BIRDSCARIBBEAN SEABIRD WORKING GROUP NEWSLETTER

June 2025



- Upcoming Caribbean Seabird Census workshop
- Conservation Spotlight: Artificial nesting platforms for Least Terns
- Highlighted Research: Healthy seabird populations support healthy coastal habitats
- Updates from the islands, and more...



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Index of bird species

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About the Seabird Working Group

The Seabird Working Group (SWG) was formed in 1998 to understand the big picture driving seabird communities in the region. Since then, the group has been composed of managers, conservationists, researchers, and educators working together to help study and protect populations of breeding and migratory seabirds in the Caribbean.

The aims of the group are to:

- Connect People Bring together people working on, and interested in, Caribbean seabirds
- Share Knowledge Share information about research, monitoring, management, and conservation of seabirds in the Caribbean
- Promote Conservation Seek new opportunities to expand conservation and research activities on Caribbean seabirds, and support those working towards this goal
- Advocate for Seabirds Respond to crises and threats that may impact Caribbean seabirds and their habitats

The SWG is currently managed by a committee of three co-chairs (below), supported by Natalia Collier, Antonio Garcia Quintas, Luis Ramos, Louise Soanes, Jennifer Wheeler, and Lisa Sorenson. We are always looking for additional committee members to help lead SWG initiatives: if you have any questions or are interested in joining us, please contact us!

Dr Ann Sutton (asutton@cwjamaica.com)

Dr Rhiannon Austin (R.E.Austin@liverpool.ac.uk)

Yvan Satgé (ysatge@clemson.edu)

Survey of people interested in Caribbean seabirds

In 2020, we initiated a survey of people interested in seabird conservation, education, and research in the region: the results of this survey can be found in our <u>2021 Newsletter</u>.

If you are new to the Caribbean seabird community or haven't responded yet, we are still interested in hearing from you. You can fill out the questionnaire at the following address: <u>https://forms.gle/ykNMAfUYQVDmJKTw9</u>.

Communications

Website

In the SWG pages on the BirdsCaribbean website, you will find links to background information on the working group, active seabird projects, seabird resources, and our seabird blog posts at <u>www.birdscaribbean.org/caribbean-birds/seabirds</u>.

We would love to hear from you if you are keen to get further involved in any of our work!

Social platforms

Groups.io community

The SWG has a listserv with Groups.io: <u>https://birdscaribbean.groups.io/g/SeabirdWG</u>. Anyone interested can become a member and start interacting via email or through the Groups.io webpages. This platform will be the main communication tool for SWG co-chairs to share information with the whole Caribbean seabird community, but it is open to anyone to share knowledge, post questions, and list information on recent publications, jobs, events, grant opportunities, etc. that may be of interest to all. Visit the <u>Groups.io</u> webpage for details on how to join.

Facebook group

Members of our community have started a Facebook group (<u>Caribbean Seabird Group</u>) to provide an informal network for those who regularly use Facebook, and are interested in Caribbean seabirds and related topics. It complements the BirdsCaribbean Facebook page where regular updates on all Caribbean birds can be found. The Groups.io listserv will remain our main communication tool but we will do our best to relay information to and from the Facebook group as well.

Please be aware that we have a zero-tolerance policy for any actions by group members that compromise the safety, fairness, or productivity of our platforms.

Calls for collaborations

Caribbean Roseate Tern Working Group – If you study or work to conserve Roseate Terns in the Caribbean, please join us on a **Zoom call on 2 July 2025 at 2:00pm EDT (GMT-4)** to discuss the creation of a Caribbean Roseate Tern working group. A Roseate Tern working group would help share information, needs, and experiences on this imperilled species, and look for collective funding. Contact Yvan for the Zoom link.

Contact: Yvan Satgé, Caribbean Seabird Working Group (ysatge@clemson.edu)

Latin American Chapter of the Pacific Seabird Group – The Equity, Inclusion, and Diversity

<u>committee</u> of the Pacific Seabird Group (PSG) aims to develop seabird conservation in developing countries or regions with little or no institutional support for seabird researchers and conservationists. Carlos Zavalaga is seeking Caribbean and Latin American seabird researchers interested in joining this international community as Corresponding Members. Corresponding Members who report on their seabird research activities or conservation efforts are eligible to receive Travel Grants to attend the PSG Annual Meeting, as well as Research Grants. The Subcommittee also helps Corresponding Members network within the PSG community and generate connections that support critical seabird research and conservation efforts internationally.

Contact: Carlos Zavalaga, Universidad Científica del Sur, Peru (czavalaga@cientifica.edu.pe)

Database of seabird tracking studies in the Caribbean – Starting in the late 2000s, several groups have tracked seabirds in the Caribbean. The SWG is trying to compile a <u>full list of tracking studies from</u> <u>the region</u>. Having this up-to-date information can foster future collaborations, or be instrumental when applying for funding. Do not hesitate to contact Yvan if you have tracked seabirds in the Caribbean and would like your study to be listed.

Contact: Yvan Satgé, Caribbean Seabird Working Group (ysatge@clemson.edu)

Important Bird and Biodiversity Areas for Caribbean Seabirds

What is an IBA?

An Important Bird and Biodiversity Area, or IBA, is a site recognized as being globally important for the conservation of bird populations on the basis of an internationally agreed set of scientific criteria. The concept of IBAs was initiated by BirdLife International in the 1980's, in response to the European Union's *Birds Directive* and the creation of Natura 2000's Special Protection Areas. IBAs suggest where protection and management measures are needed to conserve essential sites for birds that are globally threatened, have limited ranges or specific biomes, or form large congregations—such as migratory species and breeding seabirds. These sites often serve as key breeding grounds, feeding areas, migration stopovers, or overwintering habitats.

While IBAs themselves don't carry legal status, they are invaluable conservation tools. They help guide land-use planning, support the creation of protected areas, and prioritize conservation efforts. They also contribute to sustainable development by highlighting the importance of biodiversity for various human activities. Today, more than 13,000 IBAs have been identified worldwide, forming a vital network that supports bird populations and broader biodiversity.

IBAs in the Caribbean

The Caribbean IBA network was first established in 2008 after eight years of collaborative work with regional stakeholders. This effort resulted in the identification of 295 IBAs across the Caribbean, supporting 254 bird species. These sites represent a crucial foundation for regional conservation efforts and provide a baseline for updating and expanding our understanding of critical bird habitats.



Important Bird and Biodiversity Areas across the Caribbean, for all birds, and seabirds. (BirdLife International).

Seabirds and IBAs

Out of the 295 IBAs in the Caribbean, 156 sites support seabird populations, representing 38 seabird species. Notably, 15 of these sites were designated specifically because of their importance for breeding seabird colonies. Seabird IBAs include nesting sites on offshore islands, cliffs, and cays that are essential to the survival of our seabird species.

In recent years, there has been growing interest in identifying marine IBAs, which encompass important areas at sea for seabirds. These marine sites aim to complement existing coastal and terrestrial IBAs, expanding the conservation network into the marine environment. Comprehensive assessments for marine sites across the Caribbean have not been undertaken. Given many of the Caribbean countries / territories have yet to achieve targets of global agreements, such as the Kunming-Montreal Global Biodiversity Framework Target 3 (the '30 x 30' commitment, which requires governments to effectively conserve and manage at least 30% of their terrestrial, inland water, coastal, and marine areas by 2030), contemporary knowledge of important marine sites will be invaluable for guiding decision-makers about how best to achieve targets.



Proportion of a country's exclusive economic zone covered by Marine Protected Areas (MPAs) or Other Effective Area-based Conservation Measures (OECMs). Given most nations around the world have committed to effectively conserving and managing at least 30% of their terrestrial, inland water, coastal, and marine areas by 2030, important site information in the marine environment will be critical for guiding decision-makers in effective spatial planning.

Time for Updates: Strengthening Bird and Biodiversity Conservation in the Caribbean

IBAs play a vital role in shaping policy and promoting sustainable development, making it essential to revisit and update existing IBA data across the Caribbean. Many of the records used to designate the current IBAs have not been reviewed for over 15 years, despite significant shifts in land use, climate, and conservation needs. Refreshing this information and identifying gaps will help ensure conservation efforts remain based on science, relevant, and effective in protecting the region's most crucial bird habitats.

In this process, it is equally important to consider Key Biodiversity Areas (KBAs), which often overlap with IBAs. While IBAs focus on sites crucial for bird conservation, KBAs designate sites of global significance for <u>all</u> biodiversity. Both designations highlight critical habitats for threatened and endemic species, underscoring their complementary roles in biodiversity protection. Integrating KBAs alongside IBAs when refining and identifying new sites provides a more comprehensive approach, capturing not only vital bird habitats but also other key species and ecosystems. This combined strategy will strengthen regional conservation priorities and support more effective, holistic biodiversity management.

