

Species Conservation Plan for

Colonial Nesting Seabirds

National Conservation Act, section 17

This Conservation Plan applies to the following species:

Red-footed Booby (*Sula sula*)
Brown Booby (*Sula leucogaster*)
Magnificent Frigatebird (*Fregata magnificens*)
Least Tern (*Sternula antillarum*)
Bridled Tern (*Onychoprion anaethetus*)
White-tailed Tropicbird (*Phaethon lepturus*)

Conservation Status

All of the seabird species covered by this Conservation Plan are protected species in part 1 of schedule 1 of the National Conservation Act 2013 (NCA). As per section 33(1) of the NCA it is an offence to “take”, or permit “take”, of any seabird species in the Cayman Islands at any time.

All Cayman’s seabird species are widespread species with global tropical distributions, and are not listed as globally threatened on the IUCN Red List. However, within the Cayman Islands, historic accounts and assessments to date suggest substantial declines in the numbers of nesting Red-footed Boobies, Brown Boobies and White-tailed Tropicbirds over the last century. Bridled Terns in the Cayman Islands are restricted to a single, very small, nesting site on Grand Cayman (Vidal Cay or Barkers’ Cay) off of Barkers in the North Sound and Least Terns, once using numerous nesting sites, now largely use Sand Cay in the South Sound of Grand Cayman. Magnificent Frigatebirds are maintaining stable populations in the Cayman Islands at this time.

While no National Red List assessments have been carried out for Cayman’s seabird species, they should all be regarded as locally threatened due to nesting habitat limitations and/or low population sizes.

The current nesting colony of Red-footed Boobies and Magnificent Frigatebirds, in the Booby Pond Nature Reserve on Little Cayman, is protected through the National Trust Law (2010), the NCA, and in part as a RAMSAR site.

The RAMSAR Convention (1971) has been extended to the Cayman Islands, requiring a commitment to work towards the wise use of our mangroves and other wetlands through national plans, policies and legislation, management actions and public education.

Vidal Cay on Grand Cayman, where the Bridled Terns breed, is a Protected Area under the NCA part 3, section 7, as is Sand Cay on Grand Cayman, which supports the largest nesting colony of Least Terns in the Cayman Islands.

Brown Booby and White-tailed Tropicbird nesting cliffs on Cayman Brac have also been nominated and proposed for protection under the NCA.

Species Ecology

The Red-footed Booby is a tree nesting seabird that breeds in internationally important numbers in the Booby Pond Nature Reserve on Little Cayman. The species nests in fringing mangrove habitat and adjacent dry forest, between November and July each year.



Red-footed Booby with chick in the Booby Pond Nature Reserve, Little Cayman. Photo by Jane Haakonsson, © DoE.

The Brown Booby is a ground-nesting seabird that, in the Cayman Islands, breeds in small numbers only on Cayman Brac. Nesting occurs on the south shore, on Long Beach (a rocky beach near the northeast tip of the island), and on the upper edges of the bluff cliffs around the island's eastern end and south side. This species breeds between November and August.



Brown Booby pair, male left and female right, on the south coast of Cayman Brac.
Photo by Jane Haakonsson, © DoE.

The Magnificent Frigatebird nests in trees, alongside Red-footed Boobies in fringing mangrove habitats within the Booby Pond Nature Reserve. This species breeds between November and July each year. Non breeding populations occur on Grand Cayman and individuals range around Cayman Brac and throughout the North West Caribbean, to Mexico and the southern United States.



Juvenile Frigatebirds, easily recognizable by their white heads, begging for scraps from a fisherman on Little Cayman.

Photo by Jane Haakonsson, © DoE.

The Least Tern is a ground nesting species recorded as breeding on all three of the Cayman Islands. The largest nesting colony currently occurs on Sand Cay, Grand Cayman, with smaller groups recorded on Grand Cayman in various coastal ponds and transiently in large-scale inland developments that create open expanses of marl and flooded excavations. On Little Cayman nesting has been recorded sparsely on the margins of coastal ponds and on Preston Bay beach. On Cayman Brac, sparse nesting occurs between the airport runway and the Westerly Ponds and in Salt Water Pond, but both sites have been subject of disturbance in recent years. This species breeds in May to August each year.



Newly hatched Least Tern chick on Sand Cay, waiting for its sibling to arrive.

Photo by Jane Haakonsson,
© DoE.

The Bridled Tern is a ground nesting species, which visits Grand Cayman to breed in small numbers on Vidal Cay between May and July each year. A few pairs have recently nested on Sand Cay.



