

Indian Ocean Seabird Group

Newsletter



Serge Garnier



Indian Ocean Seabird Group

IOSG NEWSLETTER n° 5

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September 18

Edito

Here is the newsletter n° 5 of the Indian Ocean Seabird Group. A great thanks to all the contributors and a special thank to Aurélie who did the formatting, editing, some translations etc...

We have two announcements and 8 contributions this time, presenting researches or conservation actions in Australia, Réunion, the Chagos, Iles Eparses, India, and Seychelles. This is an amazing coverage and a great contribution to information sharing and networking in the Indian Ocean.

As announced in the previous Newsletter, the 6th Island Biology conference will take place in Réunion Island in July 2019. We, at Réunion University, are very proud to host this very important conference and we will probably submit a proposal for a seabird session. We will also send a survey soon to all members of the IOSG to assess the possibility of organising a side event to the conference, to organise the second Indian Ocean Seabird Group meeting.

More information soon...

Enjoy this Newsletter and do not hesitate to send us your contributions for the next issue (scheduled in December 2018 or January 2019).

Matthieu

ANNOUNCEMENTS

Global Audit of Biodiversity Monitoring Questionnaire

Caroline Moussy

As part of the IUCN SSC Species Monitoring Specialist Group's work to improve species monitoring for conservation (Stephenson 2018; Oryx 52: 412-413), and parallel efforts to improve the monitoring of Key Biodiversity Areas (KBAs), we are conducting a global audit

of biodiversity monitoring to identify gaps in data, coverage and capacity in long-term species monitoring. This project is funded by the Cambridge Conservation Initiative (CCI) Collaborative Fund, and involves partners and collaborators from around the world.

We aim to:

- _ take stock of the state of species monitoring worldwide, and identify taxonomic and geographic gaps that need filling, to help prioritise the Specialist Group's future work
- _ promote the dissemination and use of biodiversity data, by creating an open access database holding metadata on species monitoring schemes, to connect data providers and decision makers
- _ identify potential additional sources of data for biodiversity indices, such as the Living Planet Index and Red List Index.

Please answer to the best of your knowledge and select the options that best fit the monitoring scheme concerned. This should take 10-15 minutes and needs to be completed in one sitting.

If you run several surveys, please do not pool them all in one answer and report each one separately. This means you'll have to repeat the questionnaire as many times as you have surveys. Otherwise your data will not be in the right format and we may not be able to integrate your answer. It might be easier in this situation to download the Excel form from our website and to email it back.

The questionnaire has been developed, tested and refined over several months, to make it as quick and simple to complete as possible, but please let me know if you have any questions or comments (caroline.moussy@birdlife.org; skype: caromoussy).

Thank you very much in advance. I look forward to receiving your contribution by 30 September 2018.

MEMBERS CONTRIBUTIONS

Link to survey:

<https://www.surveymonkey.com/r/speciesmonitoring>

Dr Caro Moussy, BirdLife International

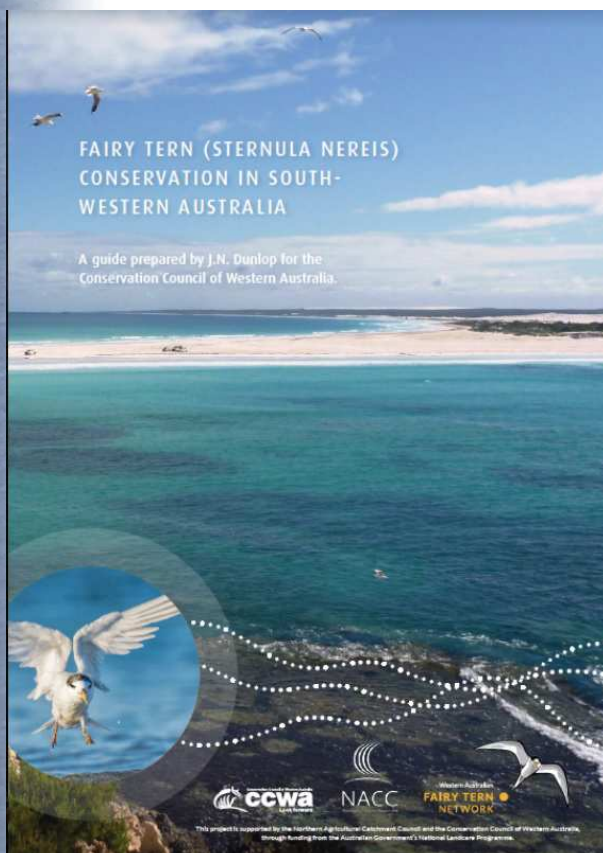
Publication of the west-Australian fairy tern (*Sternula nereis*) conservation guide

