarily in the pet trade, have become negligible since the area has been protected and numbers seem stable. However Hazevoet (2012) reports ongoing human destruction on Raso and at the islets of Baluarte and Curral Velho, as well as elsewhere on the Cape Verde islands. On Boa Vista Island a 40% decline in Red-billed tropicbirds numbers has occurred in the period 2011-2012 (from about 250 pairs to 150 pairs), the main threats being predation by people and feral cats (P. Lopez 2014 pers. comm.). Hazevoet (2010) recorded a total of 64 - 75 pairs or 192 – 225 birds on Cape Verde with the largest colony on Boa Vista Island (120 – 150 recorded birds in 2008).

Senegal: There are no new population estimates for this species. An extremely small population breeds at Iles de la Madeleine off Dakar.

Overall estimate for the population is of 612 – 615 individuals, which is a slight increase from previous estimate of the population on Cape Verde. However, this reflects additional once off surveys of islands, not regular monitoring, with the exception of Boa Vista Island which has been visited in 2008/2011/2012. The decline on Boa Vista Island is of concern.

***Phaethon aethereus indicus* (Red-billed Tropicbird)**

Eritrea: The species was recorded on 12 islands where it nests solitarily on cliffs, in caves or in holes perpendicular to cliffs. Breeding in the Dahlak Archipelago has been recorded in March, June–July, and August (Semere et al. 2008 and references therein). Delany et al. (2008) estimated 200 pairs in Eritrea based on previous sightings and in the absence of more accurate surveys. Semere et al. recorded a total of 16 breeding pairs, however, given the inaccessibility of their nests, the real number is certainly higher (Semere et al. 2008).

The species also breeds on other of the islands in the Middle East, but no recent estimates are available. The current estimate of at least a 1,000 pairs (3,000 individuals) for the area is therefore maintained in this report.

***Phaethon rubricauda rubricauda* (Red-tailed Tropicbird)**

Mauritius: The species breeds on Round Island (<3000 pairs), Gunner's Quoin (<500 pairs), Flat Island (15-30 pairs), Pigeon Rock (50-100 pairs) and Rodrigues Island (30 – 40 pairs). The main threats are poaching but populations are stable and/or increasing, with the exception of Gunner's Quoin where poaching is keeping population numbers down. The total population is between 3,595 – 3,670 pairs or 10,785 - 11,010 individuals (Tatayah 2010; V. Tatayah 2014 pers. comm.). A small translocation programme to establish a new breeding colony is underway at Ile aux Aigrettes, off the SE coast of the main island.

Seychelles: The species breeds on Aldabra mainly between January and April, there have been no recent population estimates but the main Aldabra population is probably stable with c. 2,000 pairs or 6,000 individuals (A. Skerrett 2014 pers. comm). No recent population estimates are available for Cosmoledo with 50-200 breeding pairs (A. Skerrett 2014 pers. comm). The species also breeds in the granitic Seychelles at Aride Island up to 6 pairs but only two pairs in 2008 (Mills & Yeandle 2009) and 2009 (Sutcliffe et al. 2010). The overall population trend is probably stable.

Other islands in the Malagasy Region: The species breeds on Europa Island where the population estimated of 3,500 pairs or 10,035 individuals remains unchanged (Le Corre & Jouventin 1999). Breeding also occurs on Nosy V , Madagascar where the population is currently estimated at 345 pairs or 1,035 individuals (Danckwerts et al. in press).

The total population estimate for the region is 28,488 - 29,163 individuals rounded to 28,500 – 29,200. The population on Mauritius, where recent information is available and where the highest numbers occur, is increasing. There was a 14% increase of the reported population from 2008-2011, and an 18% increase from 2011-2014 (total 30% increase from 2008-2014). Based on the above and V. Tatayah’s expert opinion the trend status for this species is revised from STABLE to INCREASING.

***Phaethon lepturus lepturus* (White-tailed Tropicbird)**

Mauritius: The following estimates are all drawn from Tatayah (2010 and refs. therein) with the exception of St. Brandon estimate, Danckwerts et al (in press). The species breeds on mainland Mauritius (500 – 1000 pairs), Round Island (750 – 1,500 pairs), Flat Island (10 – 20 pairs), Gabriel Island (30 – 60 pairs), Gunner’s Quoin (50 – 100 pairs), Pigeon Rock (50 – 100 pairs), Rodrigues Island (100 pairs), St. Brandon Island (100 pairs), and Agalega Archipelago (no population estimate available). The populations on Mauritius are increasing, with the population on Round Island remaining constant, suppressed by a growing population of Red-tailed tropicbirds. The population on Agalega Island is also increasing however introduced predators are a threat (Tatayah 2010; V. Tatayah 2014 pers. comm.). Total estimated population for Mauritius is 1,590 – 2,980 pairs or 4,770 – 8,940 individuals. This species is also being translocated to Ile aux Aigrettes.

Seychelles Archipelago: No recent population estimates for the archipelago are available with the exception of Cousin (A. Skerrett 2014 pers. comm.). The species breeds year-round throughout Seychelles and numbers breeding at any one time vary considerably. Main colonies are in the granitics on rat-free islands of Cousin, Cousine and Aride islands. On Cousin Island 1,157 pairs in Jul 2009, 733 pairs in Feb 2010 and 656 pairs in July 2010 (Ledlie & Derand 2010) with 1,080 pairs estimated in 2013, the population is probably stable. On Cousine Island an estimated 1,094-2,083 pairs in 2010 (Jolliffe 2010a, 2010b), the population is also increasing. On Aride Island, numbers fluctuated (421 – 622 pairs) between 2006 and 2009, with 426 pairs in June 2009 (Sutcliffe et al. 2010). Arnold et al. 2009 found a slight decline in the numbers on Aride between 1988 and 2008; however, the decline was not significant and the population appears to be stable if somewhat variable (A. Skerrett 2014 pers. comm.). A few pairs breed on North Island following rat eradication in 2005, but no population estimates are available. The species also breeds on smaller granitic islands and in mountains of Mahé and recently on Silhouette, 10 pairs are estimated from Bird Island. In the coralline islands the species is generally absent from Amirantes, but a few pairs breed on Alphonse Island, first confirmed in Sept 2007 (Adam 2009). Breeding in the Aldabra group occurs at Aldabra Atoll (c. 2,000-2,500 pairs) and Cosmoledo Atoll (population unknown). Overall population trend is probably stable (A. Skerrett 2014 pers. comm.). Total estimated population for the Seychelles is c. 4,600 – 6,300 pairs or 13,800 – 18,900 individuals.

Other islands in the Malagasy Region:

No recent estimates are available for this region (D. Danckwerts 2014 pers. comm.). Small numbers breed on Madagascar on the NW coast, on Nosy Vé and satellite islands, Mitsio Archipelago, and on the east coast of Antsiranana, with a total estimated population of at least 100 pairs (Le Corre & Bemanaja 2010; Safford & Hawkins 2013).

The total estimate for the region is 25,230 - 34,500 individuals.

***Phaethon lepturus europa* (White-tailed Tropicbird)**

There are no recent population estimates for this population, 1,000 pairs reported from the late 1990s (Le Corre 2001). The birds nests in holes of the coralline ground on the island, these are difficult to access and thus survey. Furthermore, the species is vulnerable to depredation by rats. No population trends are available.

Phaethon lepturus ascensionis (White-tailed Tropicbird)

Ascension Island: This species breeds on Boatswainbird Islet and offshore stacks, with 25 pairs reported breeding on mainland on 2007 (Ratcliffe et al. 2009). Again there are no recent estimates for this population, having been estimated at 2000 pairs in the late 1950s, 250-600 pairs in the 1980s, and by 2000 an estimated 2200 pairs (Hughes 2013 and references therein). It is not possible to estimate trends given the lack of reliable surveys, however the population seems to be stable (Hughes 2013).