Exciting News: A Workshop to Interpret Data from the Caribbean Seabird Census

The <u>2023-2024 Caribbean Seabird Census</u> sparked a renewed wave of seabird data collection across the region. As we all begin to analyze the regional results, we have a valuable opportunity to come together, review the findings, and collaboratively update and identify IBAs for seabirds in the region. As a follow up, on 22 and 29 May 2025, the Seabird Working Group and BirdLife International organized two webinars to introduce the IBA/KBA programs and share case studies from the Caribbean. Video recordings are available on BirdsCaribbean's YouTube channel:

- Webinar 1: <u>The IBA/KBA journey: From global standards to local action for Caribbean birds</u>
- Webinar 2: From policy to practice: Case studies and lessons from implementing IBA/KBAs for seabird conservation in the Caribbean

Furthermore, with support from the Convention for Biological Diversity's <u>Bio-Bridge Initiative</u>, the Seabird Working Group is pleased to announce plans for a regional workshop entitled "<u>From data to</u> <u>action: A workshop to interpret the Caribbean Seabird Census</u>". This in-person workshop will be held in Santo Domingo on 23-24 September 2025. It will bring together working group members, experts, partners, and stakeholders to collectively analyze, interpret and report on the data collected during the 2023-2024 Caribbean Seabird Census. All will work on translating data into conservation and management tools, including taking steps to designate or update IBAs and KBAs. We hope to see you there!

Contacts: Louise Soanes, Caribbean Seabird Census coordinator (caribbeanseabirdsurveys@gmail.com) and **Jonathan Handley**, BirdLife International (jonathan.Handley@birdlife.org)

Unprecedented Collaborative Efforts Advance Seabird Conservation in the Turks and Caicos Islands



Drone image of a cay on the Caicos Bank taken during DPLUS164 project. (N.Golding)

Over the last three years, a large team of seabird scientists, managers and conservation practitioners has been working hard to survey the many seabird populations that inhabit the islands and cays of the Turks and Caicos (TCI). This project, funded by the UK Government's Darwin Plus scheme, has been led by the University of Liverpool (Dr Rhiannon Austin), with involvement from multiple local and regional partners including the Turks and Caicos National Trust, the Royal Society for the Protection of Birds, Turks and Caicos Reef Fund, Department of Environment and Coastal Resource (TCI Government), Birdllfe International, Liverpool John Moores University, School of Field Studies – South Caicos, Aquarius Survey and Mapping and SAERI Falklands Ltd. Many local ecotour and tourism companies (including Big Blue, Deep Blue Charters, T&V Tours, Jedi Boat Charters, VisitTCI, and Caicos Catalyst Private Boat charters), as well as members of the public, have contributed to the seabird surveys. This massive effort has led to the creation of one of the largest and most detailed records of seabird populations in the Caribbean. The database contains multi-year population estimates for 15 species of seabirds across >50 sites in the TCI (see map on page 12) and is now being used to make recommendations for site and species management.



Survey team in the field collecting data. (R. Austin, N. Golding, C. May).

Prior to this project, little was known about seabirds in the TCI, with the last major survey effort having taken place in 2002. These gaps in data have persisted, despite rapid increases in both the human population and coastal development, and associated pressure on coastal ecosystems. Whilst there have been some changes in seabird populations since this time, it is now clear that the TCI remains an extremely important breeding area for many seabirds, some of which are present in regionally and internationally important numbers.

One of the outcomes of this project was to undertake an update of the existing Important Bird and Biodiversity Area (IBA) network in the Turks and Caicos Islands. Nine IBAs were designated in 2007, based largely on a review of bird knowledge prior to 2005. Since this time, the criteria that underpin the IBA framework have been adapted to create a global standard for identifying sites that contribute to the persistence of biodiversity (known as 'Key Biodiversity Areas' or 'KBAs'). KBAs extend the IBA approach beyond birds to include sites of importance for threatened and geographically restricted species and ecosystems, while accounting for ecological integrity, biological processes and irreplaceability. All IBAs in TCI automatically became legacy Key Biodiversity Areas in 2016 when the new Global Standard was introduced. However, there has been a pressing need to review these legacy sites since this time.



Map of the main sites that were surveyed during the DPLUS164 project between 2022 - 2024.

The project's seabird team has been working closely with IBA / KBA officers at Birdlife International to achieve this task. Some important findings include the presence of significant numbers of Sargasso (Audubon's) Shearwaters on a few small cays that are currently not part of the IBA network. The project has also confirmed the presence of large numbers of Gull-billed Terns on the main island chain, and a sizable colony of Roseate Terns on a single nearshore cay that is also not part of the IBA network. So far, three KBAs are in the process of being recommended for designation on the Caicos Bank. These sites would highlight the biodiversity value of remote cays on the outer edge of the Bank, and large stretches of coastal wetland across North, Middle and East Caicos. A review of seabirds on the Turks Bank is currently being undertaken, and it is likely that seabird numbers will also warrant KBA designation in this area of the TCI.



Seabirds of the Turks and Caicos Islands. (R. Austin).

In addition to the IBA/KBA review, the outputs of this project will contribute to spatial planning processes being worked on by the TCI Government's DECR. Seabirds have not traditionally been incorporated into marine and coastal management plans, yet many of the main seabird sites have already been designated as some form of protected area. The recommendations made by the TCI seabird project team on appropriate conservation actions and monitoring strategies will be incorporated into management plans as they are developed. The project has implemented tried-and-tested monitoring programmes tailored to both species and sites, which can now be systematically used at appropriate intervals to track seabird population trends. This should allow local managers and policy makers to introduce adaptive management actions that ensure the continuation of TCI's seabird populations into the future.

The Seabird Working Group, along with BirdLife International, have recently run a webinar series focused on IBAs and KBAs, which discusses the use of these tools in detail. If you would like to know more about how these biodiversity assessments are being implemented in the TCI, check out Webinar 2 "From policy to practice: Case studies and lessons from implementing IBA/KBAs for seabird conservation in the Caribbean" on BirdsCaribbean's YouTube channel.

Contact: Rhianon Austin, University of Liverpool (r.e.austin@liverpool.ac.uk)

Hurricane Beryl slams seabird haven

On July 1, 2024, Hurricane Beryl tore through the Grenadines with Category 5 force, flattening homes, shredding vegetation, and devastating wildlife. The storm cut straight through a region known not only for its beauty but also for its global importance as a seabird nesting ground. While aid and recovery efforts quickly focused on the human toll—those left without homes or basic necessities—a quieter crisis was unfolding in the skies and across the tiny, wild islands offshore.

As the hurricane approached, Vaughn Thomas, a Grenadian fisherman, sailor, tour operator and Seabird Guardian prepared by securing his sailboat in the shelter of Carriacou's oyster bed mangroves, alongside a flotilla of others. What he noticed next was startling: Laughing Gulls, common to the area, were gathering in the mangroves too—a strange and uneasy sign. But just before the storm hit, they vanished, as if nature had warned them in a way humans couldn't understand.

When Beryl struck, it hit with unimaginable force. Boats broke loose, smashing into one another, sinking and even catching on fire. Massive catamarans capsized. Vaughn rode out the storm aboard his sailboat, in what he described as hours of terror. When the winds finally stopped, he had lost not just his home and possessions, but the two boats he relied on for fishing, tourism, and ecological research suffered extensive damage.



Vaughn Thomas' survey boat suffered extensive damage from Hurricane Beryl but it did not sink. (J. Coffey)

As the immediate chaos settled, Vaughn and biologist Juliana Coffey turned their attention to the damage left behind—this time, focusing on the region's seabirds and biodiversity of the uninhabited islands. These islands serve as critical nesting grounds for species like Roseate Terns, Brown Noddies, Red-billed Tropicbirds and Laughing Gulls, and as important non-breeding areas for Brown Pelicans and Royal Terns. Sadly, the hurricane struck during peak nesting season, when chicks of many of these species had not yet fledged. Additionally, these islands provide nesting habitat for numerous other

avian species, such as Little Blue Heron, Yellow-crowned Night Heron and Scaly-naped Pigeon, as well as hosting a variety of Grenada Bank endemic reptile species.

In the months that followed, the duo conducted surveys by land and sea across Carriacou and neighboring islets. What they found was sobering: vegetation had been stripped bare, entire islands reduced to exposed rock. The nearshore habitat and coral reefs were extensively damaged, with a notable absence of sea turtles, reef fish and sea urchins. Initial surveys in July 2024 recorded few seabirds—and no chicks or nests. But by late summer, nature began to show signs of resilience. Foraging seabirds returned in growing numbers, especially Roseate Terns, Brown Noddies, and Brown Pelicans. Yet, new problems emerged too: invasive bird species like the Shiny Cowbird and House Sparrow had suddenly arrived and were rapidly on the rise.