Aur lie Labb 

Dr Nic Dunlop (Conservation Council of Western Australia) recently published a guide on fairy tern conservation in south-western Australia which is accessible through the following link:

<http://www.ccwa.org.au/fairyterns>

The guide summarises the current knowledge on this species of seabirds in Western Australia and the threats that this species faces before highlighting management strategies to mitigate the impacts of anthropogenic activities and predation.



The 4th World Seabird Twitter Conference: Connecting with Peers and the Public

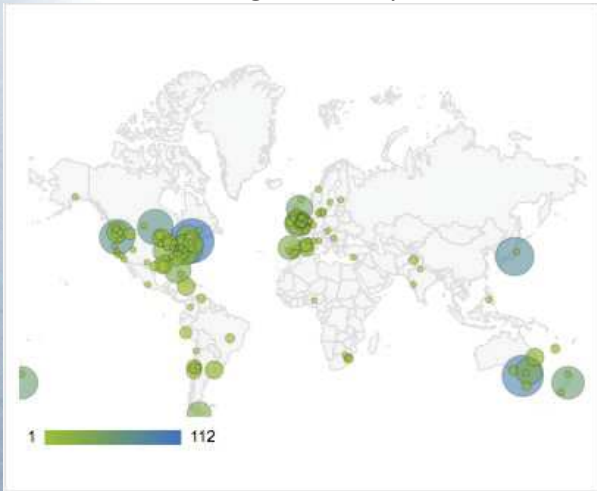
Laura Bliss



Another year and another successful Twitter conference! In fact, conferences using this social media platform have been organised by the World Seabird Union every year since WSTC1 in 2015 and are run entirely by early career volunteers. This year, our fully-digital conference featured 100 presenters from 22 countries presenting in three different languages. Each presenter had 15 minutes to present four scheduled tweets (280 characters each) and answer any questions. Often questions and discussions continued outside of the presenter’s session. The minimalistic tweet limit forced presenters to be succinct and use photographs, infographics, or animations to explain their research. This multimedia focus makes the presentations from this conference much more accessible to the general public and challenges researchers to think outside traditional communication methods.

We have found that Twitter Conferences are ideal for engaging with the global seabird community, maintaining networks, keeping up with new scientific developments and field methods, and identifying new opportunities for collaboration — all from a mobile phone or laptop. An additional benefit is that the science communicated reaches far beyond the research community. In 2018, 1.2 million Twitter users saw World Seabird Twitter Conference (#WSTC4) tweets! During the three days of the conference, the hashtag was tweeted 2,667 times by 601 contributors, on average about 52 times per hour. The geographic extent of #WSTC4 was global (see map), which provided great exposure for participants, as well as our

sponsors, the Pacific Seabird Group, Avian Biology Research Journal, the Australasian Seabird Group, the Seabird Group, and the American Ornithological Society.



If you feel like you've missed out — don't worry! The 5th World Seabird Twitter Conference (#WSTC5), chaired by Agnes Olin (@agnesbirgitta) is being held in April 2019. And, WSTC4 presentations are available for viewing by using the hashtag search on Twitter (see below). If you'd like to learn more, participate, or volunteer, visit <http://www.seabirds.net/wstc4.html> for more details. Or, get in touch with us!

4th WORLD SEABIRD ATTENTION!
 17-19th April 2018
 TWITTER CONFERENCE
Followers and presenters!

In addition to #WSTC4, this year each session has their own # to make it easier to follow presentations & read-up on the conference later on! List of all sessions & # below!