Sula dactylatra dactylatra (Masked Booby)

St. Helena: This species breeds at Lot's Wife and Blue Point area of Sandy Bay on mainland St Helena as well as the offshore islands notably Speery, Shore and George islands. The mainland population is estimated to be between 150-200 breeding pairs as of 2013 and appears to be increasing from previous 40 Apparently Incubating Adults (AIA) in 2009 (A. Beard 2014 pers. comm., Bolton et al. 2011). The apparent increase in numbers on mainland could be due to a population increase, and possible lack of suitable breeding sites on offshore stacks, or a redistribution of the birds from Shore Island (Bolton et al. 2011). Monthly counts from Shore Island show a decrease in the number of AIA which corresponds to the increase on mainland. No significant decrease has occurred on George Island and estimates from Speery Island are not available due to difficulty of access, 60 to 90 Masked Boobies are however regularly counted from atop its highest pinnacle (Bolton et al. 2011). The breeding success of the newly established mainland colony is estimated at 0.461 which is high compared to predator free Ascension Island and that of other islands (Bolton et al. 2011 and refs. therein).

Ascension Island: Fluctuating numbers breed on Boatswainbird Islet and offshore stack, as well as 152 pairs on mainland by 2007 (Ratcliffe et al. 2009). The population was estimated at 9,000 pairs in the late 1950s, increasing to 10,000-20,000 in the 1980s, with the most recent estimate at c. 4,600 pairs in 2000 (Hughes 2013 and references therein). It is not possible to estimate trends given the lack of reliable surveys (Hughes 2013).

Overall the population estimates remains similar to previous estimate 14,706 - 14,856 individuals, but much higher than the 2008 estimate, however the methodologies for estimating populations are not available and may not be comparable, making trend estimations impossible at this point

(Hughes 2013). The mainland population on St Helena is increasing, but the main off-shore population is decreasing and may thus just be a relocation of breeding birds and overall trend remains unknown (Bolton et al 2011)

***Sula dactylatra melanops* (Masked Booby)**

Mauritius: In 2013 an estimated 45 - 50 pairs bred on Serpent Island (V. Tatayah 2014 pers. comm.). On St. Brandon Shoals an estimated 30 –200 pairs occur, no recent censuses have been carried out (Safford 2001, V. Tatayah 2014 pers. comm.). The population is stable (V. Tatayah 2014 pers. comm).

Seychelles Archipelago: No recent population estimates are available and population trend is unknown (A Skerrett 2014 pers. comm.). There are 5000 – 6000 pairs on Cosmoledo Atoll and c. 3000 pairs on Boudeuse islands. Small numbers were recorded breeding on Grande Ile in November 2013, for the first time since 1968, following the eradication of rats in 2008. The small population that bred on Desnoeufs and still around during 2000 has however not bred in recent years and may have been exterminated.

Other islands in the Malagasy region: There are no updated estimates for the remainder of the islands in the region: Tromelin Island (250 pairs) and on Mohéli Island, Comoros (80 pairs) (ECOMAR 2010). On Tromelin Island the population trend is increasing, though major threats are human disturbance as well as introduced predators (V. Tatayah 2014 pers. comm.).

Other islands in AEWA regions:

Eritrea: This species is generally considered a rare resident in the Red Sea, with 25 breeding pairs on three of the Beilul Islands, within colonies of Brown Booby (*Sula leucogaster plotus*) and Brown Noddy (Semere et al. 2008). Delany et al.'s (2008) previous estimate for the Red Sea and Gulf of Aden, excluding Eritrea was 1,250 – 1,550 pairs. This is here updated to 1,275 – 1,575 pairs. No recent estimates or population trends are available for other areas. The species breeds on Latham Island where 3,700 pairs have been estimated to breed (Crawford et al. 2006).

Total population for the region is updated to 40,410- 44,625 individuals and trend remains unchanged due mainly to lack of substantive recent census information.

***Fregata minor aldabrensis* (Great Frigatebird)**

Mauritius: No breeding occurs on mainland Mauritius or on St. Brandon Shoals (V. Tatayah 2014 pers comm.).

Seychelles: Breeds mainly on Aldabra. Annual surveys commenced at Aldabra in 2011, the first such surveys since the 1970s when the population was estimated to be about 4,000 pairs (Skerrett et al. 2001). In 2011, the population was estimated to be 4,400 pairs. However, there were considerably fewer (3,000 pairs) in 2012 indicating a significant degree of annual variation in breeding numbers (Sur et al. 2013). Subsequent (unpublished surveys) show a similar peak in 2013 and dip in 2014 (A. Skerrett 2014 pers. comm.). Some 10-20 pairs breed at Cosmoledo Atoll (Skerrett et al. 2001). A new breeding colony is reported on the island of Picard (Aldabra Atoll), last reported to host breeding frigatebirds a century ago (Sur et al. 2013).

The population is considered to be stable and potentially increasing, albeit continued regular surveys are required to monitor fluctuations and trends (Sur et al. 2013).

Other islands in the Malagasy Region: There are no recent surveys from Europa Island or Mitsio Archipelago where an estimated 1100 and 50 pairs, respectively, breed (Le Corre 2004, Le corre & Bemanaja 2009, Danckwerts et al. in press).

***Fregata ariel iredalei* (Lesser Frigatebird)**

Mauritius: No breeding occurs on mainland Mauritius or on St. Brandon Shoals (V. Tatayah 2014 pers comm.).

Seychelles: Breeds mainly at Aldabra. Annual surveys commenced at Aldabra in 2011, the first such surveys since the 1970s when the population was estimated to be about 6,000 pairs (Skerrett et al. 2001). In 2011 the population was estimated to be 6,600 pairs, in 1012 it was estimated at 3,500 pairs, but back to 6,600 pairs in 2013 and subsequent dip in 2014 (Sur et al. 2013, A. Skerrett 2014 pers. comm.). Similar to the Greater Frigatebird there seems to be a significant degree of annual variation in the numbers of breeding birds. The population is however considered stable

and potentially increasing, albeit continued regular surveys are required to monitor fluctuations and trends (Sur et al. 2013).

Other islands in the Malagasy Region: There are no recent surveys from Europa Island or Mitsio Archipelago where an estimated 1200 and 100 pairs respectively breed (Le Corre 2004, Le corre & Bemanaja 2009, Danckwerts et al. in press).

***Onychoprion anaethetus melanopterus* (Bridled Tern)**

This species breeds in West Africa, off the coast of Mauritania on the Banc d'Arguin, off the coast of Senegal (Iles de la Madeleine) as well as on islands in the Gulf of Guinea islands (São Tomé and Príncipe and Annobón). There are no recent estimates for these populations and the estimates remain as reported in the Fourth edition of the AEWA (Delany et al. 2008 and references therein).

***Onychoprion anaethetus fuligula* (Bridled Tern)**

Eritrea: This species is common on the Eritrean islands nesting below the vegetation as well as using abandoned Crab Plover burrows. Breeding commences in May and continues until August. The population had previously been estimated at 10,000 pairs (Delany et al. 2008). Semere et al. (2008) estimates it to be between 30,000–35,000 pairs on 66 islands. This corresponds to 3% - 3.5% of the biogeographic population for this species, highlighting the importance of these islands. Gurna, a very small island in Assab Bay, held 5,000 pairs (Semere et al. 2008). The species also breeds on other of the islands in the Middle East, but no recent estimates are available (750,000-1,050,000 individuals) (PERSGA/GEF 2003).

The overall estimate for this population increases to 780,000-1,085,000 individuals.

***Onychoprion anaethetus antarctica* (Bridled Tern)**

Seychelles: Recent census data is only available for Frégate Island where 1,050 birds were recorded in 2011 (Seychelles Seabird Group News 2011). The largest population is in Récife Island, 3,313 pairs in Feb 2003 (Bristol 2003). The population on Aride varies considerably with a maximum of 1,100 pairs estimated in 1988 in an incomplete colony count (Bullock 1989) and minimum of 27 pairs in 1997 during a period of food shortage (Betts 1998). The most recent

figures are of 302 pairs in June 2009 and 250 pairs in December 2009 (Sutcliffe et al. 2010). On Cousin Island an estimated 404 pairs bred in 2007 (Ledlie & Derand 2010) and on Cousine Island an estimated 451 pairs were recorded in 2010 (Jolliffe, 2010a, 2010b). The species also breeds on smaller rat-free granitic islands but no population estimates are available (A. Skerrett 2014 pers. comm.). The population trend is unknown.