Seabird nesting islands were stripped bare by Hurricane Beryl's winds and waves (J. Coffey)

Fortunately, not all species were significantly affected. Red-billed Tropicbirds returned to initiate their breeding season in November 2024, which typically lasts until May. While they were not present during the hurricane, they returned to find a dramatically different landscape. Laughing Gulls began to return by March 2025, and were nesting at the end of April 2025. The first sightings of post-Beryl Brown Noddies and Bridled Terns at the end of April 2025 also marked a hopeful turning point.

Hurricane Beryl was a disaster that shook both human and natural communities across the Grenadines. But from the wreckage, stories like Vaughn's reveal a powerful message: resilience, partnership, and a deep respect for the natural world can guide both recovery and a better future. The seabirds are resilient and adaptable. So are the people who care for them.

Contact: Juliana Coffey, Archipelagics (juliana@grenadinesbirds.com)

Updates from the Islands

A wide range of activities involving seabirds are taking place throughout the Caribbean, including those focused on monitoring, research, conservation, and education. Below we showcase some of the inspiring and important ongoing projects on the islands.

Projects

Study of mercury levels in Cuban larids



mercury contamination in the country.

The Centro de Investigaciones de Ecosistemas Costeros (Coastal Ecosystems Research Centre) of Cuba in collaborating with several academic institutions in France (Institut de Recherche pour le Développement, the Université de Bretagne Occidentale, and Université de La Rochelle) to lead an extended study of mercury loads in larids breeding in Cuba.

This study was motivated by results obtained during an initial sampling in a colony during the breeding season of 2021. The researchers have now expanded the sampling of tissues (blood, down, and feathers) spatially and temporally to assess the state of

Since 2024, researchers have collected samples from eight species of larids nesting at 10 breeding sites. They have detected preliminary high values in some colonies of Royal, Sandwich, and Least Terns towards the north-central region of the country. They are planning to repeat and increase sampling during the breeding season of 2025.

The aim of this ambitious study is to predict the risk of mercury toxicity in the country's coastal areas, identifying possible hotspots of pollution and possible sources of contamination.

Contact: Antonio Garcia Quintas, Centro de Investigaciones de Ecosistemas Costeros (agquintas86@gmail.com)

Photo: A team of Cuban researchers samples blood drops from a Sooty Tern. (A. Garcia Quintas).

Study of foraging movements of terns in Cuba



During the 2024 and 2025 breeding seasons in Cuba, researchers and technicians from the Centro de Investigaciones de Ecosistemas Costeros (Coastal Ecosystems Research Centre) are studying the foraging movements of adults of Bridled, Sooty, Royal, and Sandwich Terns. In collaboration with the French Institut de Recherche pour le Développement (Institute of Research for Development) and the Université de Bretagne Occidentale, the work is being carried out on Felipe de Barlovento Cay, in north-central Cuba, a site with the highest richness of breeding seabird species in the country.

This study is the first time that seabird foraging is

tracked in the Cuban archipelago, and will produce relevant results for understanding (1) the trophic ecology of the most abundant group of seabirds in the country, (2) their use of the marine environment, (3) their overlap with socioeconomic activities such as fishing and tourism, and (4) the effectiveness of the current Marine Protected Areas.

Cuban researcher Antonio Garcia Quintas is using location, acceleration and depth trackers to delineate the trajectories of adults during the chick rearing stage. In parallel, the sampled birds are marked with metal and colored plastic bands for subsequent monitoring, especially in successive years. This research will provide novel insights into the foraging ecology of tropical seabirds in the Caribbean area, as well as criteria to support the design/improvement of IBAs and KBAs in the region.

Contact: Antonio Garcia Quintas, Centro de Investigaciones de Ecosistemas Costeros

(agquintas86@gmail.com)

Photo: Antonio Garcia Quintas equips a Bridled Tern with a tracking device. (A. Garcia Quintas).

Monitoring breeding colonies of terns, noddies, and gulls in Cuba



In Cuba, several breeding colonies of larids are monitored by the Empresas Provinciales de Flora y Fauna (Provincial Enterprises for the Conservation of Flora and Fauna) in Pinar del Río, Matanzas and Villa Clara, the Centro de Investigaciones de Ecosistemas Costeros (Coastal Ecosystems Research Centre), and the Centro de Estudios y Servicios Ambientales (Centre for Environmental Studies and Services) of Villa Clara. The monitored colonies are located in several cays of the archipelagos of Los Colorados (northwest), Sabana-Camagüey (north-central) and Los Canarreos (southwest). During each survey, researchers quantify the number of nests, eggs and chicks of Laughing Gull, Brown Noddy, and Bridled,

Sooty, Roseate, Royal, Sandwich, and Least Terns.

Currently, surveys are not consistent across colonies and differ in frequency, systematicity and methods that depend on localities. Therefore, starting during the 2025 breeding season, data recording will follow a standardized format. This monitoring will be assisted by BirdsCaribbean and will contribute to regional surveys and long-term monitoring.

The main objectives are to evaluate trends in the breeding populations of the larid species breeding in Cuba and to identify possible anomalies in their phenology and reproductive dynamics. At the same time, the effectiveness of the Marine Protected Areas containing some of these colonies will be evaluated. This type of study is logistically challenging in the Cuban context, but the tenacity of the people involved leads to the achievement of the monitoring.

Contacts:

Antonio Garcia Quintas, Centro de Investigaciones de Ecosistemas Costeros, agquintas86@gmail.com Ernesto Hernández Pérez, Empresas Provinciales de Flora y Fauna Villa Clara, Nenohp65@gmail.com Ivalut Ruiz Rivera, Empresas Provinciales de Flora y Fauna Pinar del Río, ivalutruizrivera@gmail.com Photo: Laughing Gulls fly over a breeding cay in coastal Cuba. (Antonio Garcia Quintas).

Monitoring surveys in the Cayman Islands



The Cayman Islands Department of Environment (DoE) is monitoring multiple species on seabirds nesting in the islands.

Least Terns are found on all three islands but they are monitored on only two cays, in conjunction with Bridled Terns, in May/June. On Sand Cay, Least Terns have around 90 nests. On Vidal Cay, Bridled Terns have around 24 nests: this is the only location in Cayman that the species is found. Both species will be surveyed again this year.

The Brac population of White-tailed Tropicbirds has not been monitored since 2021, when around 62 nests were counted. However, this year it was

possible to survey the Grand Cayman population and 12 adults and 7 nests were recorded. During the survey, trash was discovered inside the tropicbird nesting cavities and DoE is planning on doing a clean-up of the nesting sites prior to the start of next year's breeding season. This year, Green Iguanas were also removed from the White-tailed Tropicbird nesting areas on Grand Cayman, decreasing competition for nesting sites.

On Cayman Brac, Brown Boobies continue to be monitored as part of feral cat and rat control along the LightHouse Trail, the species' eastern-most nesting site on the island. Nevertheless, only 12 successful nests were observed island-wide this year. A lot of abandoned nests were recorded, as well as nests swept over by high tide along the beach.

On Little Cayman, the Booby Pond (a land-locked saltwater lagoon with mangrove margins) is a notoriously difficult area to survey. Therefore, the Red-footed Boobies and Magnificent Frigatebirds that nest there are monitored by drone. In 2022, 2,355 adult Red-footed Boobies and 950 Magnificent Frigatebirds were counted. The pond was surveyed again this year but, due to lower georeferenced stitching and quality than in 2022, analyses are taking longer than expected.

Contact: Jane Haakonsson, Department of Environment, Cayman Islands Government

(jane.haakonsson@gov.ky) Photo: Department of Environment conservationists survey the Bridled Tern colony on Vidal Cay, Cayman Islands. (J. Haakonsson).

Beata Ridge expedition leads to new Marine Protected Area in the Dominican Republic



In early 2024, a three-week megafauna expedition, organized by the Caribbean Cetacean Society (CCS), was conducted in the Beata Ridge area, an underwater ridge extending between the Dominican Republic and Colombia. Following a similar effort and the creation of a Marine Protected Area (MPA) in Colombian waters, this 20-day survey aimed to collect crucial scientific data to support the establishment of a new MPA in Dominican waters.

The expedition focused on identifying seabird species, recording their presence, behavior, and life stages, and also documented cetaceans, sharks, and sea turtles. This collaborative effort between the

Dominican Republic and Colombia , along with local capacity- building initiatives led by CCS, set a strong precedent for regional conservation.

A total of 313 bird sightings were made, 87% of which were identified to the species. 14 seabird species were identified, including both resident and migratory birds, establishing a baseline for seasonal presence. Notably, five species were found clustered within 15 km of the coast, particularly near Alto Velo island. Bridled and Sooty Terns were the most abundant overall with almost 500 individuals recorded. Brown Boobies had the second largest count, with 164 individuals recorded. The Black-capped Petrel, an endemic and endangered species, was particularly present with 80 confirmed sightings totaling 101 individuals of both dark and light phenotypes.