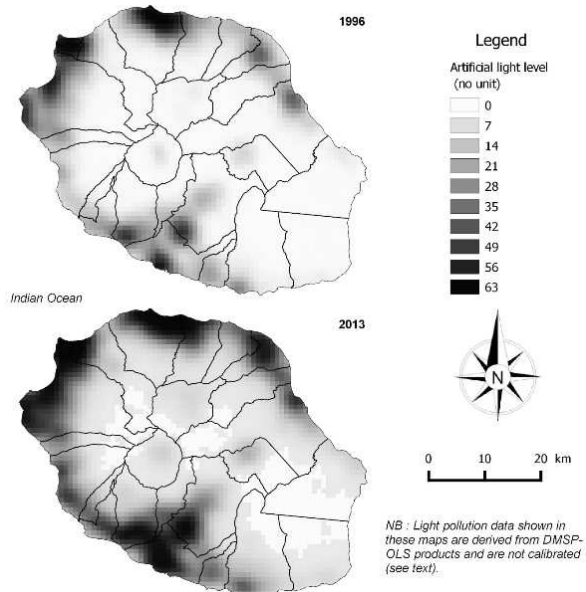
Behaviour #Behav	Foraging ecology 1 #ForgEco1
Breeding biology #BreBio	Foraging ecology 2 #ForgEco3
Climate change #ClimCha	Genetics #Gents
Conservation Biology 1 #ConsBio1	Management, policy & planning 1 #ManPolPlan1
Conservation Biology 2 #ConsBio2	Management, policy & planning 2 #ManPolPlan2
Conservation Biology 3 #ConsBio3	Population biology #PopBio
Contaminants & marine debris #ContMarDeb	Tools & techniques #ToolsTech
Fisheries #Fishers	Tracking & distribution #TrackDist

Tropical shearwater population stability in Reunion Island, despite light pollution

Benoit Gineste

Seabirds are exposed to numerous threats at sea and on land and they are among the most endangered birds worldwide. Artificial lights attract Procellariids on islands around the world, and this causes massive fallout, particularly of fledglings during their first flight

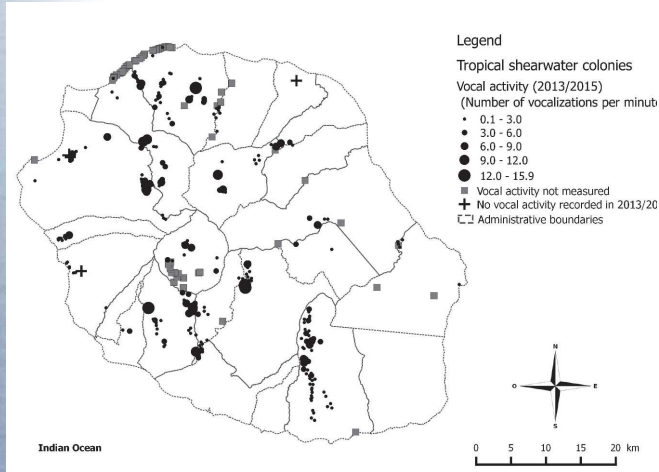
to the sea. Once on the ground, birds are unable to take off and they will likely die if not rescued by people. This threat, on top of others, may cause long-term population decline or even local extirpation. In Reunion Island, urbanisation and light pollution have increased during the past 20 years, and this heavily impacts breeding petrels and shearwaters, particularly the Tropical Shearwater *Puffinus bailloni*. However, until recently we did not have any information about the consequences of this threat at the population level.



Increasing light pollution (0 = min, 63 =max) between 1996 and 2013 in Reunion Island

To assess the population trends of this species, we conducted two large-scale acoustic surveys across the island (in 1996/1997 and in 2013/2015). We also analyzed the numbers of birds attracted by lights and rescued by the local wildlife rescue center (SEOR) between 1996 and 2015. We detected 220 colonies in 2013/2015, including 124 colonies previously surveyed in 1996/97 and 96 newly discovered colonies. The average vocal activity (number of calls per minute) recorded at colonies was

similar during the two surveys, suggesting no marked change in population size. We produced the most up to date map of the distribution and relative size of tropical shearwaters colonies, which will be very useful for environmental assessment and planification.