Other islands in the Malagasy Region: There are no recent updates of population status of Madagascar, Kenya or Somalia, where the species reportedly breeds. According to Safford & Hawkins (2013) breeding occurs in the W Indian Ocean (Seychelles and Madagascar) on islands in E Africa (Somalia to Kenya), as well as on islands in the Middle East (Red Sea, Persian Gulf and Arabian Sea). There is considerable confusion and potential overlap between *fuligula* and *Antarctica* subspecies ; the former also breeds in the Middle East (Ash & Miskell 1998). In this report the terns breeding on Somalian islands in the Gulf of Aden (Ceebaad, Sacadin, and Maydh islands, Ash & Miskell 1998), and in the southern Somalian Bajan islands (Delany et al. 2008), are considered to be of the *antarctica* subspecies, however more research is needed to clarify the subspecific status of Middleeastern populations.

Delany et al. (2008) estimated the population in the region to be 10,000 – 15,000 individuals, and Wanless (2011) reported that this grew to an estimated 18,000 individuals based on new census data. This estimate increase has continued to 19,300 individuals. However, it is not possible to estimate a trend given uncertainty regarding identification of the species and lack of any recent census estimates save for Frégate Island in the Seychelles.

***Onychoprion fuscata fuscata* (Sooty Tern)**

St. Helena: The sooty tern population is poorly known mainly due to it being restricted to breeding on offshore islands, which are usually inaccessible and therefore poorly monitored. The highest numbers of birds were recorded on Speery Island during the 2004-2011 monitoring programme, with an overall mean of 44 adult birds and a maximum of 250 adults recorded during August 2005 (Beard et al. 2013). The best current population estimate of 1500 birds is based on the census carried out by Rowlands et al. (1998) (A. Beard 2014 pers.comm.).

Ascension Island: This species breeds in large numbers on mainland, averaging 368,000 birds in the 1990s before the eradication of cats. Following cat eradication, the adult terns continued to be predated upon by both rats and Common Mynas (*Acridotheres tristis*) with rats also depredating chicks (Hughes et al. 2008). Population numbers were estimated at c. 420,000 birds (Hughes et al. 2008). The most recent estimate of the size of the breeding population of Sooty Terns in 2010 was 414,000 ± 50,000 birds (Hughes et al. 2012) and the population is stable.

Gulf of Guinea: This population breeds in the Gulf of Guinea Islands on islands of São Tomé and Príncipe and Annobón Island (Christy 2001, Jones & Tye 2006). A few breeding pairs have also been recorded in the Sine Saloum delta and Langue de Barbarie of Senegal (Delany et al. 2008). Monteiro et al. (1997) estimated a colony of around 100,000 pairs in 1997 on the Tinhosas islands of São Tomé and Príncipe. In February 2013 Valle et al. (2013) estimated the population to be c. 160,000 pairs (20,000 pairs on Tinhosas Pequena and 120,000 pairs on Tinhosas Grande). This more than 50% increase compared to the 1997 estimate suggesting an upward trend. There is however uncertainty around the breeding periodicity of the populations. The 1997 study suggested two breeding peaks (February/March and June/July), which is supported by the 2013 estimate, but requires verification through repeat surveys within and between years, thus the confidence in the trend is low (Valle et al. 2013).

The regional total for these populations is 845,500 - 945,500 individuals. The trend for this subspecies remains unknown until more regular surveys are carried out.

***Onychoprion fuscata nubilosa* (Sooty Tern)**

Mauritius: There are no new population estimates for the species on Mauritius (V. Tatayah 2014 pers. comm.). Serpent Island pairs remain stable at 200,000 pairs (Tataya et al. 2004), and is increasing on the Rodrigues islets of Ile Cocos and Ile Aux Sables (5,000 – 6,500 pairs) (Jones et al. 2010), and St Brandon Shoals where an estimated 135,000 pairs occur based on surveys and whole-island extrapolations carried out in 2010 (Evans et al. 2011). There has been re-colonization on Agalega Island and possible low levels of breeding, but no population estimates are available (V. Tatayah 2014 pers. comm.).

Seychelles: Breeds Cosmoledo Atoll (1,140,000 pairs, trend unknown), Farquhar Island (260,000 pairs, trend unknown), Desnoeufs Island (500,000 declining), Etoile Island (unknown population and trend), African Banks (5,000 pairs, declining), Récife Island (47,000 pairs, trend unknown), Booby Island (unknown, but very few if any survive heavy poaching), Bird Island (700,000 pairs, declining) and on Aride Island (c. 60,000 pairs, declining) (Feare et al. 2007, Skerrett 2014 pers. comm.). At Aride Island, population estimates were up to 300,000 in late 1990s and early 2000s, declining to 59,461 pairs in 2009 (Sutcliffe *et al.* 2010) with similar levels in 2010-2013 (Skerrett 2014 pers. comm.). Cousine Island was colonized recently (2003), with 200 pairs breeding in 2010, increasing to 600 pairs in 2012 (Skerrett 2014 pers. comm.). The only recent population estimate is for Aride and Cousine islands where populations are decreasing and increasing, respectively. The general trend seems to be one of decline but more regular surveys are needed for an accurate estimate.

Madagascar and Mozambique: There are four breeding colonies with increasing numbers of birds in Madagascar and one in Mozambique (Puga Puga) (Danckwerts et al in press). On Madagascar the population was initially estimated at 2,030 pairs (Delany et al 2008 and references therein), this estimate went up, as more information became available, to 8,600 pairs (Wanless 2011 and references therein). Recent estimates show an increase in population numbers, of previously surveyed colonies, to an estimated 29,400 pairs (Danckwerts et al. in press). Although, no trends are available at this point, population numbers seem to be stable or increasing; more surveys are needed. In Mozambique the species was estimated at 2,000 pairs in 1997 (Kromer 1998), however more recent estimates indicate an increase to 12,000 pairs (Danckwerts et al. in press).

Other islands in the AEWA Region: There are no recent estimates for the remaining colonies in the AEWA region, where they breed on the French-owned Juan de Nova, Glorieuses and Europa islands, Tanzania (Latham Island), Kenya (Kisite Island), and islands in the Gulf of Aden (Somalia and Oman).

The overall population estimate for this species is of 18,223,468 - 18,227,968 individuals. It is however not possible to estimate a trend due to the lack of regular and recent surveys in the region. Feare et al. (2007) carried out an extensive overview of the subspecies in the western Indian Ocean. They list all known population numbers and possible trends for the 35 colonies, but

with no overall trend being estimated due to the lack of recent or too few surveys having been carried out. As mentioned above some populations seem to be increasing while others decrease, in numbers, but most trends remain unknown.

***Anous stolidus plumbeigularis* (Brown Noddy)**

Eritrea: This species is common on the Beilul Islands and along the northern Eritrean coast. Nesting in caves and crevices of rocky islands and atop tall halophytes. In the 1940s hundreds were observed on these islands (Semere et al 2008 and references therein). Semere et al. (2008) recorded breeding on five of the Beilul Islands and on Entesila Island in the Dahlak Archipelago, and estimated 11,000 pairs, retained in this report and added to the previous estimate of 25,000 pairs for the area (Delany et al. 2008). No trend however is available for this population.

***Anous tenuirostris tenuirostris* (Lesser Noddy)**

Mauritius: no recent census of the bird population has been carried out, though the St Brandon Shoals will be surveyed later this year (N. Cole 2014 pers. comm.). The species breeds on Rodrigues islands, Ile Cocos and Ile Aux Sables (10,000 - 20,000) (Jones et al. 2010), on Serpent Island (20,000 pairs) (Tataya et al. 2004). St. Brandon Shoals holds the largest population (c. 27,000 pairs, N. Cole 2014 pers. comm.) Breeding also occurs on Agalega Island, in very low numbers, but no estimates are available (V. Tatayah 2014 pers. comm.).

Seychelles: Breeds on Aride Island with 113,183 pairs in 2009 (Skerrett 2014 pers. Comm.); population variable but probably stable. Arnold *et al.* (2009) found the number of breeding pairs on Aride Island increased between 1988 and 2007, although the increase was not statistically significant. Conversely, Bowler *et al.* (2002) reported a non-significant decrease in the number of breeding pairs between 1988 and 2000. On Cousin Island 86,708 pairs bred in 2010, which is much higher than the estimates from 2009 (66,272 pairs) and 2008 (10,029 pairs), although the latter exceptionally low figure being attributed to a La Niña event. The 2010 estimate is similar to estimates for 2005-2007 which were in the range of 82,562 – 89,679 pairs (Ledlie & Derand 2010). Cousine Island: 71,397-119,559 pairs, increasing (Jolliffe 2010a, 2010b). Frégate Island: 27,516 breeding pairs in 2010, a substantial increase in numbers from 7,302 pairs in the last census in 1999 (Gane 2010); in 2013, the population was c. 50,000 pairs. Also breeds Denis Island. In the

Amirantes islands it breeds at Marie-Louise Island (3,500 pairs) and Remire Island (1,500 pairs), but there are no recent estimates. Bird Island: (c. 1,000 pairs, increasing). The general trend seems to be one of increase but more surveys are needed to establish an accurate trend.