Given Beata Ridge's critical role as a nexus for the connectivity of marine species, serving as a feeding ground and migratory route for seabirds and a nursery for diverse marine life, the Dominican Republic Ministry of the Environment created a new Marine Protected Area over the Beata Ridge: the Jorge Orlando Mera Marine Sanctuary. The report from the scientific expedition is available on <u>CCS' website</u>.

Contact: Lucas Bernier, Caribbean Cetacean Society (lucas.bernier@ccs-ngo.com) Photo: Using a sailboat is a great way to survey large marine areas with minimal carbon footprint. (Caribbean Cetacean Society).

Monitoring breeding colonies of White-tailed Tropicbirds in north-western Puerto Rico



Northwestern Puerto Rico is home to the Acantilados del Noroeste (Northwest Cliffs) Important Bird Area (IBA). Among its rich biodiversity, these cliffs support a significant nesting population of White-tailed Tropicbirds, a species at risk in the Caribbean.

At the end of February 2025, 20 volunteers conducted a coordinated annual White-tailed Tropicbird count in the Acantilados del Noroeste. Six subcolonies were monitored as part of a long-term monitoring program, marking the 20th anniversary of this effort.

As part of the main activities funded by the BirdsCaribbean James Kushlan Research and Conservation grant awarded to Alcides Morales-Pérez, nest searches were carried out throughout the colonies. Seventeen accessible nests have been found and are currently being monitored. Some nests can be reached by hiking through the cliffs, while others are accessible only by rappelling. With assistance from the Roller and Vertical Exploration Skatepark, a community group based in Quebradillas that promotes extreme sports such as skateboarding, inline skating, and caving, Alcides has been able to descend into the cliffs. Borinken Tree Experts, a group of professional arborists, have also contributed to nest searches and monitoring. Several camera traps have been deployed, and so far, a range of intimate behaviors has been documented. Observations include nesting phenology, nest attendance, intraspecific behavior, hatching, and predation.

One of the highlights of this year's efforts is the identification of several historical nesting sites. Evidence of White-tailed Tropicbird bones and eggshells has been found, with no indication of recent activity. This discovery is providing valuable insights into the historical occupancy and extent of this important colony.

In the coming weeks, a seabird identification and basic monitoring workshop is being organized to take place at the Roller and Vertical Exploration Skatepark. The workshop will be open to the general public, nearby community members, and local fishermen.

Contact: Alcides Morales-Pérez (alcidesl.morales@yahoo.com)

Photo: Alcides Morales-Pérez in front of the White-tailed Tropicbird cliffs in northwestern Puerto Rico. (A. Morales-Pérez).

Biosecurity and seabird restoration project on Desecheo National Wildlife Refuge



Located 14 miles off the northwest coast of Puerto Rico, Desecheo Island was designated a National Wildlife Refuge in 1976. Although Desecheo used to be a critical habitat for seabirds, the introduction of invasive mammals led to habitat loss and seabird predation. Once the island was declared free of invasive mammal species in 2017, the U.S. Fish and Wildlife Service (USFWS), Island Conservation, and the Puerto Rican non-profit organization Effective Environmental Restoration, Inc. joined forces to implement biosecurity and social attraction projects. These included decoys, mirrors, and sound systems to attract Bridled Terns, Brown Noddies, and Sargasso (Audubon's) Shearwaters, among

other species. These efforts have led to an increase in the number of nests of Bridled Terns and Brown Noddies and the first record of Sargasso (Audubon's) Shearwater nesting on the island. The first shearwater egg was documented in 2023, and nests were recorded in the past two years.

In 2025, a shearwater nested in a new area but motion sensing cameras showed that land crabs (*Gecarcinus ruricula*) depredated the egg. To address this, the nesting areas will be fenced to, hopefully, protect the adults and the nest from crabs. Additionally, to attract shearwaters, new duet songs have been added to the sound systems and artificial nest boxes were installed.

New ideas are being implemented to enhance the nesting areas. In 2023, the USFWS collaborated with American Bird Conservancy to install a new sound system on the island to potentially attract the Black-capped Petrel, a species recently listed as endangered under the Endangered Species Act.

Collaborators continue to monitor the area, conducting seabird surveys around the island, counting nests, and using motion-sensing cameras to track the Sargasso (Audubon's) Shearwater nests. During surveys, more bird species roosting (and likely nesting on the island) have been documented. For example, in June 2024, 40 Magnificent Frigatebirds roosted on the island, of which 36 were juveniles. This record marks the first time this number of frigatebirds has been recorded on the island since its historical peak. All these prove the effectiveness and efficacy of social attraction methods, as well as the numerous benefits of having an island free from invasive mammals.

Contact: Nahíra Arocho, Caribbean Islands National Wildlife Refuge Complex, U.S. Fish and Wildlife Service (<u>nahira_arocho@fws.gov</u>)

Photo: A Sargasso (Audubon's) Shearwater and its egg on Desecheo National Wildlife Refuge, Puerto Rico. (U.S. Fish and Wildlife Service).

Sint Maarten seabird habitat restoration project



On Sint Maarten, development, especially from tourism, has left little viable space for threatened seabird species on the island. To mitigate this issue, the Sint Maarten affiliate of the non-profit organization Environmental Protection in the Caribbean (EPIC Sint Maarten) has initiated the project "Brown Pelican and Least Tern Habitat Restoration".

Least Terns prefer to nest in open terrain but a lack of habitat has left them nesting next to the runway of Princess Juliana International Airport. Nesting in close proximity to air traffic poses a collision hazard, threatening both bird populations and human

safety. The airport staff has attempted to relocate the nests, but adults may not return to a nest that has been moved, resulting in nest failure. While long-term habitat restoration is the ultimate goal, EPIC Sint Maarten built and launched a floating platform as a short-term nesting solution.

EPIC Sint Maarten is also working to restore habitat for the Caribbean Brown Pelican, Sint Maarten's national bird, after development and hurricane damage left one remaining nesting area on the island, at Fort Amsterdam. EPIC Sint Maarten spent the past months clearing invasive species from the area and preparing to plant native species. Partnering with SXM DOET, a local volunteer effort, the team planted 200 native trees in May 2025.

This project is made possible with funding from the European Union's BESTLIFE2030 Program, which works to protect the biodiversity of Outermost Regions and Overseas Countries and Territories through small-scale initiatives, with additional support from BirdLife Netherlands. Deon and the team at Aquatic Solutions also provided important support.

Contact: Colby Poerio, Environmental Protection in the Caribbean Sint Maarten

(cpoerio@epicislands.org)

Photo: The Sint Maarten habitat restoration team removes invasive grasses from the Fort Amsterdam Brown Pelican nesting area. (C. Poerio).

Further insights into Red-billed Tropicbirds in Boven National Park, Sint Eustatius



Research on Red-billed Tropicbirds on St. Eustatius suggests the island supports a globally significant population, potentially representing 3–10% of the global total, with an estimated 300–500 breeding pairs. These birds nest on remote, hard-to-access cliff faces, and there are still knowledge gaps in some areas of the island where the species is regularly observed. This study, which is supported by BirdsCaribbean's James A. Kushlan Research and Conservation Fund, aimed to estimate the population size, number of nesting pairs, and fledging success in Boven National Park, using data from the long-monitored Pilot Hill nesting site as a comparison.

Between February 2024 and January 2025, monthly peak abundance counts were conducted at both sites during five-minute intervals between 15:00 and 17:30, a time previously identified as peak activity. Observers used micro-sweeping counts to record all visible Red-billed tropicbirds, logging the highest number seen during each interval. By comparing current counts at both sites with historical nesting data from Pilot Hill, it is estimated that Boven National Park could support around 318 nesting attempts and approximately 90 fledglings per year. This brings the island-wide estimate to nearly 400 nests and around 110 fledged chicks annually.

The Pilot Hill nesting site continues to face several pressures. Erosion from free-roaming animals has made the cliffs unstable, complicating monitoring efforts and threatening nesting success. Invasive predators, including rats and feral cats, pose additional threats by preying on chicks and eggs. STENAPA plans to increase invasive species control efforts at Pilot Hill in the coming seasons to improve nesting success. A pilot project to install artificial nesting habitats developed in Bermuda is planned for the next breeding season.

During the peak nesting period in early 2025, STENAPA staff also conducted an island-wide boat survey to identify coastal areas used by seabirds and document their behaviors. Several bird species were recorded along the coastline, including notable observations of roosting Brown Boobies, Brown Pelicans, and Magnificent Frigatebirds. The entire coastline was also assessed for habitat suitability to identify potential new nesting sites for Red-billed Tropicbirds.

Contact: Jethro van't Hul, St. Eustatius National Parks Foundation (jethro.vanthul@statiapark.org) Photo: Monitoring Red-billed Tropicbirds in Sint Eustatius. (J. van't Hul).