Distribution and relative size of the tropical shearwater colonies

Some 13,200 Tropical Shearwaters were found grounded since 1996 due to light attraction, of which 88% were successfully released at sea. The number of reported grounded birds increased 19 fold between 1996 and 2015. This increase was due to a combination of factors: 1) increasing public awareness; 2) increasing light pollution, and 3) the absence of shearwater population collapse. Indeed, both acoustic surveys and the number of rescued birds indicate that the Tropical Shearwater population of Reunion Island did not decline between 1996/1997 and 2013/2015.

We suggest that the rescue campaigns conducted annually strongly contributed to this stability. Thus, we recommend maintaining the rescue operations, to increase the public awareness but also to reduce light pollution.

This study was part of my Ph-D project co-supervised by Matthieu Le Corre (UMR ENTROPIE, La Réunion University) and Mathieu Souquet (BIOTOPE Biodiversity engineering company). We thank SEOR for providing rescue data and for their extensive effort to protect the seabirds of Réunion Island.

This contribution is a summary of a paper published recently in Journal of Ornithology (Gineste et al. 2016). PDF available upon request.

Importance of the British Indian Ocean Territory Marine Protected Area for Seabirds

Malcolm Nicoll, Peter Carr, Robin Freeman, Hannah Wood and Steve Votier

Marine Protected Areas (MPAs) have been proposed for seabird conservation, but their efficacy will depend on whether they can encompass sufficient area and appropriate habitats to protect seabirds both during the breeding and non-breeding seasons. In the Western Indian Ocean (WIO) MPAs cover less than 1% of the oceanic and coastal surface and the largest of these is the 640,000km² British Indian Ocean Territory (BIOT) MPA. BIOT supports 18 species of breeding seabirds, with 10 islands designated as Important Bird and Biodiversity areas and in conjunction with the surrounding 'no take' MPA, it potentially provides an unrivalled opportunity for the conservation of seabird populations in the WIO. However, to date information on the use of the MPA by breeding and non-breeding seabirds are extremely limited and provide no indication of its efficacy as a conservation tool.

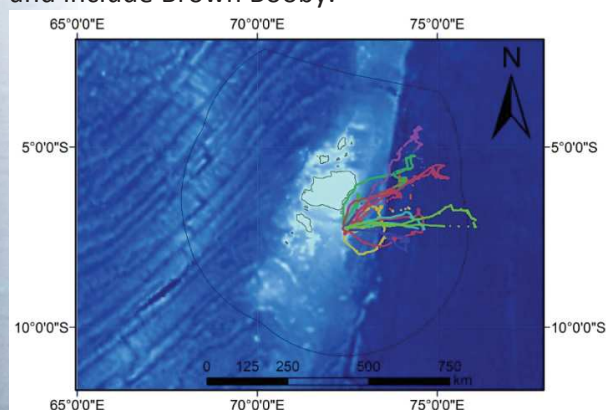
Our four year research programme, funded by the Bertarelli Foundation as part of the Bertarelli Programme in Marine Science, will provide the first data on how breeding seabirds in BIOT utilise the MPA year-round.



A nesting Red-footed booby, with a BTO ring & a tail-mounted GPS logger

To date our work over year one has focused on: (i) collating data on the status, distribution and trends of breeding seabirds across the archipelago over the last 30 years; and (ii) tracking (via GPS) breeding Red-footed boobies from Diego Garcia to establish the priority foraging grounds during the different monsoon periods.

Further field expeditions are planned to extend the tracking programme to encompass additional booby colonies in the northern atolls and include Brown Booby.