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References report

- Adam, P-A. 2009. Alphonse Island Annual Report March 2007-December 2008. Island Conservation Society Internal Report.
- Arnold, C. Mills, S. and Yeandle, M. 2009. Report on the Status of Seabird Breeding Numbers on Aride Island Nature Reserve, Seychelles 1988-2008. Island Conservation Society Internal Report.
- Ash, J.S. & Miskell, J.E. 1998. Birds of Somalia. Pica Press, Sussex, UK
- Beard A., Clingham E. and Henry L. 2013. St. Helena Seabirds Report: 2004 – 2011. Environmental Management Division. 81pp
- Betts, M. 1998. Aride Island Nature Reserve, Seychelles. Annual Report 1997. Royal Society for Nature Conservation Internal Report.
- Bolton M., Watt R., Fowler E., Henry L. and Clingham E. 2011. Re-colonisation of Masked Boobies on mainland St Helena, South Atlantic, in the presence of Feral Cats. *Seabird* 24: 60–71
- Bowler, J., Betts, M., Bullock, I. and Ramos, J.A., 2002. Trends in seabird numbers on Aride Island nature reserve, Seychelles, 1988-2000. *Waterbirds*, 25, 26-38.
- Bristol, R. 2003. Census of bridled terns *Sterna anaethetus* on Récif Island, February 2003. Nature Seychelles Unpublished Report, Seychelles.
- Bullock, I.D. 1989. Aride Island Nature Reserve Scientific Report April 1987-April 1989. Royal Society for Nature Conservation Internal Report.
- Crawford RJM , Asseid BS, Dyer BM, Hija A, Mwinyi AA, Shinula P & Upfold L 2006. The status of seabirds at Latham Island, Tanzania. *African Journal of Marine Science* 28(1): 99–108
- Christy, P. 2001. São Tomé and Príncipe. In: Fishpool, L.D.C. & Evans, M.I., eds. 2001. Important Birds in Africa and associated islands: Priority sites for conservation. Newbury & Cambridge, UK: Pisces Publications & BirdLife International (BirdLife Conservation Series No. 11).
- Danckwerts D.K., Mcquaid C. D., Jaeger A., Mcgregor J. K., Dwight R., Le corre M. and Jaquemet S. (in press). Biomass consumption by breeding seabirds in the western Indian Ocean: Indirect interactions with fisheries and implications for management. *Journal of Marine Science*.
- Delany S, Dodman T, Scott D, Butchart S, Martakis G and Helmink T 2008. Report on the Conservation Status of Migratory Waterbirds in the Agreement Area: Fouth Edition (Final Draft). Wetlands International. 253pp
- ECOMAR 2010 - unpublished. Synthesis made by Ecomar-University of Réunion Island
- Evans, S.W, Cole, N, Kylin, H, Choong Kwet Yive, R, Neretin, L, Tatayah, V. and Bouwman, H. (2011) Sea-bird populations of St Brandon's Islands, Indian Ocean. Unpublished data.

- Feare, C.J., Jaquemet, S. and Le Corre, M. 2007. An inventory of Sooty Terns (*Sterna fuscata*) in the western Indian Ocean with special reference to threats and trends. *Ostrich* 2007, 78(2): 423–434
- Gane, J. 2010 SSG report from Frégate Island. *Seychelles Seabird Newsletter* 6: 4.
- Hazevoet CJ 2010. Sixth report on birds from the Cape Verde Islands , including records of 25 taxa new to the archipelago. *Zoologia Caboverdiana* 1: 3-44
- Hazevoet, C. J. 2012. Seventh report on birds from the Cape Verde Islands, including records of nine taxa new to the archipelago. *Zoologia Caboverdiana*,3(1), 1-28.
- Hughes, B.J .2013. Breeding and population ecology of sooty terns on Ascension Island. Thesis, (PhD), University of Birmingham, UK.
- Hughes BJ, Martin GR and Reynolds SJ 2008. Cats and seabirds: effects of feral domestic cat *Felis silvestris catus* eradication on the population of sooty terns *Onychoprion fuscatus* on Ascension Island, South Atlantic. *Ibis*, 150(Suppl. 1), 122-131
- Hughes B. J., Martin G. R. and Reynolds S. J. 2012. Estimate of Sooty Tern *Onychoprion fuscatus* population size following cat eradication on Ascension Island, central Atlantic. *Bulletin of the African Bird Club* Vol 19: 166-171.
- Jolliffe, K. 2010a. Cousine Island Annual Seabird Report 2010. Cousine Island Internal Report
- Jolliffe, K. 2010b. Seabird news from Cousine. *Seychelles Seabird Newsletter* 6: 7.
- Jones, P. & Tye, A. 2006. The Birds of São Tomé and Príncipe with Annobón. BOU Checklist No. 22. BOU, Tring, UK.
- Jones C, Waterstone A and Tatayah V 2010. The seabirds of Ile Cocos and Ile aux Sables. Mauritian Wildlife Foundation. Unpublished.
- Kromer JL 1998. A sooty tern *Sterna fuscata* breeding colony off northern Mozambique. *Bird Numbers* 7, 1.
- Le Corre, M. 2001. Breeding seasons of seabirds at Europa Island (southern Mozambique Channel) in relation to seasonal changes in the marine environment. *Journal of Zoology*, 254(2), 239-249.
- Le Corre M 2004. Diving depths of two tropical pelecaniformes: Red-tailed Tropicbird and the Red-footed booby. *The Condor* 99:1004 - 1007
- Le Corre, M., & Bemanaja, E. (2009). Discovery of two major seabird colonies in Madagascar. *Marine Ornithology*, 37, 153-158.
- Le Corre M and Jouventin P 1999. Geographical variation in the White-tailed Tropicbird *Phaethon lepturus*, with the description of a new subspecies endemic to Europa Island, southern Mozambique Channel. *Ibis* 141:233-239

- Ledlie, M and Derand, G-D. 2010. Seabird news from Cousin. Seychelles Seabird Newsletter 6: 2-3.
- Mills, S. and Yeandle M. 2009. Aride Island Nature Reserve Annual Report 2008. Island Conservation Society Internal Report.
- Monteiro, L. R., Covas, R., Melo, M. P., Monteiro, P. R., Jesus, P., Pina, N., Sacramento A., and Vera Cruz, J. (1997). Seabirds of São Tomé e Príncipe Unpublished report.
- PERSGA/GEF 2003. Status of Breeding Seabirds in the Red Sea and Gulf of Aden. PERSGA Technical Series No. 8. PERSGA, Jeddah
- Ratcliffe N, Bell M, Pelembe T, Boyle D, White RBR, Godley B, Stevenson J and Sanders S 2009. The eradication of feral cats from Ascension Island and its subsequent recolonization by seabirds. *Oryx* 44: 20-29
- Rowlands, B.W., Trueman, T., Olson, S.L., McCulloch, M.N. & Brooke, R.K. 1998. The Birds of St Helena. BOU Checklist No. 16. BOU, Tring, UK.
- Safford R 2001. Mauritius. In Fishpool LDC & Evans MI. Important bird areas in Africa and associated islands: Priority sites for conservation. Newbury & Cambridge, UK: Pisces Publications and Birdlife International (Birdlife Conservation Series No. 11)
- Safford R. and Hawkins F. (eds) 2013. The birds of Africa. Vol. VIII: The Malagasy Region. Christopher Helm, London.
- Semere D, Hagos T, Seleba G, Gebrezghier Y, Haile Z, Chiozzi G and De Marchi G 2008. The status of breeding seabirds and waterbirds on the Eritrea Red Sea Islands. *Bulletin of the African Bird Club* 2008 Vol 15: 228-237.
- Seychelles Seabird Group News Sept. 2011. <https://seychellesseabirdgroup.wordpress.com>
- Shobrak, M. Y., & Aloufi, A. A. 2013. Status of breeding seabirds on the Northern Islands of the Red Sea, Saudi Arabia. *Saudi Journal of Biological Sciences*.
- Skerrett A, Bullock I and Disley T 2001. Birds of Seychelles. Christopher Helm, London. 320pp.
- Sutcliffe, R., Mills, S. and Yeandle M. 2010 Aride Island Nature Reserve Annual Report 2009. Island Conservation Society Internal Report.
- Sur, M, Bunbury, N and van de Crommenacker, J. 2013. Frigatebirds on Aldabra Atoll: population census, recommended monitoring protocol and sustainable tourism guidelines. *Bird Conservation International* (2013) 23:214–220.
- Tatayah RVV 2010. The breeding biology of the Round Island Petrel (*Pterodroma arminjoniana*) and factors determining breeding success. Thesis (PhD submitted): University of Mauritius, Mauritius

Tatayah V, Cole N and Kett G 2004. Report of Expedition to Serpent Island (25-26th Nov. 2003). Mauritian Wildlife Foundation. Unpublished.