Uniting Grenadines Communities for Conservation



In April 2025, Vaughn Thomas and Juliana Coffey designed and coordinated a biodiversity assessment in the northern Grenadines, near Bequia. In collaboration with the St. Vincent and the Grenadines Environment Fund, they assembled a diverse team of biologists, fishers, sailors, and local youth. Their mission: to establish baseline biodiversity data of Pigeon (Ramier) Island and Isle de Quatre in anticipation of an island restoration and invasive species removal program. Previously, Pigeon Island was known to be an important nesting site for Brown Noddies, Red-billed Tropicbirds and Sargasso (Audubon's) Shearwater, and a roosting site for additional species. However, due to the

presence of goats, sheep, and rats, few seabirds have been reported nesting on the island in recent years.

During the assessment, researchers used drones to map vegetation, and captured bird calls with audio recorders. The team documented nesting birds, invasive mammals, and even discovered new island records of endemic Grenada Bank reptiles. Although it was late in the season for Red-billed Tropicbirds, up to a dozen of the striking seabirds were spotted daily gliding around Pigeon Island. Then came a thrilling moment—one morning, the team witnessed the arrival of Brown Noddies returning to the Grenadines to kick off their breeding season; their timing was impeccable. Not only were they seen foraging alongside Red-footed Boobies between the islands, but several were observed collecting nesting materials from the island's grassy slopes. Whether they'll choose to nest there remains to be seen—but their presence alone is a hopeful sign that nature will reclaim its rhythm.

Community engagement was central to the team's approach. Participants were trained in seabird monitoring techniques at several additional islands. At Big Cay and West Cay surveyors observed numerous Brown Boobies with large fluffy chicks, some of which were ready to fledge. A roundtable discussion explored how seabirds and offshore islands could become eco-tourism assets—not just natural resources to be harvested. This grassroots collaboration helped shift conversations toward conservation, showing that protecting wildlife can also benefit people. By having participants from Grenadines islands in both Grenada and Saint Vincent and the Grenadines, the team was able to illustrate that seabirds are not confined by borders, nor should be the collaborative efforts to protect them.

Contact: Juliana Coffey, Archipelagics (juliana@grenadinesbirds.com) Photo: The team of Grenadines conservationists surveys Pigeon (Ramier) Island. (J. Coffey).

Seabird habitat restoration project begins in St. Vincent and the Grenadines



A multi-year project to restore seabird nesting habitats in Saint Vincent and the Grenadines has been initiated by the non-profit organization Environmental Protection in the Caribbean (EPIC). The aim of the project is to increase seabird populations by restoring available nesting habitat in two important seabird nesting sites, Battowia and the Pillories islands, especially to compensate for losses to certain species impacted by the Deepwater Horizon oil spill in 2010.

Three local experts are working on the project – Mr. Allanson Cruickshank serves as the Project Coordinator, Mr. Joshua Gooding is the Project

Assistant and Ms. Lystra Culzac, founder of the Science Initiative for Environmental Conservation Education (SCIENCE), is the Lead Educator.

Initial educational outreach has focused on schools as well as building partnerships with government agencies and local organizations.

Thus far, team members have received training in drone operation and field methods for monitoring plants and wildlife. During the initial land-based survey of Battowia, surveyors noted significant loss of vegetation due to Hurricane Beryl, including downed trees which can serve as nesting platforms for species such as Red-footed Booby and Magnificent Frigatebird. Evidence of recent erosion was also noted, owing to the loss of vegetative cover. Foraging by goats appears to be limiting recovery of plant life.

The Forestry Department in the Ministry of Agriculture, Forestry, Fisheries, Rural Transformation, Industry & Labour is a key partner in the project. This project is funded by the Deepwater Horizon oil spill Natural Resource Damage Assessment and Restoration funds administered by the United States Department of Interior. The project is a collaborative effort among the U. S. Fish and Wildlife Service (USFWS), the Saint Vincent and the Grenadines Forestry Department, SCIENCE, and EPIC.

Contact: Allason Cruickshank, Environmental Protection in the Caribbean

(acruickshank@epicislands.org)

Photo: Saint Vincent and Grenadines Habitat Restoration team surveys vegetation damage inflicted by Hurricane Beryl on the Pillories island. (J. Gooding).

New insights from Roseate Tern migration across the Caribbean



In late 2024 and early 2025, the Centro de Estudos e Monitoramento Ambiental, in partnership with Aquasis, the Federal University of Rio Grande do Norte, Mass Audubon, the National Audubon Society's Seabird Institute, Oregon State University, and the Great Gull Island Project, continued efforts combining long-term banding with GPS telemetry to track Roseate Terns during the non-breeding season.

Of the 15 individuals tagged in 2024, four (all males) retained their transmitters during northward migration— providing the first GPS data ever recorded for Roseate Terns migrating across the Caribbean or belonging to Caribbean populations. One especially

notable bird remained in the Caribbean for the breeding season. After arriving in Tobago on March 22 2024, it moved to small islets north and southwest of Petit Mustique, Saint Vincent and the Grenadines, where it stayed until migrating south in early June. It paused in Trinidad until mid-June, then spent most of the austral winter in French Guiana before returning to Brazil in late August.

The other three birds migrated to breeding colonies along the U.S. East Coast. Two individuals made stopovers of at least three days on the north coast of Puerto Rico before continuing directly to the U.S. The last bird was the most intriguing: it arrived in Puerto Rico on April 29 2024 and departed on May 1, flying back south to Venezuela in a five-day journey. From there, it departed again on May 10, flying non-stop to the U.S.—a looped route that remains poorly understood.

These findings highlight the importance of Caribbean stopover and breeding sites in Roseate Tern migration. To investigate further, tracking efforts continued in Brazil during October 2024 and February 2025. A total of 31 new individuals were captured with 20 receiving GPS tags. Notably, seven of them had been banded in the U.S. All unbanded birds also received yellow and black plastic field-readable (PFR) bands.

This growing dataset strengthens international collaboration and enhances conservation strategies across the species' range. If you observe banded Roseate Terns in the Caribbean, please contact Rafael Revoredo (rafael.revoredo@hotmail.com) and Joan Walsh (jwalsh@amnh.org).

Contact: Rafael Ângelo Revorêdo, Centro de Estudos e Monitoramento Ambiental

(rafael.revoredo@hotmail.com)

Photo: A Roseate Tern wearing a yellow black plastic field-readable band. (R. Revorêdo).

In the region, and elsewhere

- In April 2024, biologists from Dominican Republic's environmental NGO Grupo Jaragua, in collaboration with the South Carolina Cooperative Fish and Wildlife Research Unit, tracked breeding Black-capped Petrel with satellite transmitters. One of them was rescued after hitting antenna cables near its nest in this animation, you can follow its foraging movements after it was released.
 Contact: Andrea Thomen, Grupo Jaragua (andrea.thomen@grupojaragua.org.do)
- In July 2024, the American Ornithological Society <u>split the Audubon's Shearwater into five species</u>, distributed around the world. To avoid confusion, all are being given new <u>English</u> names. The one found in the western Atlantic (including the Caribbean) is now called Sargasso Shearwater (*Puffinus lherminieri*) in English, named for the Sargasso Sea. **Contact: Terry Chesser**, U.S. National Museum of Natural History (chessert@si.edu)
- On 11 August 2024, Jennifer Valiulis spotted a White Tern at Sandy Point National Wildlife Refuge, St. Croix, US Virgin Islands. This is the second time ever that this graceful Pacific seabird is recorded in the Caribbean. Read the whole story on BirdsCaribbean blog: "<u>A Once-in-a-Lifetime Encounter</u>".
 Contact: Jennifer Valiulis, St. Croix Environmental Association (jvaliulis@stxenvironmental.org)
- In October 2024, Juliana Coffey brought the Caribbean Seabird Census aboard Seabourn Expeditions cruise ships. Passengers got hands-on with seabird science—learning to identify species and joining surveys across remote offshore regions, spanning remote offshore areas from Puerto Rico to French Guiana. **Contact: Juliana Coffey** (juliana@grenadinesbirds.com)
- In March 2025, representatives from American Bird Conservancy, SOH Conservacion and the Ministry of the Environment surveyed Alto Velo Island in the **Dominican Republic** for breeding seabirds. No nesting birds were observed on the island during this time. However, about 8 Sooty Tern carcasses (all appeared to be Peregrine Falcon depredation) and one abandoned egg were seen. It is believed they breed during December and January. In addition, an early morning survey from the island documented at least eight Black-capped Petrels flying by the island. **Contact: Brad Keitt**, American Bird Conservancy (bkeitt@abcbirds.org).
- The World Seabird Union (of which BirdsCaribbean is a member organization) is organizing the 4th World Seabird Conference in Hobart, Australia from 7-10 September 2026: <u>worldseabirdunion.org</u>

We missed your seabird project? We want to hear about it! Please send updates through this form: <u>https://forms.gle/p2X9xj8WUMd5xDA1A</u>

Conservation Spotlight: Nesting Platforms for Imperilled Least Terns

Least Terns, the smallest seabird in the Caribbean, have been listed on Appendix 2 of the SPAW protocol (Specially Protected Areas and Wildlife in Wider Caribbean) since 1991. They can be found breeding in colonies along sandy beaches, islands, and flats throughout the region. They make their nest on the ground in shallow scrapes lined with debris such as pebbles and shells, which help camouflage their eggs from predators. With increased threats of human development and predation, Least Terns have responded by nesting on alternative sites such as gravel rooftops and dredge flats. In recent years, Least Terns have successfully used artificial structures provided by wildlife managers, like raised nesting platforms (anchored to the ground) and floating rafts. These elevated or floating structures help protect nests from terrestrial predators and flooding, leading to increased nesting success in some locations. Where natural nesting areas have been lost or degraded, these artificial habitats offer promising solutions for sustaining Least Tern populations. In the Caribbean, several groups tried out nesting platforms and rafts to protect their local Least Terns: they share their findings in the following pages.