Foraging tracks of breeding Red-footed boobies from Diego Garcia

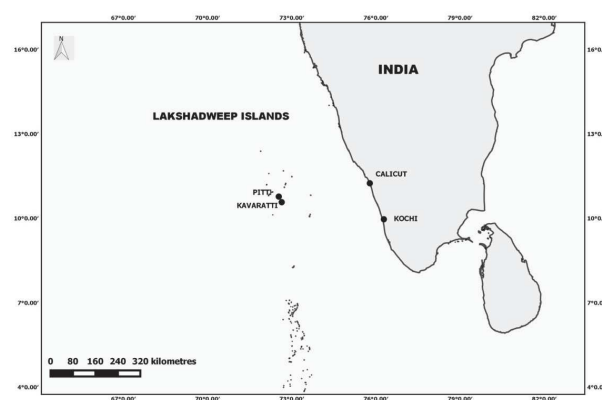
We are also interested in establishing the role BIOT MPA plays for non-breeding seabirds from elsewhere in the region. To do this we would like to hear from those people who have tracking data for seabirds during their non-breeding period and would be interested in collaborating (contact malcolm.nicoll@ioz.ac.uk with information on; the species tracked, tags used and numbers of individuals). Please get in touch as this will ultimately produce a multi-authored, collaborative publication exploring the regional value of one of the world's largest MPAs!

Seabirds under threat – Observations on a key pelagic seabird colony in the Northern Indian Ocean

Ravichandra Mondreti, Priya Davidar and David Grémillet

Breeding seabird colonies are uncommon in the northern Indian Ocean particularly along the Indian subcontinent. Information on breeding seabirds have been confined to Pitti Island in Lakshadweep, Vengurla Rocks in Maharashtra, and Sand Island III (Sri Lanka) in Adam's Bridge between India and Sri Lanka. For many years, Pitti Island (10° 46' 31.8" N, 72° 32' 3.4" E) has been an important nesting place for pelagic seabirds. It was officially declared a bird sanctuary under the provisions of the Wildlife (Protection) Act of India, 1972. However protection measures for the seabird colony

itself are minimal. In order to assess the current state of this seabird colony in Lakshadweep, we carried out a population survey of nesting seabirds at Pitti Island during 2013 and 2014. We then estimated the present tern population and assessed the population changes over time using secondary data. We also documented the levels of harvesting of eggs for human consumption and levels of natural predation by ruddy turnstones and hermit crabs. We also interviewed people on Kavaratti Island (the nearest inhabited island) using a structured questionnaire to understand their attitudes towards seabird conservation and estimate the proportion of people involved in egg harvesting.



Location of Pitti Island in the Lakshadweep Archipelago



Nesting sooty terns and brown noddies on Pitti Island, Lakshadweep

The first important result from our study was the identification of a decline in the tern population from 20 000 birds in 1963 to 970 (recorded in our February 2014 survey). We also observed low levels of natural predation (compared to intensive harvesting). Our sociological survey supported our observations: 72% of the survey respondents admitted their involvement in the harvesting or trade of

seabird eggs. The study also confirmed the dependence on seabird egg harvesting as a source of livelihood for the local population. The breeding colony of terns at Pitti Island in the Northern Indian Ocean could be in danger of becoming extinct due to the intensive harvesting of eggs by the locals. We plan to focus our future research efforts on regular monitoring of this pelagic seabird colony in order to obtain a robust baseline on the nesting population. We also hope to raise awareness among local people in order to educate them on the value of seabirds and seabird colonies. One solution would be promoting wildlife tourism to reduce the dependency of local people on seabird eggs as a source of income. Our findings are soon going to be published in *Marine Ornithology*.



Fishermen harvesting sooty tern eggs on Pitti Island

The Seabird Rescue Centre of Reunion Island

Julie Tourmetz

The Wildlife Rescue Centre of Réunion Island (the Ornithological Society of Reunion - SEOR) opened in 2009. However, SEOR has been rescuing seabirds since 1995, starting with 20 Barau's petrels (one of the two endangered endemic petrels of the island).

Between 1995 and 2009, SEOR rescued on average 2,000 birds every year, but this increased to up to 3,400 birds in 2017. Overall, since the start of its operations, over 35,859 birds were brought in and about 80% were successfully rescued and released.



Barau's petrel (Nicolas Laurent)

Every year, 80-85% of the birds that are brought in are seabirds and most of those are Barau's petrel (1,000 to 1,200 birds per year) and tropical shearwaters (1,200 to 1,400 birds per year). Every year between 1 and 4 Mascarene petrels are also rescued. Knowing that this critically endangered species is one of the rarest seabirds in the world, these rescues are particularly important for the species.