Bridled Tern colony arriving to Vidal Cay for breeding, left, where they nest in lee of the waves in rock crevices and under vegetation. Photos by Jane Haakonsson, © DoE.

The White-tailed Tropicbird nests in rock holes in the vertical cliffs of Cayman Brac's Bluff, and the sea-facing cliffs at Pedro Bluff, Grand Cayman. This species breeds between December and July and spends the rest of the year at sea.



White-tailed Tropicbird getting ready to nest in the horizontal part of the porous ironshore at Pedro Bluff on Grand Cayman.

Photo by Jane Haakonsson,
© DoE.

Threats

One of the main threats to Cayman's seabird species is the predation of adults and chicks at colonies by invasive species, particularly introduced mammals. Feral cats have been recorded feeding on chicks and juveniles of Red-footed Boobies and Magnificent Frigatebirds on Little Cayman, and killing adult and juvenile Brown Boobies on their nests on Cayman Brac. Feral cats and free-roaming dogs have been recorded taking Least Tern nestlings, and rats are suspected to be predators of young Tropicbird and Least Tern eggs and chicks. Rats also pose a threat to Brown Booby nests and it is a concern that invasive Green Iguanas may also pose a threat to seabird eggs, particularly of Tropicbird nests as the Cayman Brac population of Green Iguanas continue to grow.

Habitat loss and human disturbance arising from coastal development pose a serious threat for many of these species, particularly for Brown Boobies nesting on the shorelines and cliff edges of Cayman Brac.

Recreational activities on and around the small cays on Grand Cayman and along stretches of nesting beaches and bluff on Cayman Brac further cause disturbance to seabird colonies during their most vulnerable life-stage.

By-catch in fishing gear at sea, marine oil pollution events and plastic pollution are all additional threats of concern particularly for Magnificent Frigatebirds and the two booby species.



Camera trap catching a feral cat feeding on a Magnificent Frigatebird in the Booby Pond Nature Reserve. © DoE

Conservation Objective

The objective of this Conservation Plan is to ensure that the colonial nesting seabirds of the Cayman Islands become stable or growing breeding populations.

Conservation Strategies

The primary conservation strategies are to protect nesting habitat, and to control unnatural predation in nesting colonies:

- Designation of Protected Areas under part 3, section 7 of the NCA and designation of Critical Habitat in this Conservation Plan, to secure protection for the majority of colonial nest sites for these species
- Development and implementation of Management Plans for protected seabird colony areas, under part 3, section 10 of the NCA
- Maintenance of a sustainable control programme to remove feral mammalian predators from nesting seabird colonies

Other strategies include:

- National Conservation Council (NCC) advice to government agencies under part 7, section 41 of the NCA, to continue to recommend measures to limit direct or indirect impact to seabird colonies
- Periodic monitoring of breeding populations for all species in order to assess the effectiveness of conservation measures and adapt accordingly towards reaching the Conservation Objective
- Designation of marine Important Bird Areas (IBAs) based on recorded foraging areas for both booby species and Magnificent Frigatebirds around the Sister Islands
- Exploring the mechanisms for protective measures for marine IBAs through local legislation and regional agreements, and implement to the extent possible
- Designation of new protected areas supporting seabird colonies as RAMSAR sites under the Convention on Wetlands of International Importance (1971) to the extent possible
- National Red List assessments of seabird colonies in the Cayman Islands

Habitat Protection

Protected Areas

The NCC will advance Protected Area nominations under part 3, section 7 of the NCA to protect, to the full extent that is practical, all currently unprotected Crown land supporting colonial seabird nesting, and through voluntary Crown purchase and protection, any areas of privately owned land that support significant colonial seabird nesting. Conservation Agreements under part 3, section 13, of the NCA may be used in addition to, or instead of, Crown purchases.

Management Plans for these and existing Protected Areas that support colonial seabird nesting will include measures to safeguard those nesting colonies and ensure their sustainability long-term.

Marine Important Bird Areas

At the global level, a set of categories and criteria are used to assess the significance of a site. For seabirds in the Cayman Islands only the Booby Pond meets the IBA Criteria: A1, A2, A4ii, B4ii (2007) (<http://datazone.birdlife.org/site/ibacritglob>). The types of sites that qualify as IBAs include seabird breeding colonies, foraging areas around breeding colonies, non-breeding (usually coastal) concentrations, migratory bottlenecks and feeding areas for pelagic species.

Critical Habitat

This plan defines Critical Habitat for four of Cayman's seabird species.