Valle S, Barros N, & Wanless R M 2014. Status and trends of the seabirds breeding at Tinhosa Grande Island, São Tomé e Príncipe Grand. Birdlife International

Wanless R M 2011. Report on numbers, trends and conservation status of tropical seabird species included in The Agreement. Report on the Conservation Status of Migratory Waterbirds in the Agreement Area: 6th Edition, Wetlands International.

Table 1 Breeding and non-breeding ranges

Population	Breeding range	Wintering, or core non-breeding range	Africa	Europe	Asia
<i>Phaethon aethereus</i> Red-billed Tropicbird		No know migration occurs. Adults disperse in the vicinity of the main colony and can be seen breeding all year round. Juveniles disperse further but have been shown to return to colony to breed. Sub-species not identifiable at sea so no reliable information exists about sub-specific distribution away from breeding sites [16].			
<i>aethereus</i>	Ascension Island. St. Helena Island.	Tracking data is only available for breeding birds [54].	X		
<i>mesonauta</i>	Islands off Cape Verde. Islands off Senegal.	Seaboard from Senegal to the mouth of the Congo river [34]	X		
<i>indicus</i>	Islands in the Red Sea, Gulf of Aden, Arabian Sea, Gulf of Oman and Persian Gulf.	The Arabian Gulf, The Gulf of Aden; The Red Sea (presumed)	X		X
<i>Phaethon rubricauda</i> Red-tailed Tropicbird		Western Indian Ocean: Non-breeding birds from Nosy Ve, Madagascar forage in central Indian Ocean and west of India. Birds from Europa Island forage across central and east Indian Ocean as far as Australia and Timor Sea [53].			
<i>rubricauda</i>	Mauritius; Rodrigues; Seychelles; France: Europa Island; Madagascar. Birds breeding at Europa Island and Nosy Vé, Madagascar forage to the south of the Mozambique Channel and to the south of Madagascar, particularly around the Walters Shoals [53].	Western Indian Ocean: Non-breeding birds from Nosy Ve, Madagascar forage in central Indian Ocean and west of India. Birds from Europa Island forage across central and east Indian Ocean as far as Australia and Timor Sea [53].	X		

<i>Phaethon lepturus</i> White-tailed Tropicbird		No know migration occurs. Pantropical, sub-species not identifiable at sea so no reliable information exists about sub-specific distribution away from breeding sites [2].			
<i>lepturus</i>	France - Reunion; Seychelles; Mauritius; Rodrigues; Comoros Archipelago; Madagascar	Tracking data reveal that non-breeding birds from the Seychelles forage in the central Indian Ocean in an area some 1200 km south of Sri Lanka [53].	X		
<i>europae</i>	France: Europa Island	Endemic to Europa Island forages in the southern part of the Mozambique Channel. Breeds all year round and little is known of at sea movements [28].	X		
<i>ascensionis</i>	Ascension island (dependency of St. Helena); Sao Tome e Principe.	Gulf of Guinea, S to Angolan waters, and W across Atlantic [16].	X		
<i>Sula dactylatra</i> Masked Booby		Pantropical, sub-species not identifiable at sea so no reliable information exists about sub-specific distribution away from breeding sites. No regular, clearly defined migration [15], but disperses widely outside of the breeding season [37].			
<i>dactylatara</i>	Ascension Island. St. Helena Island.	Around Ascension Island and W to S America (presumed)	X		
<i>melanops</i>	Mauritius; Seychelles; Comoros Island; France: Tromelin Island; Tanzania: Latham Island; Islands in the Red Sea and Gulf of Aden	Throughout W Indian Ocean, possibly dispersing as far as E Indian Ocean	X		X
<i>Fregata minor</i> Great Frigatebird					
<i>aldabrensis</i>	Seychelles; France: Europa Island; Madagascar	Recent tracking data from Europa and Aldabra islands reveals non-breeding birds forage in the southern Mozambique Channel, Seychelles and across to the Chagos Archipelago and Maldives [53]. Movements of non-breeding birds from other island is no yet known and some may undertake large movements to alternative roosting sites from which they make foraging forays [35]. Adults tend to disperse more locally, while juveniles may move up to several thousand km from breeding areas [6, 38].	X		

<i>Fregata ariel</i> Lesser Frigatebird				
<i>iredale</i>	Seychelles; France: Europa Island; Madagascar	Widespread in Indian and Pacific oceans. Recent tracking data reveals that non-breeding birds from Europa Island forage across the Indian Ocean, to the west of Java, Arafura Sea and as far as Solomon islands [53].	X	
<i>Sterna anaethetus</i> Bridled Tern		Pantropical, sub-species not identifiable at sea so no reliable information exists about sub-specific distribution away from breeding sites. Disperses close to breeding colonies during non-breeding periods, largely oceanic [20].		
<i>melanopterus</i>	Mauritania; Senegal; Gulf of Guinea	East Atlantic (presumed)	X	
<i>fuligula</i>	Islands in the Red Sea, Gulf of Aden, Arabian Sea to West India, Gulf of Oman and Persian Gulf.	Northern parts of W Indian Ocean (presumed)		X
<i>antarctica</i>	Seychelles; Madagascar; Kenya: Lamu Archipelago; Islands off Somalia	Central W Indian Ocean (presumed)	X	
<i>Sterna fuscata</i> Sooty Tern		Pantropical, sub-species not identifiable at sea so no reliable information exists about sub-specific distribution away from breeding sites. Disperses widely from breeding colonies during non-breeding periods, but inter-ocean basin movements are probably very rare [16].		
<i>fuscata</i>	Ascension Island; Gulf of Guinea Islands	West African coast from Mauritania to Cameroon [9]	X	
<i>nubilosa</i>	Seychelles; Mauritius; Rodrigues; Tanzania: Latham Island; France: Juan de Nova and Ile du Lys (Glorieuses); Islands off Kenya; Islands off Somalia; Madagascar; Islands off Mozambique; The Gulf of Oman; France: Europa Island and Tromelin;	Western Indian Ocean	X	X
<i>Anous stolidus</i> Brown Noddy		Pantropical. Breeding occurs year-round. Most adults are believed to remain close to breeding colonies, but some may undertake regional movements when not breeding [2].		
<i>plumbeigularis</i>	Red Sea; Gulf of Aden	Red Sea; Gulf of Aden		X

<i>Anous tenuirostris</i> Lesser Noddy		Pantropical. Breeding occurs year-round. Most adults are believed to remain close to breeding colonies, but some may undertake regional movements when not breeding [2, 19].			
<i>tenuirostris</i>	Seychelles; Mauritius; Rodrigues	Regularly occurs off the coast of East Africa during the non-breeding season [6].	X		

Table 2 Population estimates and trends

Population	Estim. # 2005	Estim. # 2008	Estim. # 2011	Estim. # 2014	Source revision 2014	Recent trend 2005	Recent trend 2008	Recent trend 2011	Proposed trend 2014	Source 2014 trend	Justification of changes
<i>Red-billed Tropicbird - Phaethon aethereus</i>											
<i>aethereus</i>						?	STA	STA	STA	[7, 21]	Although new data is inadequate to revise overall trend, the population on Ascension Island seems stable [21], however, updated data from St. Helena constitutes the second population estimate since 2008 and it is not possible to determine a trend at this point [52].
Ascension Island		1,665	1,524	3,300	[21, 40]						
St. Helena Island		258	258	300 - 600	[1]						
Total	<9,000	2,000	1,728	3,600 - 3,900	[1, 21, 40]						