During their first flight, the fledglings are attracted to artificial light that forms a light barrier along the coast of the island and they become stranded on land. Because of their morphology, once on the ground they are unable to take off and are at risk of starving to death, being eaten by dogs, cats and rats, or run over by cars.

Most of these birds are brought in by inhabitants, thanks to wide scale public awareness campaigns. Hence, this information is familiar to the population and easily accessible so people can easily contact us and are directed to the nearest collecting point. Our network includes more than a hundred collecting points where birds can be brought in and then directed to the rescue centre. Most of these collecting points consist in firefighting centres, the national police offices, and vet practices. They are scattered across the island and greatly facilitate our rescue operations.



Example of a seabird rescue operation by local fire-fighters.

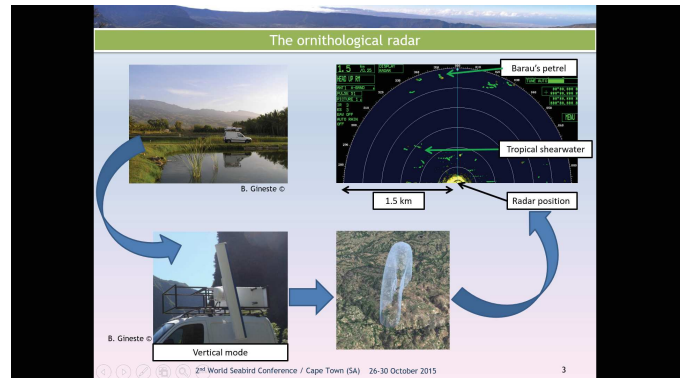
Once a bird has been delivered to one of the collecting points, a trained volunteer collect the bird and bring it to the rescue center. Our valued volunteers undergo many training sessions and greatly help our rescue activities.

This rescue network allows us not only to rescue endemic and indigenous species, but also to increase the general population's awareness about these birds and facilitate the development of eco-citizen behaviours while contributing to citizen science. Each rescued bird contributes to the conservation of these species.

Application of radar technology to the study of nocturnal seabirds in Réunion Island: implications for conservation

Benoit Gineste

We used a marine radar, customised for ornithological surveys, to investigate flight patterns and population size of petrels and shearwaters in Réunion Island. The radar was set up on a car and used in vertical mode. At each survey location, we scanned the sky at a 1,5 km width. With this technology, each object flying into the beam generated an echo that was represented on a picture saved every 2,5 seconds. We usually recorded throughout the night (starting 2 hour before sunset until sunrise). We deployed the radar all year around and at different sites on the island.



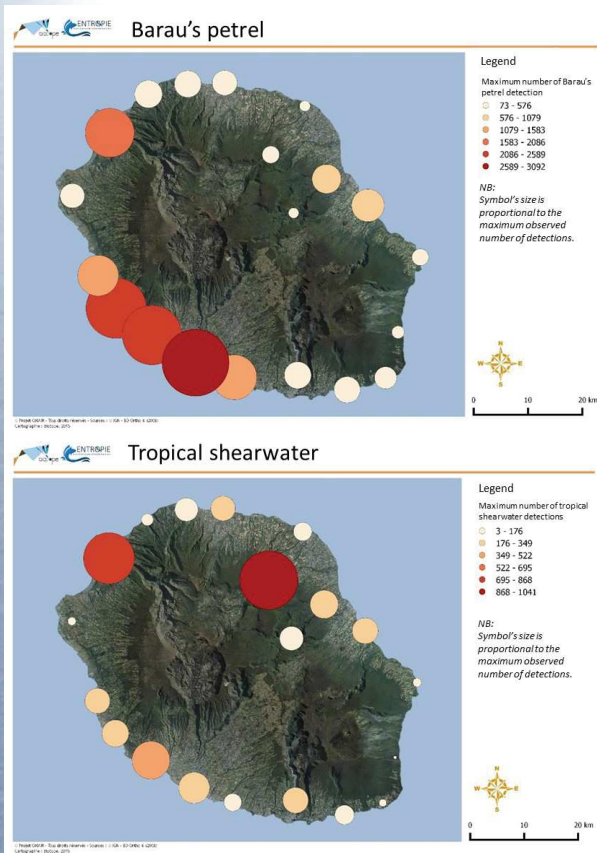
The ornithological radar: set up, vertical beam and pictures recorded

We were able to identify most flying objects crossing the beam by using the shape, size, intensity (color) of the echoes (diurnal and nocturnal birds, bats, insects, plane, ...). We then focused our analysis on the two most numerous species (Barau's petrels and tropical shearwaters).