In Guadeloupe, nesting platforms on stilts provide safe alternatives to threatened natural sites

In 2012, 273 pairs of Least Terns nested in the Guadeloupe archipelago, representing 37% of the breeding population of the Lesser Antilles and 5% of that of the Caribbean. These colonies face several major threats: human and animal disturbance, predation, as well as climatic factors such as rising sea levels. Habitat changes, such as vegetation growth or the disappearance of nesting substrate, are also a threat. These stressors compromise the species' survival and breeding activity in the region. Since 1989, the Least Tern has been protected in Guadeloupe by French law; since March 2025, its habitat is now also protected.

Between 2019 and 2020, four 7.2 m² artificial platforms on stilts were installed on two salt flats in the Réserve Naturelle de Petite-Terre (RNPT). These sites, never before used by breeding Least Terns, were intended to complement conservation efforts by providing safe alternatives to threatened natural sites. The platforms consisted of a wooden structure with a plywood floor covered with sand and equipped with shelters for chicks, fencing to prevent falls, and wooden tern silhouettes to attract prospecting adults. Platforms were attached to wooden piling anchored into the ground. They were an immediate success: Least Terns occupied them from the very first season.

In 2019, 75% of Least Tern pairs continued to nest on natural sites but all the chicks that fledged (n = 40) came from platforms. In 2020, two new platforms were added and the situation was reversed. That year, 97 pairs (i.e. 75% of all breeding pairs in the RNPT) nested on artificial platforms; 127 fledglings came from platforms, compared with just one in the wild. Productivity on platforms reached 1.00 young/pair in 2019 and 1.26 in 2020, while breeding success in natural habitats remained virtually nil. The density observed on the platforms was remarkable, with almost 4 pairs per square meter. Nevertheless, following suspected depredations by Yellow-crowned Night Herons, in the last three years, breeding success dropped to 0.5 (in 2022, 2023) and 0.01 young/pair (in 2024).

Over the years, the side wire fencing had degraded in some on the platforms, allowing chicks and eggs to fall off (likely during depredation events); it was replaced in 2023. Therefore, when considering building nesting platforms for Least Terns, it is important to realize that maintenance efforts will be needed for as long as platforms are in use. Managers should also plan for colony monitoring. For example, the side wooden boards of the RNPT platforms (and the limited volume of sand in the two newest platforms) make it difficult to observe contents from a distance.

Platforms are an important conservation tool but it is vital to improve breeding on natural sites. Indeed, while RNTP platforms were the main nesting sites for the first three years, usage and productivity then dropped significantly. This underlined the need for balanced management between artificial sites and restoration of natural habitats to ensure the long-term survival of Least Tern colonies.

Contact: Anthony Levesque, Levesque Birding Enterprise (anthony.levesque@wanadoo.fr)



(Left) Least Terns on a salt flat platform, Réserve Naturelle de Petite Terre (A. Levesque). (Right) Adult Least Tern with fish for its chick, on an artificial nesting plaform, Réserve Naturelle de Petite Terre (A. Levesque). (Bottom) Wire netting is attached to the sides of the platform to prevent chicks falling into the water (E. Delcroix).

In the U.S. Virgin Islands and Puerto Rico, nesting rafts with chick shelters prevent avian predation

At Sandy Point National Wildlife Refuge in St. Croix, U.S. Virgin Islands, Least Terns often selected the dry edges of the West End Salt Pond for nesting. Unfortunately, heavy but brief summer rains frequently inundated the nests, causing many to be lost. Year after year, low breeding success was documented. To address this, Refuge Biologist Claudia Lombard and a few volunteers skilled in construction made, in 2022, three nesting rafts that could protect nests from predators and rain.

Lombard and her team built the floating platforms from plywood, screws, and hardware cloth, resting on 55-gallon drums. In the first year, decoys were used to attract the birds, and the terns quickly began nesting. After several years of success, chicks at various developmental stages begin disappearing during the night. Large bird tracks suggested predation by Great Egrets or Night Herons.



(Left) Least Tern platform at Sandy Point National Wildlife Refuge (C. Lombard). (Right) A Least Terns chick uses a wooden shelter on the platform at Sandy Point National Wildlife Refuge (C. Lombard).

The solution was to provide chick shelters, constructed from scrap lumber and repurposed hurricane-damaged gutters, placed throughout the platforms. The following year, eggs were laid again and, this time, the chicks were able to survive, sheltered from avian predators. One year, even White-cheek Pintails nested on the platform! As of 2025, the platforms remain in place, continuing to attract least terns: currently, 151 pairs nest on the Sandy Point National Wildlife Refuge platform!

Following the success at Sandy Point, in 2024, Cabo Rojo National Wildlife Refuge Biologist Nahíra Arocho installed a floating platform as an alternative nesting area for Least Terns in southwestern Puerto Rico. The platform was built as part of the Coastal Bird Breeding Monitoring Program at the Salt Flats to counter the impacts of flooding, human recreation, and predation by red-tailed boas, cats, and dogs. Located at the tidal Candelaria Lagoon, the raft follows a design similar to the one at Sandy Point. It also has a social attraction sound system, 20 decoys, and chick shelters. Last year, Arocho documented 175 nests in the Salt Flats, and this year, 40 nests of Least Terns were recorded to date. **Contacts: Claudia Lombard** (claudia_lombard@fws.gov) and **Nahíra Arocho** (nahira_arocho@fws.gov), Caribbean Islands National Wildlife Refuge Complex, U.S. Fish and Wildlife Service



Elevated platform with social attraction sound system on the Salt Flats at Cabo Rojo National Wildlife Refuge (N. Arocho).

In Anguilla, nesting rafts are being trialled with encouraging results

Thanks to support from Darwin Plus, and from Neotropical Migratory Bird Conservation Action funds, administered by BirdsCaribbean, restoration work is underway at Anguilla's iconic Road Salt Pond, transforming this ecologically important wetland into a biosecure haven for both resident and migratory bird species.

To support Anguilla's nationally protected but vulnerable Least Tern population, the Anguilla National Trust has been trialling the use of artificial nesting rafts. These efforts are guided by expert input from Wildlife Management International (New Zealand), Fauna & Flora, the Réserve Naturelle Nationale de Saint-Martin, and the Caribbean Islands National Wildlife Refuge Complex (CINWRC). A modular raft design has been developed and deployed, allowing multiple smaller units to be connected into a single 24m² floating platform. This floating platform has been strategically anchored in the northeast corner of the pond—an area known for historical least tern nesting activity. Suspended by fenders above the waterline, the rafts are designed to be difficult for predators such as rodents, iguanas, and cats to access.

Following further advice from CINWRC and the Audubon Society, the team installed least tern decoys and a sound system broadcasting recorded calls to help attract the birds to the rafts. Just a week after finalising the design in mid-April 2025, least terns were observed landing on the rafts—an encouraging sign that they may begin nesting there soon. If successful, the Anguilla National Trust plans to expand the project with additional rafts. Alongside this, a rewilding plan, developed in partnership with the local community, will restore the pond's perimeter with native shrubs and trees, while ongoing work is exploring ways to manage invasive species and ensure the entire 106-hectare site remains a secure refuge for wildlife.

Contacts: Farah Mukhida, Anguilla National Trust (fmukhida@axanationaltrust.com)



(Left) A Least Tern nesting raft is ready to be floated to Road Salt Pond, Anguilla. (Right) Anguilla National Trust team ties up the separate platforms at Road Salt Pond, Anguilla. (Bottom) The finished Least Tern nesting raft, at Road Salt Pond, Anguilla. (F. Mukhida)

Highlighted Research: Seabird Guano Supports Coastal Ecosystems

Recent research describes the unique role played by seabirds in connecting the sea and land.

By feeding across large marine areas, sometimes far from the islands where they roost and nest, seabirds bring oceanic nutrients back to their breeding colonies. Mainly deposited through seabird guano, nutrients like nitrogen and phosphorus are natural fertilizers that nourish the coastal ecosystems that surround breeding islands. For this year's "Highlighted Research", two early-career scientists, **Dr. Jennifer Appoo** and **Dr. Casey Benkwitt**, generously agreed to discuss their research on the links between seabirds, mangroves, and corals of the Indian Ocean.