<i>mesonauta</i>						?	DEC	DEC	DEC	[7, 17]	New data inadequate to revise trend, but the decline is supported by recent information from Cape Verde Islands where rampant human vandalism and cat predation continues to drive declines in Boa Vista Island, where the largest colony is located [17, 49].
Cape Verde Senegal			420 - 480 90	522 - 525 90	[18, 49] [7]						
Total	300	400	510 - 570	612 - 615	[7, 18, 49]						
<i>indicus</i>						?	STA	STA	STA	[7]	No new population trend estimate is available for this sub-species.
Eritrea Persian Gulf, Gulf of Aden, Red Sea				600 2,400	[7, 43] [7]						
Total	(<1000)	3,000	3,000	3,000	[7, 43]						
<i>Red-tailed Tropicbird - Phaethon rubricauda</i>											
<i>rubricauda</i>						?	STA	STA	INC	[46, 48]	The population trend on Mauritius is increasing. A 30% population increase from 2008-2014. Trend status for this species is revised from STABLE to INCREASING.
Seychelles - Aldabra			6,000	6,000	[44]						

Seychelles - Cosmoledo		150 - 600	150 - 600	[44]		
Seychelles - Aride		18	18	[36, 45]		
Mauritius		4,020 - 7,515	10,785 - 11,010	[46, 48]		
Madagascar - Nosy Vé		750	1,035	[14]		
Europa Island		10,500	10,500	[30]		
Total	(A)	20,000	21,438 - 25,383	28,500 - 29,200	[14, 30, 36, 44, 45, 46, 48]	
<i>White-tailed Tropicbird - Phaethon lepturus</i>						
<i>lepturus</i>					?	STA STA STA [7, 48, 50]
Reunion		6,060	6,060	[8]		New data inadequate to revise trend. Current trend supported by population estimates in the Seychelles considered stable [50]. On Mauritius some populations are increasing and others are stable, more surveys are needed [48].
Comoros Archipelago - Mayotte		300	300	[33]		
Mauritius inc. Rodrigues		4,053 - 8,085	4,770 - 8,940	[4, 14, 46, 48]		
Seychelles		12,789 - 18,339	13,800 - 18,900	[23, 24, 32, 45, 50]		
Madagascar		258	300	[26, 28]		

<i>dactylatra</i>					DEC	DEC	DEC	[7]	New data inadequate to revise trend. On Ascension there is a lack of reliable surveys [21]. On St Helena the population on mainland is increasing, but off-shore populations are decreasing overall trend remains unknown [3].
Ascension Island	3,660	13,956	14,256	[21]					
St. Helena Island	600	600	450 - 600	[1, 3]					
Total	4,000	14,556	14,706 - 14,856	[1, 3, 21]					
<i>melanops</i>					DEC	DEC	DEC	DEC	[7]
Mauritius - Serpent I.	150	135 - 150	135 - 150	[47]					
Mauritius - St. Brandon Shoals	600	600	600	[42]					
Seychelles - Cosmoledo	15,000 - 18,000	15,000 - 18,000	15,000 - 18,000	[44]					
Seychelles - Boudeuse	9,000	9,000	9,000	[44]					
Comoros	150 - 300	150 - 300	150 - 300	[33]					
Tromelin	600 - 750	600 - 750	600 - 750	[29]					
Tanzania - Latham I.	1,500	11,100	11,100	[5]					
Eritrea - Dahlak Archipelago			75	[43]					
Red sea and Gulf of Aden	3,750 - 4,650	3,750 - 4,650	3,750 - 4,650	[39]					

Total	(A)	30,000- 35,000	40,335- 44,550	40,410 - 44,625	[5, 29,33, 39, 42, 43, 44, 47]						
Great Frigatebird - <i>Fregata minor</i>											
<i>aldabrensis</i>						?	DEC	DEC	DEC	[7, 31]	New data inadequate to revise trend. On Aldabra populations fluctuate but seem stable [31].
Sechelles - Cosmoledo			30 - 60	30 - 60	[44]						
Seychelles - Aldabra Island			12,000	13,200	[31]						
Europa Island			3,300	3,300	[14]						
Madagascar			150	150	[14]						
Total	(A)	15,000	15,480 - 15,510	16,680 - 16,710	[14, 31, 44]						
Lesser Frigatebird - <i>Fregata ariel</i>											
<i>iredalei</i>						?	STA	STA	STA	[7, 50*]	New data from Aldabra supports the current trend for the region. The largest colony of birds is found on Aldabra is currently considered stable [50].
Mauritius - St. Brandon Shoals			136	136	[9]						
Seychelles - Aldabra		18,000	18,000	19,800	[31]						
Madagascar			150	150	[14]						
Europa I			3,600	3,600	[14]						
Total	(A)	20,000	21,750	23,686	[9 14, 31]						

Bridled Tern - <i>Sterna anaethetus</i>												
<i>melanopterus</i>						DEC	DEC	DEC	DEC	[7]	No new population estimates available for this population, trend is retained.	
Mauritania - Banc d'Arguin			600	600	[7]							
Senegal and other West African countries			300	300	[7]							
Gulf of Guinea			600	600	[7]							
Total	1,500	1,500	1,500	1,500	[7]							
<i>fuligula</i>							?	?	?	[7]	New data inadequate to revise trend and the current population trend of this species remains unknown [7].	
Eritrea - Dahlak Archipelago				30,000 - 35,000	[43]							
Red Sea, Persian Gulf, Arabian Sea and Gulf of Aden				750,000-1,050,000	[39]							
Total	390,000	750,000-1,050,000	750,000-1,050,000	780,000-1,085,000	[39, 43]							
<i>antarctica</i>							?	?	?	?	[7]	New data inadequate to revise trend given lack of any recent census estimates save for Frégate Island in the Seychelles. The current population trend of this species remains unknown [50].

Kiunga Marine Nature Reserve - Lamu Archp., Kenya		300	300	[8]	
Kisite-Mpunguti Marine National Park, Kenya		300	300	[14]	
Somalia - Jasiira Ceebaad - Jasiira Sacada Din (Gulf of Aden)		3,000	3,000	[8]	
Somalia - Jasiira Maydh (Gulf of Aden)		300	300	[8]	
Somalia - Bajan Islands		300	300	[8]	
Seychelles - Recif	3000	9,939	9,939	[3]	
Seychelles - Aride	300	900	900	[45]	
Seychelles - Cousine	?	1,353	1,353	[23, 24]	
Seychelles - Cousin	1,800	1,212	1,212	[32]	
Seychelles - L'Ilot Frégat			1,050	[50]	
Madagascar	300	300	600	[14]	
Total	(C) 10,000-15,000	17,904	19,254	[3, 8, 14, 23, 24, 32, 45, 50]	
<i>Sooty Tern - Sterna fuscata</i>					

<i>fuscata</i>					?	?	?	[7]	New data inadequate to revise trend which remain unknown. The Sooty Tern colony on Ascension Island has increased and seems stable [55]. Population on St. Helena is poorly known [52]. Second estimate from São Tomé and Príncipe is insufficient to estimate trend [51].
Ascension Island			364,000 -						
St. Helena Island		420,000	464,000	[21, 55]					
Gulf of Guinea - São Tomé and Príncipe		300,000	480,000	[51]					
Total	900,000	720,000	845,500 - 945,500	[21, 22, 51, 55]					
<i>nubilosa</i> –Western Indian Ocean, Gulf of Aden and coastal East Africa					?	?	?	[7, 13]	New data inadequate to revise trend. There has been no recent overview of the subspecies in the western Indian Ocean since Feare et al. [13] who estimated some populations to be increasing while others decreased, in numbers, but most trends remain unknown.
Mauritius - Serpent I.	1,500,000	600,000	600,000	[47]					