Brown Booby Critical Habitat

In the early 20th century and into the 1930's and 40's, the Brown Booby nesting colony spanned most of the coast of Cayman Brac and numbers were in their thousands according to Brac residents Tennson Scott and Temple Tatum who, in 2001, relayed information from their late grandfather Mr. Ballinger Christian. When the Brown Booby population was first monitored in 1983, only 170 pairs were recorded in five subgroups of the coastline. In 2001, 61 pairs were recorded at four active sites, and in 2019, 46 pairs were recorded across three active sites. The three remaining active nest sites on Cayman Brac are; along the upper ridge of the eastern half of Long Beach (10-15 breeding pairs), around the eastern tip of the bluff edge (15-35 breeding pairs), and on the beach and

bluff edge along the south shore (up to 15 breeding pairs). The latter site has been severely disturbed in recent years by development and introduced mammalian predators.

Critical Habitat for Brown Boobies is defined as follows:

1. Long Beach

Commencing at 19° 45.333' North, 79° 44.151' West and proceeding east, a 150 ft. wide band of the shore extending from the high water mark inland, until the shoreline approaches the intersection with the bluff cliffs at 19° 45.230' North, 79° 43.839' West, and as illustrated in Figure 1 below.

2. East Lighthouse Cliffs

Commencing where the Peter's Cave ascent reaches to the top of the cliffs at 19° 45.218' North, 79° 43.952' West, and proceeding east and then south, the land between the physical edge of the top of the cliffs and the Lighthouse Trail, to the point where the Lighthouse Trail turns to the end of Major Donald Drive. Thereafter proceeding south and then west, a 50 ft. wide band extending from the physical edge of the bluff cliff edge inland, to 19° 44.328' North, 79° 43.926' West, which is above the point where South Beach intersects with the cliffs and as illustrated in Figure 1. This stretch of Critical Habitat includes the vertical and near-vertical bluff face.



Figure 1:
Critical Habitat for
Brown Boobies:
Long Beach and
the Eastern
Lighthouse Cliffs.

Within Critical Habitat for Brown Boobies, the following rules apply:

1. No damaging, destroying or disturbing any natural feature or resource, including the clearing of vegetation, shall take place within the Critical Habitat
2. No vehicles or heavy machinery are permitted in Critical Habitat unless authorized by the National Conservation Council under a section 20 permit
3. No dog or cat or other domestic animal shall roam unrestrained within the Critical Habitat at any time and if found may be trapped, scanned for identification and returned to owner (if ID exists) or removed by officers and agents of the DoE
4. Alien species (including feral or free roaming domestic animals) may be controlled within the Critical Habitat by officers and agents of the DoE
5. No person or UAV may approach a nesting Brown Booby so closely that it alters its posture or begins to move away, which constitutes “take” as defined in the NCA and is an offence under section 33(1)
6. Rock climbing activities in Critical Habitat may not proceed unless authorized by the National Conservation Council under a section 20 permit, issued for the individual climber or climbing company

White-tailed Tropicbird Critical Habitat

On Cayman Brac, White-tailed Tropicbirds nest on both the north and the south bluff cliff faces with a significant number of the entire population nesting along the eastern-most inland bluff face. The designated Critical Habitat on the north coast had 17 confirmed nests and 4 probable nests in 2017 while 2021 showed 22 confirmed nests and 5 probable nests. The south coast Critical Habitat designation covers 10 confirmed nests and 6 probable nests surveyed in 2017 while the 2021 survey shows 14 confirmed nests and 3 probable nests. A remaining 5-7 confirmed nests and several probable nests are seen spread along the entire stretch of the south coast bluff face which is not designated as Critical Habitat in this plan.

On Grand Cayman, two stretches of bluff cliff are designated Critical Habitat. The first stretch runs between Buena Vista Drive on the west, to east of Pedro St. James. The second, much shorter stretch, runs east of Beach Bay. Between 5 and 15 pairs of White-tailed Tropicbirds have been observed to nest within these Critical Habitat designations since 1985. The species does not nest anywhere else on Grand Cayman.

Critical Habitat for White-tailed Tropicbirds is defined as follows:

1. Cayman Brac North

Commencing at 19° 44.709' North, 79° 45.718' West and proceeding east, all vertical and near-vertical cliff faces and caves from the upper brink of the bluff to the edge of the flat land below, as well as a 50 ft. wide band extending from the physical edge of the bluff cliff edge inland, to a point at 19° 45.219' North, 79° 43.897' West, and as illustrated in Figure 2 below.