Seabirds, nutrient transport, and the mangrove forests of Aldabra Atoll

The mangrove forests of Aldabra Atoll are home to the world's largest breeding population of Great and Lesser Frigatebirds, along with one of the largest breeding populations of Red-footed Boobies in the Indian Ocean. To investigate the effects of guano from breeding seabirds on Aldabra's mangrove forests, Jennifer Appoo and her colleagues compared nutrient levels in mangroves with and without nesting seabirds, and traced the flow of nutrients in mangrove trees, in invertebrate communities found in the mangroves, and in seawater.

Jennifer estimated that seabirds deliver around 40 tons of nitrogen and 40 tons of phosphorus to Aldabra's mangroves annually. Moreover, her research showed that mangroves found at seabird sites had 39% and 28% higher nitrogen and phosphorus levels, respectively, than non-seabird sites, and this nutrient uptake reduced nutrient deficiencies naturally occurring in mangroves.

> Seabird nutrients enrich mangrove ecosystems. (J. Appoo)



Jennifer and her colleagues also showed that nutrients from seabird guano were also transferred in the mangrove food web. Molluscs and crabs gained from living in mangroves with seabirds, compared to those without seabirds. They also found that nutrients from seabird guano were exported to habitats adjacent to mangroves during rising and outgoing tides, demonstrating the scale and extent of connectivity maintained by seabirds between the oceanic environment and coastal ecosystems.

By showing that seabird nutrients promote positive nutrient status of mangrove habitats, Jennifer's research demonstrated the role of seabirds in nutrient transport and their importance in maintaining healthy mangrove ecosystems. These results strongly suggest that conservation actions in support of seabird populations in mangrove areas, such as habitat protection or the eradication of invasive mammals, are likely to be highly beneficial for mangrove health.



Frigatebirds nesting in Aldabra's mangroves. (Seychelles Islands Foundation)

The power of seabird poop for coral reef resilience

Coral reefs are one of the world's most diverse ecosystems and provide important services to people, including food and coastal protection. However, coral reefs are facing a crisis. One major threat is mass coral bleaching and mortality events, which are increasing in frequency and intensity due to human-caused climate change. But new research by Casey Benkwitt and her colleagues finds new hope for coral reef resilience in a (somewhat unlikely) source – seabirds and their poop.

To test how nutrients provided by seabirds influence corals and their recovery following mass mortality events, Casey conducted multi-year experiments, observations, and modelling around islands with lots of seabirds compared to nearby islands with very few seabirds due to the presence of invasive predatory rats in the Indian Ocean.

They found that seabird-provided nutrients are taken up by corals, causing a doubling in coral growth rate. As a result of this faster growth, coral cover around islands with healthy seabird populations recovered in <4 years after a mass bleaching event, which was 10 months faster than around nearby islands with few seabirds. This shorter recovery time may be critical – allowing reefs to recover in between bleaching events, which are now occurring more and more frequently. Seabirds also changed the overall recovery dynamics on coral reefs and increased the amount of other important groups besides coral, such as calcifying algae.



Time series of fragments from the same original *Acropora* coral colony growing near a rat-free island with many seabirds (top row) versus a rat-infested island with few seabirds (bottom row). Corals near islands with healthy seabird populations grew twice as fast as corals near islands with few seabirds. (C. Benkwitt)

So, what can we do?

Removing invasive mammalian predators and restoring seabird populations is a natural solution that could enhance coastal ecosystems. On Aldabra, plans for cat and rat eradication are being prioritized for the positive ecosystem impact of seabird guano that could go beyond mangrove forests. Indeed, coral research suggested that, if seabird nutrient pathways are restored, corals will rapidly benefit. Even though the underlying causes of climate change still need to be addressed, Jennifer's and Casey's research provide hope that the power of seabird guano can help coastal ecosystems resist.

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References:

- <u>Seabird nutrient subsidies enrich mangrove ecosystems and are exported to nearby coastal</u> <u>habitats</u> (2024) Jennifer Appoo and colleagues. *iScience* <u>27(4):109404</u>
- <u>Seabirds boost coral reef resilience</u> (2024) Cassandra Benkwitt and colleagues. *Science Advances* <u>9: eadj0390</u>

Further reading:

- <u>On-demand webinar from the Indian Seabird Group</u>. Jennifer Appoo shares insights about how seabird-derived nutrients positively impact mangrove ecosystems.
- <u>The remarkable healing power of seabird poop for climate-stressed coral reefs</u>. *Audubon Magazine* journalist Lisa Gardiner writes about the research on the links between seabirds and healthy corals – including a part on the Caribbean's Grenadines.

Recent Seabird Publications and Resources

Below is a list of recent publications and resources on Caribbean seabirds, and on themes of interest to the Caribbean community of seabird enthusiasts. Most publications are free to access but, if that is not the case, we encourage asking the authors directly for a copy: authors are usually very keen to share their research.

Guano and the Rise of the American Empire (2024) Mauricio Betancourt. Socius <u>10</u>. Using historical information from British, French, Peruvian, and U.S. sources, the author demonstrates how guano served as an ecological foundation for U.S. expansion overseas starting in the 1850s. This includes the significance of guano islands as the first U.S. overseas territories, considerations of annexing South American islands for guano, and the role of guano in partly inspiring the construction of the Panama Canal. Overall, the guano trade exemplifies an imperial-ecological process that reshaped global legal, geopolitical, and trade systems.

Stopover regions, phenology, and spatiotemporal group dynamics of adult and juvenile common terns Sterna hirundo from inland lakes in North America (2024) Annie Bracey, Fred Strand, Alexis Grinde, et al. Journal of Avian Biology <u>e03308</u>. The authors used data from multiple tracking technologies (solar geolocation, GPS tracking, and Motus radio tracking) obtained from 83 Common Terns across five inland breeding colonies in North America. They identified key stopover regions used during southward migration and explored how demographics and social interactions influence connectivity, documenting for the first time differences in post-natal and post-breeding migration for inland nesting terns.

The pollution fast-track to the Arctic: how southern wintering areas contribute to organochlorine loads in a migrant seabird breeding in the Arctic (2025) Jan Ove Bustnes, Bård-Jørgen Bårdsen, Børge Moe, et al. Environmental Toxicology and Chemistry <u>44(4):1020–1028</u>. This study examines how southern wintering areas (the coast of Argentina, the Caribbean, off West Africa, off the coast of southern Africa, and the Mediterranean Sea) may contribute to organochlorine loads in the Arctic Skua during breeding. Prevalence of specific compounds depended on the wintering region, with relatively low levels in the Caribbean.

© Predation effect by cats and rodents on the reproductive success of seabirds: a global systematic review and meta-analysis (2024) Cynthia Campolina, Marcio A. Efe, Camila M. Martins, et al. *Biota Neotropica* <u>24(4):e20241676</u>. The authors used a global systematic literature review and meta-analysis to evaluate the effectiveness of predator control on the reproductive success of seabirds. They detected that when mice/rats are controlled, seabird reproductive success increases significantly; this effect was not detected with cats. Short-term predator control (<4 years) was more effective than long-term control (≥ 4 years).

Assessing Southern Gulf of Mexico Resilience: Least Tern Nesting Failure During the COVID-19
 Pandemic (2024) Julio César Canales-Delgadillo, José Gilberto Cardoso-Mohedano, Nallely
 Vázquez-Pérez, et al. Estuaries and Coasts <u>47:2631-2640</u>. The authors assessed how reduced human presence affected the diversity and abundance of coastal birds, and nest failure rates in the Least Tern breeding in the southern Gulf of Mexico. The lockdown did not affect species richness, but bird abundance was inversely

related to pedestrian traffic. Nest failure decreased during the lockdown in 2020, and diminished pedestrian traffic increased nest survival.

a The BirdLife Seabird Tracking Database: 20 years of collaboration for marine conservation (2024)

Ana Carneiro, Maria Dias, Bethany Clark, et al. *Biological Conservation* <u>299:110813</u>. The BirdLife Seabird Tracking Database (STDB) was established in 2004 to collate tracking data to address the incidental mortality of seabirds in fisheries and to contribute to identification of sites at sea relevant to establishment of Marine Protected Areas. After 20 years, the STDB has grown to hold ca. 39 million locations for 168 species from >450 breeding sites.

Overlap of predator foraging and fishing over a cyclical annual biomass source in the South

<u>Caribbean</u> (2025) Sergio Cobarrubia-Russo, Yurasi Briceño, Leonardo Sánchez, et al. *Regional Studies in Marine Science* <u>81:103936</u>. Caribbean ecosystems present cyclical upwelling where *Sardinella aurita* predominates among pelagic species facilitating the aggregation of predators. In the South Caribbean, western coast of Aragua, Venezuela, between 2004 and 2010, the existence of a biomass source was suggested by the overlapping areas of activity of *Tursiops truncatus, Stenella frontalis* and fishermen. Thirty bimonthly transects were conducted in 2019–2020 to record sightings of feeding species: whale sharks, seabirds, bottlenose dolphins and fishermen.