Mauritius - Rodrigues Isl. - Ile Cocos and Ile Aux Sabres	450	15,000 - 19,500	15,000 - 19,500	[25]	
Mauritius - St. Brandon Shoals	60,000	405,805	405,805	[9]	
Seychelles - Cosmoledo		3,420,000	3,420,000	[41]	
Seychelles - Farquhar (Goelette)		618,000	618,000	[13]	
Seychelles - Desnoeuufs		1,500,000	1,500,000	[11]	
Seychelles - African banks		15,000	15,000	[12]	
Seychelles -Recif		141,000	141,000	[10]	
Seychelles - Bird		2,100,000	2,100,000	[13]	
Seychelles - Aride		178,383	178,383	[45, 50]	
Seychelles - Cousine		600	1,800	[50]	
France -Juan de Nova	300,000	6,000,000	6,000,000	[27]	
France - Ile du Lys (Glorieuses)	300,000	810,000	810,000	[27]	
Kenya - Kisite Island	60	150	150	[13]	
Somalia islands	?	900	900	[8]	
Tanzania - Latham I	35,000	13,200	13,200	[5]	
Madagascar Islands	6,090	25,800	88,200	[14]	
Mozambique Islands		6,000	36,000	[14]	
Europa Island	3,000,000	2,280,000	2,280,000	[27]	
Oman		30	30	[13]	
Total	(D/E) 13,500,000	18,129,868	18,223,468	[5, 8, 9, 10, 11, 12, 13, 14, 25, 27, 41, 45, 47, 50]	
		-	-		
		18,134,368	18,227,968		
<i>Brown Noddy - Anous stolidus</i>					

<i>plumbeigularis</i>						?	?	?	?	[7]	New data inadequate to revise trend which remains unknown.
Eritrea - Dahlak Archipelago				33,000	[43]						
Red Sea & Gulf of Aden				75,000	[7]						
Total	75,000	75,000	75,000	108,000	[7, 43]						
<i>Lesser Noddy - Anous tenuirostris</i>											
<i>tenuirostris</i>						?	?	?	?	[7, 48, 50]	New data inadequate to revise trend which remains unknown. On the Seychelles numbers are increasing but more surveys are required to establish a trend [50]. No trend estimate is available for Mauritius [48].
Seychelles - Aride			339,549	339,549	[50]						
Seychelles - Cousin			247,686 - 269,037	247,686 - 269,037	[32, 50]						
Seychelles - Cousine			214,191 - 358,677	214,191 - 358,677	[23, 24, 50]						
Seychelles - Fregate			82,548	150,000	[50]						
Seychelles - Marie-Louise			10,500	10,500	[44, 50]						
Seychelles - Remire			4,500	4,500	[50]						
Seychelles - Bird			3,000	3,000	[50]						
Mauritius - Rodrigues Islets			30,000 - 60,000	30,000 - 60,000	[25, 48]						
Mauritius - Saint Brandon			81,208	81,208	[9]						

Mauritius - Serpent Island		60,000	60,000	[47, 48]	
	(B/C)	1,050,000- 1,350,000	1,073,182 -	1,140,634 -	[9,23, 24, 25, 32, 44, 47, 48, 50]
Total			1,269,019	1,336,471	

Table 3 Population status

Population	Status in 2008	Status in 2011	Proposed status change in 2014	Justification of change
<i>Phaethon aethereus</i> Red-billed Tropicbird				
<i>aethereus</i> - South Atlantic	A1c	A1c	A1c	
<i>mesonauta</i> – Cape Verde & Senegal			A1c	Species listed as Least Concern on the IUCN Red List and population numbers less than around 10,000 individuals in the AEWA region.
<i>indicus</i> - Persian Gulf, Gulf of Aden, Red Sea	A1c	A1c	A1c	
<i>Phaethon rubricauda</i> Red-tailed Tropicbird				
<i>rubricauda</i> - Western Indian Ocean	A1c	A2	B1	Species listed as Least Concern on the IUCN Red List and population numbers exceed 25,000 individuals in the AEWA region.
<i>Phaethon lepturus</i> White-tailed Tropicbird				

<i>lepturus</i> - Western Indian Ocean	A1c	A2	A2	Species is not included in Appendix I. Listed as Least Concern on the IUCN Red List and population numbers exceed 10,000 individuals in the AEWA region.
<i>europae</i> - Europa			A1c	Species listed as Least Concern on the IUCN Red List and population numbers less than around 10,000 individuals in the AEWA region.
<i>ascensionis</i> –Ascension & Gulf of Guinea islands			A1c	Species listed as Least Concern on the IUCN Red List and population numbers less than around 10,000 individuals in the AEWA region.
<i>Sula dactylatra</i> Masked Booby				
<i>dactylatara</i> – St Helena and Ascension			A1c	Species listed as Least Concern on the IUCN Red List and population numbers around 10,000 in the AEWA region.
<i>melanops</i> – W Indian Ocean, Red Sea and Gulf of Aden	A1c	A2	B1	Species is not included in Appendix I. Listed as Least Concern on the IUCN Red List and population numbers exceed 25,000 individuals in the AEWA region.
<i>Fregata minor</i> Great Frigatebird				
<i>aldabrensis</i> - W Indian Ocean	A1c	A2	A2	Species is not included in Appendix I. Listed as Least Concern on the IUCN Red List and population numbers exceed 10,000 individuals in the AEWA region.
<i>Fregata ariel</i> Lesser Frigatebird				
<i>iredalei</i> – W Indian Ocean	A1c	A2	A2	Species is not included in Appendix I. Listed as Least Concern on the IUCN Red List and population numbers exceed 10,000 individuals in the AEWA region.

<i>Sterna anaethetus</i> Bridled Tern				
<i>melanopterus</i> – W Africa	A1	A1	A1c	Species listed as Least Concern on the IUCN Red List and population numbers less than 10,000 individuals in the AEWA region.
<i>fuligula</i> – Red Sea, Persian Gulf, Arabian Sea to W India			C1	Species listed as Least Concern on the IUCN Red List and population numbers more than 100,000 individuals in the AEWA region.
<i>antarctica</i> – W Indian Ocean			A2	Species listed as Least Concern on the IUCN Red List and population numbers between 10,000 - 25,000 in the AEWA region.
<i>Sterna fuscata</i> Sooty Tern				
<i>fuscata</i> – Gulf of Guinea & S. Atlantic			C1	Species listed as Least Concern on the IUCN Red List and population numbers more than 100,000 individuals in the AEWA region.
<i>nubilosa</i> –Western Indian Ocean	B2a	B2a	C1	Species listed as Least Concern on the IUCN Red List and population numbers more than 100,000 individuals in the AEWA region.
<i>Anous stolidus</i> Brown Noddy				
<i>plumbeigularis</i> – Red Sea & Gulf of Aden	B1	B1	B1	No new information available.
<i>Anous tenuirostris</i> Lesser Noddy				
<i>tenuirostris</i> –Seychelles, Mascarenes	C1	C1	C1	