2. Cayman Brac South

Commencing at 19° 43.219' North, 79° 45.779' West and proceeding east, all vertical and near-vertical cliff faces and caves from the upper brink of the bluff to the edge of the flat land below, as well as a 50 ft. wide band extending from the physical edge of the bluff cliff edge inland, to a point at 19° 44.317' North, 79° 43.940' West, and as illustrated in Figure 2 below.

3. Grand Cayman

Commencing at 19° 16.271' North, 81° 18.484' West and proceeding east, all vertical and near-vertical cliff faces and caves from the upper brink of the bluff to the edge of the sea below, as well as a 50 ft. wide band extending from the physical edge of the bluff cliff edge inland, to a point at 19° 15.781' North, 81° 17.073' West. The second stretch of Critical Habitat runs from a point at 19° 15.867' North, 81° 16.447' West and proceeding east, all vertical and near-vertical cliff faces and caves from the upper brink of the bluff to the edge of the sea below, as well as a 50 ft. wide band extending from the physical edge of the bluff cliff edge inland, to a point at 19° 15.929' North, 81° 15.934' West; and as illustrated in Figure 3 below.



Figure 2:

Critical Habitat for White-tailed Tropicbirds on Cayman Brac: north-east and south-east shore.

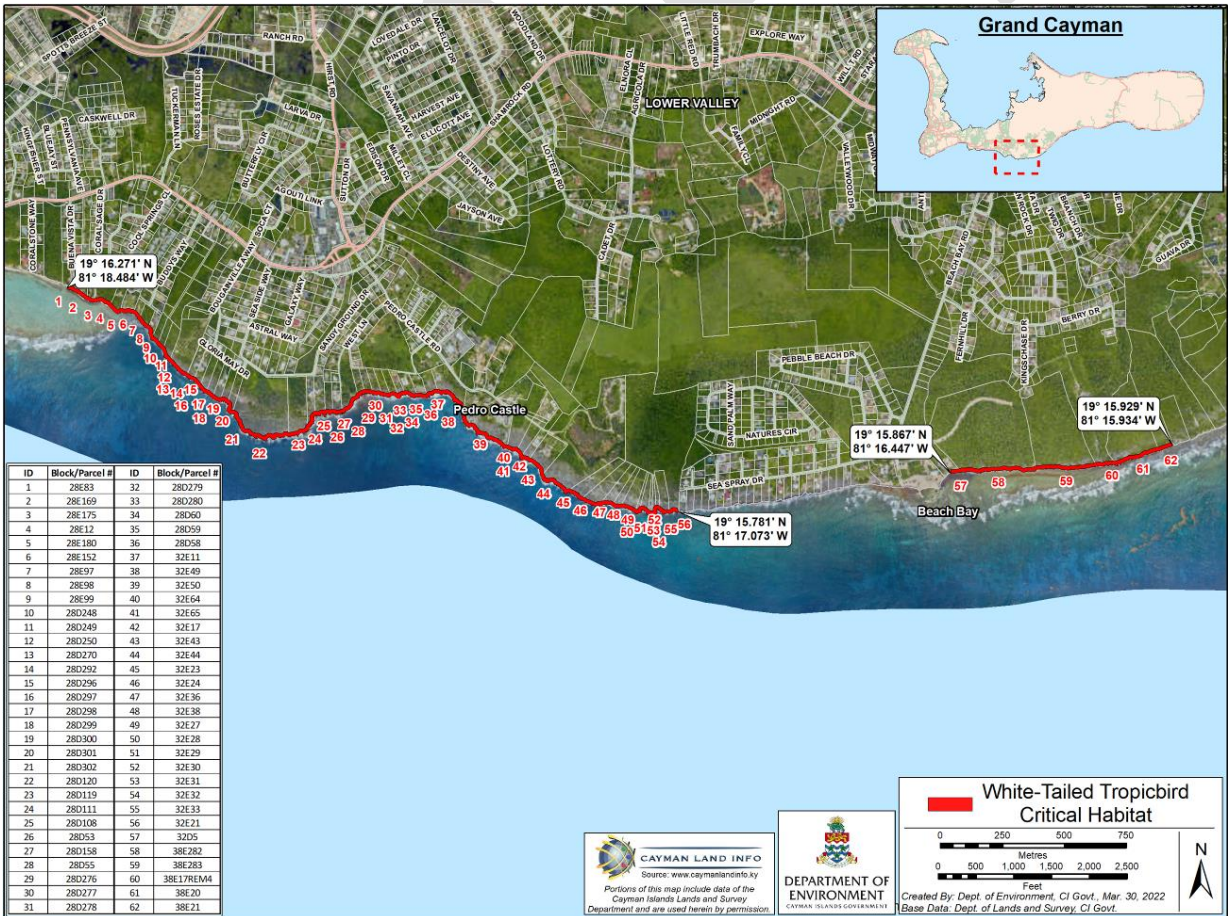


Figure 3: Critical Habitat for White-tailed Tropicbirds on Grand Cayman: cliffs on south side by Pedro Castle and east of Beach Bay.