Barau's petrels flew from the end of the afternoon to sunrise, with two peaks, one at sunset (birds flying from the sea to the colony) and one just before sunrise (birds flying to the sea). Tropical shearwaters flew very synchronously 20 mn after sunset (to the colony) and 20 mn before sunrise (to the sea). No bird was detected between these two main peaks.

We also found a clear distribution in flight pathways, both species using river mouths and deep canyons to reach their respective colonies.

the 20th century and most of them have very clear positive effects on native communities, including seabirds.



Spatial distribution of the flights of Barau's petrels (top) and tropical shearwaters (bottom) in Reunion Island.

This study demonstrates that radar technology provides very useful information to assess the risk of collision hazard and light attraction, but also to estimate population size and investigate some little known aspects of the behavior of nocturnal seabirds.

This study was part of my PhD project co-supervised by Matthieu Le Corre (UMR ENTROPIE, Réunion University) and Mathieu Souquet (BIOTOPE Biodiversity engineering company). This contribution is a summary of a paper in preparation.

Observation of a new species of breeding seabird on Lys Island (Glorieuses Archipelago)

Arthur Choer and Mickaël Sanchez

Rats have been introduced to most islands of the planet and have devastating effects on the native biodiversity. Many eradication operations have taken place since the middle of

Lys Island is a small-uninhabited island of 12 ha of the Glorieuses Archipelago (western Indian Ocean). The island is known to have a colony of sooty terns (*Onychoprion fuscatus*) and common noddies (*Anous stolidus*). In 1985, during a night-time mission on Lys Island, Rudy van der Elst and Robert P. Prys-Jones witnessed rats predated roosting common noddies on *Heliotropium foertherianum*: « Between 50 and 100 common noddies had been observed to be attacked, and the total toll must have been considerably higher ». Rats were eradicated from Lys Is. in May 2003 during a seven-day expedition conducted by Matthieu Le Corre and his team (Lab ECOMAR, now named UMR ENTROPIE). There were 275,500 pairs of breeding sooty terns and 200 pairs of common noddies at the time of the rat eradication.

We went to Lys Island 14 years following the rat eradication (April and May 2017) to conduct a survey of the terrestrial reptiles of the island. We did not observe any rats during our three visits, which seems to confirm the success of the eradication. We did not attempt to census seabirds because we were short of time but we found thousands of pairs of breeding sooty terns (most of them with large chicks) and several hundreds pairs of common noddies (some with chicks). The most surprising finding was a group of at least 50 pairs of lesser noddy (*Anous tenuirostris*) breeding on *Heliotropium foertherianum*. This species was known to roost there at night but it had never been noted as a breeder on Lys Island in the past, or on any other island of Iles Eparses.



Lesser noddy (Anous tenuirostris) in the background and sooty terns (Onychoprion fuscatus) in the foreground at Lys Island, April 2017

We also observed an adult crested tern (*Thalasseus bergii*) in breeding plumage sitting among the breeding sooty terns, suggesting that this species may settle there in the future. Finally, from our observations we found that the number of common noddies was higher than in 2003.



Crested tern (Thalasseus bergii) in breeding plumage among the breeding sooty terns on Lys Island, May 2017

These observations were made by Mickaël Sanchez (Association Nature Océan Indien) and Arthur Chœur (UMR ENTROPIE of the University of Réunion Island) as part of a mission to investigate the terrestrial herpetofauna of the Glorieuses Archipelago (project REPTiles Terrestres des Iles Eparses, REPT'ILE) with the support of the TAAF, FAZSOI and the European Union (BEST 2.0 Program).