A framework and review of evidence of the importance of coral reefs for marine birds in tropical ecosystems (2024) Graeme S. Cumming, Nicholas L. James, Chia Miin Chua, et al. *Ecology and Evolution* <u>14:e70165</u>. The authors present a framework for evaluating the relationship between marine birds and tropical coral reef ecosystems. Using 34 publications between 1967 and 2023 (including two from the Caribbean), they showed evidence that indirect effects of birds in tropical marine environments is stronger than for direct dependence on coral reefs, particularly in relation to nutrient concentration and the fertilisation impacts of guano on corals.

O<u>Plasticity and overlap of trophic niches in tropical breeding Laridae (</u>2024) Antonio

Garcia-Quintas, Paco Bustamante, Christophe Barbraud, et al. Marine Ecology Progress Series 742:131-142. The authors used the isotopic niche (δ 15N and δ 13C) of five Laridae species at two breeding areas in Cuba to analyze the plasticity and interspecific overlap of trophic niche determined from chick down and feather samples. They found that trophic niche plasticity and segregation appear to constitute an important adaptive strategy to ensure the breeding success of sympatrically breeding Laridae in north-central Cuba.

OPacific seabird survey & monitoring manual: Tools to support seabird conservation across

ecosystems in Oceania (2025) Chris P. Gaskin, Kerry A. Lukies, Edin A. Whitehead, et al. Secretariat of the Pacific Regional Environment Programme. The goal of this manual is to provide readers with the tools required to run successful seabird survey and monitoring programmes, in Oceania and elsewhere. The authors consider all of the proven methods and survey types that are currently in use across the Oceania region, including through real world case studies. Caribbean seabird conservationists will find valuable information on survey tools and types, monitoring methods, and data management.

Excremental Miracles: Images of the Guano Trade (2025) Emily Gephart. American Art <u>39(1):26-33</u>. In the mid-nineteenth century, few substances were as important to the global agricultural marketplace as guano, a powerful fertilizer that rejuvenated exhausted soils in the United States and Europe. Yet, due to its base nature, this

reviled and valuable substance challenged the limits of representability in visual culture. This essay examines photographs of guano excavation, including an anonymous painting of Navassa Island in the Caribbean.

O Update on Activities, May 2025 (2025) International Black-capped Petrel Conservation Group.

Annual newsletter. The annual newsletter on activities associated with the Black-capped Petrel is now available. As always, the campaign to save the Diablotin – the local name for this unique Caribbean endemic seabird – remains one of mixed challenges and successes! Highlights of the May 2025 newsletter include: honoring the field teams on Hispaniola; continued research to learn more about petrel vocalizations, use of man-made nest boxes, at-sea movements and diet; and engagement with local communities and national decision-makers.

Band recovery data illustrate spatiotemporal and taxonomic patterns of seabird collisions with anthropogenic structures (2025) Riley R. Lawson, Holly M. Todaro, Lucas R. Bobay, et al. *The Wilson Journal of Ornithology* <u>1–16</u>. The authors conducted an analysis of seabird collisions using band recovery data spanning from 1930 to 2023 from the North American Bird Banding Program, focusing on records categorized as: "caught due to striking: stationary object other than wires or towers." 407 records of 39 seabird species representing 13 families were categorized, with Laridae (gulls and terns) and Pelecanidae (pelicans) representing 80% of records.

Bish Babitat and Co-Occurrence With Seabirds in the Northern Gulf of Mexico (2025)

Pamela E. Michael, J. Christopher Haney, Jeffrey S. Gleason, et al. *Fisheries Oceanography <u>34:</u> <u>e12712</u>. Using vessel-based observations of surfacing flying fish, the authors characterized the distribution of flying fish and their co-occurrence with seabirds in the northern Gulf of Mexico. Sooty Terns co-occurred with flying fish more often than other seabird species.*

An assessment of priority issues and capacity for conservation action of Caribbean endemic and threatened bird species (2024) Howard P. Nelson, David N. Ewert, Mark Hulme, et al. *Journal of Caribbean Ornithology* <u>37:41-50</u>. In 2022, the BirdsCaribbean Endemic and Threatened Species Working Group conducted a survey of the organization's membership to assess avian conservation priorities and current capacity for conservation action in the Caribbean. The authors report on key perceived threats to Caribbean endemic and threatened species, and barriers to effective conservation work. They discuss the importance of these findings for understanding local perceptions of priorities, existing capacity development needs, and future resource allocation options.

A 19th Century Stormwrecked Black-Capped Petrel From Vermont Offers Insight Into Historical Vagrancy Processes (2025) Oliver W. Patrick, Max Chalfin-Jacobs, Arthur Lyu, et al. *Ecology and Evolution* <u>15:e70846</u>. The authors report the unexpected presence of a mislabeled Black-capped Petrel specimen in the historical Middlebury College Vertebrate Natural History collection, potentially representing the rediscovery of a lost specimen reported from Vermont following the 1893 New York City Hurricane. This record expands the known vagrant range of the Black-capped Petrel and highlights the critical role small museum collections play in piecing together historical datasets.

Competitive exclusion, experience-based learning, and human fishing, influence activity patterns in Juvenile and Adult Brown Pelicans (*Pelecanus occidentalis*) (2024) Dennys **Plazas-Cardona, Juan Camilo Ríos-Orjuela, and Juan D. Wilches-Vega.** *bioRxiv* <u>10.01.616051</u>. To assess exclusion and adaptation dynamics in seabirds, the authors analyzed the activity patterns of juvenile and adult Brown Pelicans on the Caribbean coast of Colombia, revealing significant temporal segregation between age groups. They also showed that human fishing activity altered natural foraging patterns of pelican behavior.

ODesecheo Island: a new home for Audubon's Shearwaters (*Puffinus lherminieri*) (2024) Luis A.

Ramos-Vázquez, Nahíra Arocho-Hernández, Cielo Figuerola-Hernández, et al. *Journal of Caribbean Ornithology* <u>37:35-39</u>. In 2010, a collaboration between the USFWS and local partners began to implement a seabird restoration project on Desecheo Island, Puerto Rico. During a visit to the island in 2023, an egg and feathers were found at the base of a social attraction speaker and later confirmed to be from a Sargasso (Audubon's) Shearwater. This is the first-ever record of an Audubon's Shearwater nest on Desecheo Island.

Wind energy development in Latin America and the Caribbean: Risk assessment for flying

<u>vertebrates</u> (2024) Natalia Rebolo-Ifrán, Nicolás A. Lois, and Sergio A. Lambertucci. Environmental Impact Assessment Review <u>112:107798</u>. The authors reviewed the impact of wind farms on birds and bats in Latin America and the Caribbean and found that research is lacking, with just 22 available articles focusing on only six countries. They identified more than 16,000 wind turbines in operation or being planned. Nearly half of the region's threatened bird and bat species inhabit areas with operating wind farms, including the densely wind farmed Isthmus of Tehuantepec in Mexico, the Guajira region in Colombia, and the Caribbean islands, among others.

Clucas, et al. Marine Ornithology <u>52:261–274</u>. The authors measured mercury burden in feathers and used fecal DNA metabarcoding to assess diets of breeding and non-breeding Black-capped Petrels. They found higher concentrations of total mercury compared to other Pterodroma petrels worldwide. Diet was dominated by fish, including a high proportion of mesopelagic groups such as myctophids, as well as fishes of interest to artisanal and commercial Caribbean fisheries.

First U.S. Atlantic record of Nazca Booby Sula granti, with implications for vagrancy by Pacific seabirds into the Gulf of Mexico (2025) Kate E. Sutherland, Nicholas J. Metheny, and J. Christopher Haney. *Marine Ornithology* <u>53:181-185</u>. An adult Nazca Booby was photographed in the western Gulf of Mexico in August 2024 during a survey of marine birds and mammals. Although eBird reports indicate occasional presence in the Caribbean, this is the first report of a Nazca Booby in US waters of the Gulf of Mexico. Such vagrancy may arise from unrecognized migratory movement, tropical storm displacement, ship-following through the Panama Canal, and/or merely long-distance wandering instigated by a variety of factors.

ට <u>Guide to the Alien and Invasive Animals of the Caribbean</u> (2024) Arne Witt, Mike Picker, and

Kirsty Swinnerton. *CAB International*. This Field Guide has been developed to help address one of the barriers to effective management of invasive alien species in the Caribbean, which is the lack of information on the presence, impact, and management of invasive animal species in the region. It highlights the range of alien species present in the region and their impacts.



A fledging Black-capped Petrel leaves its burrow in Sierra de Bahoruco, Dominican Republic. (Grupo Jaragua)