Within Critical Habitat for White-tailed Tropicbirds, the following rules apply:

1. No damaging, destroying or disturbing any natural feature or resource, including the clearing of vegetation, shall take place within the Critical Habitat
2. No vehicles or heavy machinery are permitted in Critical Habitat unless authorized by the National Conservation Council under a section 20 permit
3. No dog or cat or other domestic animal shall roam unrestrained within the Critical Habitat at any time and if found may be trapped, scanned for identification and returned to owner (if ID exists) or removed by officers and agents of the DoE
4. Alien species (including feral or free roaming domestic animals) may be controlled within the Critical Habitat by officers and agents of the DoE
5. No person or UAV may approach a nesting White-tailed Tropicbird so closely that it alters its posture or begins to move away as per the NCA section 33(1)
6. Rock climbing activities in Critical Habitat may not proceed unless authorized by the National Conservation Council under a section 20 permit, issued for the individual climber or climbing company

Bridled Tern Critical Habitat

For the Bridled Tern, the entire Vidal Cay (Block 16A Parcel 26) is designated as Critical Habitat. The majority of Cayman's breeding population of Bridled Tern (28 pairs in 2019, 20 pairs in 2020 and 24 pairs in 2021), nest on this small cay of approximately 65 x 100 ft. See Figure 4.



Figure 4: Critical Habitat for Bridled Terns on Grand Cayman: Vidal Cay off the north-east coast of Barkers.

Within Critical Habitat for Bridled Tern, the following rules apply:

1. Between May 1st and July 31st, no vessel (including boats, UAVs, kayaks, surf-, paddle- or kite-boards, etc.) or person (including swimmers and snorkelers) or domestic animal may approach closer than 100 ft. and no one may set foot upon Vidal Cay
2. No person or UAV may approach the nesting colony of Bridled Terns so closely that birds alter their posture or begin to move away, or flush from the cay, all of which constitutes “take” as defined in the NCA and is an offence under section 33(1)
3. Alien species (including feral or free roaming domestic animals) may be controlled within the Critical Habitat by officers and agents of the DoE

Least Tern Critical Habitat

For the Least Tern, Critical Habitat is defined as the Sand Cay Protected Area (demarcated as a circle with a 400 ft. radius from a point 19° 15.775' North, 81° 23.178' West and including the entire Sand Cay). The majority of Cayman's breeding population of Least Tern nests on this small cay (112 pairs on Sand Cay in 2019, 117 pairs in 2020 and 90 pairs in 2021), see Figure 5.