References Tables

- 1 Beard A., Clingham E. and Henry L. 2013. St. Helena Seabirds Report: 2004 – 2011. Environmental Management Division. 81pp
- 2 Bailey RS 1968. The pelagic distribution of sea-birds in the western Indian Ocean. *Ibis* 110:493-519.
- 3 Bolton M., Watt R., Fowler E., Henry L. and Clingham E. 2011. Re-colonisation of Masked Boobies on mainland St Helena, South Atlantic, in the presence of Feral Cats. *Seabird* 24: 60–71
- 4 Cheke AS & Hume J 2008. The lost land of the dodo. London, UK: T & AD Poyser. 219p.
- 5 Crawford RJM , Asseid BS, Dyer BM, Hija A, Mwinyi AA, Shinula P & Upfold L 2006. The status of seabirds at Latham Island, Tanzania. *African Journal of Marine Science* 28(1): 99–108
- 6 del Hoyo J, Elliot A and Sargatal J 1996. Handbook of the birds of the world, Vol 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
- 7 Delany S, Dodman T, Scott D, Butchart S, Martakis G and Helmink T 2008. Report on the Conservation Status of Migratory Waterbirds in the Agreement Area: Fourth Edition (Final Draft). Wetlands International. 253pp
- 8 ECOMAR 2010 - unpublished. Synthesis made by Ecomar-University of Réunion Island
- 9 Evans, S.W, Cole, N, Kylin, H, Choong Kwet Yive, R, Neretin, L, Tatayah, V. and Bouwman, H. (2011) Sea-bird populations of St Brandon's Islands, Indian Ocean. Unpublished data.
- 10 Feare CJ 2002. The sustainable exploitation of Sooty Tern eggs in the Seychelles. Tenth annual report to the Division of Environment, Seychelles Government
- 11 Feare CJ and Gill EL 1995. The sustainable exploitation of Sooty Tern eggs in the Seychelles. Third annual report to the Division of Environment, Seychelles Government
- 12 Feare CJ and Gill EL 1997. The sustainable exploitation of Sooty Tern eggs in the Seychelles. Fifth annual report to the Division of Environment, Seychelles Government
- 13 Feare, C.J., Jaquemet, S. and Le Corre, M. 2007. An inventory of Sooty Terns (*Sterna fuscata*) in the western Indian Ocean with special reference to threats and trends. *Ostrich* 2007, 78(2): 423–434
- 14 Danckwerts D.K., Mcquaid C. D., Jaeger A., McGregor J. K., Dwight R., Le corre M. and Jaquemet S. (in press). Biomass consumption by breeding seabirds in the western Indian Ocean: Indirect interactions with fisheries and implications for management. *Journal of Marine Science*.
- 15 Grace J and Anderson DJ 2009. Masked Booby (*Sula dactylatra*). In Poole, A., ed. The Birds of North America Online. Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:<http://bna.birds.cornell.edu/oca.ucsc/bna/species/073>; 3 June, 2010.
- 16 Harrison P 1985. Seabirds: an identification guide. Revised edition. Christopher Helm Publisher. A & C Black: London, UK. 448 pp.
- 17 Hazevoet, C. J. 2012. Seventh report on birds from the Cape Verde Islands, including records of nine taxa new to the archipelago. *Zoologia Caboverdiana*,3(1), 1-28.
- 18 Hazevoet CJ 2010. Sixth report on birds from the Cape Verde Islands , including records of 25 taxa new to the archipelago. *Zoologia Caboverdiana* 1: 3-44
- 19 Higgins PJ and Davies SJJF 1996. Handbook of Australian, New Zealand and Antarctic birds vol 3: snipe to pigeons. Oxford: Oxford University Press.
- 20 Hockey PAR, Dean WRJ and Ryan PG (eds) 2005. Roberts: birds of Southern Africa, VIIth ed. The trustees of the John Voelcker Bird Book Fund
- 21 Hughes, B.J. 2013. Breeding and population ecology of sooty terns on Ascension Island. Thesis, (PhD), University of Birmingham, UK
- 22 Rowlands B W 1998. The Birds of St. Helena: An Annotated Checklist. British Ornithologists Union.

- 23 Jolliffe K 2010a. Cousine Island Annual Seabird Report 2010. Cousine Island Internal Report
- 24 Jolliffe K 2010b. Seabird news from Cousine. Seychelles Seabird Newsletter 6: 7.
- 25 Jones C, Waterstone A and Tatayah V 2010. The seabirds of Ile Cocos and Ile aux Sables. Mauritian Wildlife Foundation. Unpublished.
- 26 Safford, R., & Hawkins, F. (2013). *The Birds of Africa: Volume VIII: The Malagasy Region: Madagascar, Seychelles, Comoros, Mascarenes* (Vol. 8). A&C Black.
- 27 Le Corre, M. 2001. Breeding seasons of seabirds at Europa Island (southern Mozambique Channel) in relation to seasonal changes in the marine environment. *Journal of Zoology*, 254(2), 239-249.
- 28 Le Corre M and Bemanaja E 2009. Discovery of two major seabird colonies in Madagascar. *Marine Ornithology* 37: 153–158
- 29 Le Corre M and Jaquemet S 2005. Assessment of the seabird community of the Mozambique Channel and its potential use as indicator of tuna abundance. *Estuarine, Coastal and Shelf Science* 63: 421–428
- 30 Le Corre M and Jouventin P 1999. Geographical variation in the White-tailed Tropicbird *Phaethon lepturus*, with the description of a new subspecies endemic to Europa Island, southern Mozambique Channel. *Ibis* 141:233-239
- 31 ŠŮR, M., Bunbury, N., & Van De Crommenacker, J. (2013). Frigatebirds on Aldabra Atoll: population census, recommended monitoring protocol and sustainable tourism guidelines. *Bird Conservation International*, 23(02), 214-220.
- 32 Ledlie M and Derand GD 2010. Seabird news from Cousin. Seychelles Seabird Newsletter 6: 2-3.
- 33 Louette M 1988. Les Oiseaux de Comores. Musee Royal de l'Afrique Centrale. Tervuren, Belgium.
- 34 Maekworth-Praed, CW and Grant, CHB 1981. Birds of West Central and Western Africa, African Handbook of Birds Series 3, Vols I and II. Longman, London
- 35 Marchant S and Higgins PJ 1990. Handbook of Australian, New Zealand, and Antarctic Birds. Volume 1: Ratites to Ducks. Oxford University Press, Melbourne, Australia.
- 36 Mills, S. and Yeandle M. 2009. Report on the Status of Seabird Breeding Numbers on Aride Island Nature Reserve, Seychelles 1988-2008. Island Conservation Society Internal Report
- 37 Nelson JB 2005. Pelicans, Cormorants, and their relatives: Pelecanidae, Sulidae, Phalacrocoracidae, Anhingidae, Fregatidae, Phaethontidae. Oxford University Press, Oxford, England.
- 38 Nelson, J.B. (2005) Pelicans, Cormorants, and their relatives: Pelecanidae, Sulidae, Phalacrocoracidae, Anhingidae, Fregatidae, Phaethontidae. Oxford University Press, Oxford, England.
- 39 PERSGA/GEF 2003. Status of Breeding Seabirds in the Red Sea and Gulf of Aden. PERSGA Technical Series No. 8. PERSGA, Jeddah
- 40 Ratcliffe N, Bell M, Pelembe T, Boyle D, White RBR, Godley B, Stevenson J and Sanders S 2009. The eradication of feral cats from Ascension Island and its subsequent recolonization by seabirds. *Oryx* 44: 20-29
- 41 Rocamora G, Feare CJ, Skerrett A, Athenase M and Greig E 2003. The breeding avifauna of Cosmoledo Atoll (Seychelles) with special reference to seabirds: conservation status and international importance. *Bird Conservation International* 13:151-174
- 42 Safford R 2001. Mauritius. In Fishpool LDC & Evans MI. Important bird areas in Africa and associated islands: Priority sites for conservation. Newbury & Cambridge, UK: Pisces Publications and Birdlife International (Birdlife Conservation Series No. 11)
- 43 Semere D, Hagos T, Seleba G, Gebrezghier Y, Haile Z, Chiozzi G and De Marchi G 2008. The status of breeding seabirds and waterbirds on the Eritrea Red Sea Islands. *Bulletin of the African Bird Club* 2008 Vol 15: 228-237.
- 44 Skerrett A, Bullock I and Disley T 2001. Birds of Seychelles. Christopher Helm, London. 320pp.
- 45 Sutcliffe R, Mills S and Yeandle M. 2010. Aride Island Nature Reserve Annual Report 2009. Island Conservation Society Internal Report.

- 46 Tatayah RVV 2010. The breeding biology of the Round Island Petrel (*Pterodroma arminjoniana*) and factors determining breeding success. Thesis (PhD submitted): University of Mauritius, Mauritius
- 47 Tatayah V, Cole N and Kett G 2004. Report of Expedition to Serpent Island (25-26th Nov. 2003). Mauritian Wildlife Foundation. Unpublished.
- 48 V. Tatayah 2014 pers. comm. See report for contact information.
- 49 P. Lopez 2014 pers. comm. See report for contact information.
- 50 A. Skerrett 2014 pers. comm. See report for contact information.
- 51 Valle S, Barros N, & Wanless R M 2014. Status and trends of the seabirds breeding at Tinhosa Grande Island, São Tomé e Príncipe Grand. Birdlife International
- 52 A. Beard 2014 pers. comm. See report for contact information.
- 53 Le Corre M., Jaeger A., Pinet P., Kappes M. A., Weimerskirch H., Catry T., Ramos J. A., Russell J. C., Shah N. and Jaquemet S. 2012. Tracking seabirds to identify potential Marine Protected Areas in the tropical western Indian Ocean. *Biological Conservation* 156: 83-93
- 54 S. Oppel 2014 pers. comm. See report for contact information.
- 55 Hughes BJ, Martin GR and Reynolds SJ 2012. Estimate of Sooty Tern *Onychoprion fuscatus* population size following cat eradication on Ascension Island, central Atlantic. *Bulletin of the African Bird Club* Vol 19: 166-171.