First population estimate of breeding Greater Crested Tern *Thalasseus bergii* on Cosmoledo Atoll, Seychelles

Josep Nogués, Ariadna Fernández, Alex Quatre and Adrian Skerrett

Greater Crested Tern, listed as 'Least Concern' by IUCN (IUCN 2016), has a global population estimated at c. 150,000-1,100,000 individuals (Wetlands International 2006). In Seychelles, breeding has been confirmed on 7 islets of Aldabra (Diamond and Prÿs-Jones 1986), Etoile (Dawson 1966, Skerrett 2016a), African Banks (Vesey-Fitzgerald 1941, Feare 1979), Providence Atoll (Stoddart 1967, Diamond and Prÿs-Jones 1986, Skerrett 2016), and Farquhar (2001 photograph evidence, Duhec *et al.* 2017). They may still breed within the Amirantes group, where a number of adults and begging juveniles are often reported by the staff of Island

Conservation Society (i.e. Desroches, Poivre and Alphonse) (ICS archive). Rocamora (2013) suggested that a minimum of c. 50 pairs continue to breed in the northern Amirantes based on ornithological observations on Boudeuse, Etoile and African Banks in November 2013. However, there has been no ornithological visit to Etoile during the breeding season (possibly the main breeding site) for more than 50 years (Dawson 1966). The species formerly bred and may also breed at Astove (Bayne *et al.* 1970), and has been speculated to breed in the lagoon islets of Cosmoledo possibly 0-100 pairs (Skerrett 2016), where the species is commonly encountered, but without supporting evidence of breeding.

The most important breeding colony of the species of the all-Western Indian Ocean is at Nosy Foty on the west coast of Madagascar, with c. 10,840 pairs (Le Corre *et al.* 2009). This colony is located less than 400 km south-east of Cosmoledo Atoll (9°41'S, 47° 35'E), the second largest atoll of the Aldabra group, c. 120 km East of Aldabra Atoll, c. 700 km east of Africa and c. 1,000 km south-west of Mahé, Seychelles. Three breeding colonies are known to exist in the vicinity of Cosmoledo. The largest in Seychelles, Bancs de Providence, is estimated at 200–300 pairs (Skerrett 2016), the Aldabra colonies up to 40 pairs (Diamond and Prÿs-Jones 1986) and Bancs de Sable in Farquhar with about 2-4 pairs (Duhec *et al.* 2017).



Details of greater crested terns with eggs, chicks and attempting to mate at the colony of Grand Polyte, Cosmoledo

On 19 February 2018, we described the first documented record of Greater Crested Tern on the uninhabited island of Grand Polyte, on the East rim of Cosmoledo Atoll. A film was used as a method to record numbers and describe the

characteristics of the breeding site. Overall, 234 pairs were reported sitting on eggs with at least 40 downy chicks (see images). Terns were nesting on an open sandy area covered with coral rubble and small patches of dead seagrass surrounded by sparse low stands of *Suriana maritima* and *Scaevola taccada* and larger shrubs of *Pemphis acidula* dominating the area on the East side of the island. Nests, shallow scrapes in the ground with no nesting material, were irregularly spaced. Laying dates were estimated to be from at least beginning of January. This was based on observations of birds with eggs, chick observations and previous knowledge of a 25-30 days incubation period for the species (Skerrett 2013).

Cats and rats were eradicated from Grand Polyte by ICS in November 2007 (Rocamora 2007). This success led to the establishment of this species along with masked boobies (*Sula dactylatra*), red-tailed tropicbirds (*Phaethon rubricauda*) and red-footed boobies (*Sula sula*). Today, we know of 4 breeding populations of greater crested terns throughout Seychelles with recent breeding on Astove and Northern Amirantes yet to be confirmed. The new estimated total Seychelles population of 548-790 pairs is raised significantly by 21.5% (upper limit) to 77% (lower limit).

The contributors of this Newsletter are:

Cover page photo: Release of a Barau's petrel fledgling by Serge Garnier

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Thanks to all of you!

Call for contributions: This is the fifth newsletter of the group. We plan to prepare the next issue for January 2019, so please send your contributions to one of the editors (see above) now!