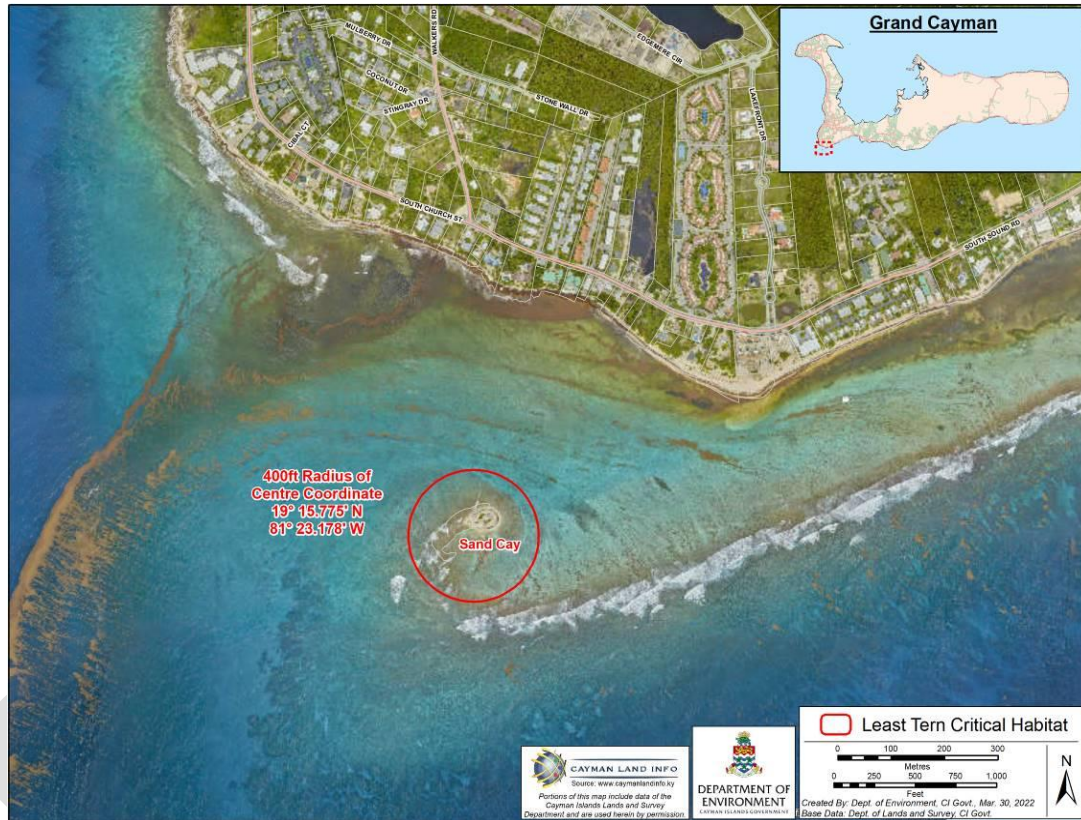


Figure 5: Critical Habitat for Least Terns on Grand Cayman: Sand Cay off of South Sound.

Within Critical Habitat for Least Tern, the following rules apply:

1. Between May 1st and August 31st, no vessel (including boats, UAVs, kayaks, surf-, paddle- or kite-boards, etc.) or person (including swimmers and snorkelers) or domestic animal may approach closer than 100 ft. and no one may set foot upon Sand Cay
2. No person or UAV may approach the nesting colony of Least Terns so closely that birds alter their posture or begin to move away, which constitutes “take” as defined in the NCA and is an offence under section 33(1)

3. Alien species (including feral or free roaming domestic animals) may be controlled within the Critical Habitat by officers and agents of the DoE

Additional Conservation Measures

Control of take

All living specimens and eggs of all colonial seabird species in this Conservation Plan are protected at all times.

Directly or indirectly collecting, hunting, killing, destroying, damaging, injuring, disturbing, harassing, harming, wounding, capturing, molesting or impeding any of these species and their eggs are offences under part 6, section 33 (1) of the NCA, as is allowing any domesticated animal to perform such actions.

Under part 6, section 33 of the NCA it is also an offence for any person to have any individual of these species in their possession or control, or to expose or offer any such specimen for sale, exchange or donation, or to purchase such individual.

Exceptions to this control of take for colonial nesting seabird species, and to the rules set in this Conservation Plan for Critical Habitat, are made as follows:

1. In accordance with a permit issued by the NCC providing specific exemptions which have been issued under part 5, section 20 of the NCA
2. Officers and agents of the DoE may, in the course of research and monitoring work consistent with the objective of this Conservation Plan, enter a Protected Area, monitor, capture and temporarily hold specimens of these species for purposes including but not limited to marking, banding, tagging, affixing and removing tracking devices and collecting biometric data, provided that such activities do not threaten the health and survival of the individuals being handled
3. Officers and agents of the DoE may collect and transport specimens of these species that have been injured or are otherwise in need of veterinary attention; authorize treatment and rehabilitation as

appropriate; and authorize euthanasia in cases where rehabilitation is deemed impossible

Development - Consultation under part 7, section 41, NCA

Guidance Notes to government agencies issued under the NCA (Gazette Issue 05/2015, 2 March 2015) set out criteria to determine which government agency actions require consultation with the NCC under part 7, section 41 of the NCA.

Consultation with the NCC is triggered for all land in undisturbed, primary state, for all coastal areas within 500 ft. of the high water mark, in and adjacent to any Protected Area. These criteria capture the majority of colonial seabird nesting areas.

In making recommendations to government agencies on decisions that may affect seabird colonies, the NCC will seek to advance the objective of this Conservation Plan.

Import and export

No living specimen or egg of any colonial seabird species in this Conservation Plan can be imported to, or exported from, the Cayman Islands unless a permit has been issued under the NCA part 5, section 20 in addition to permits required from the Department of Agriculture.

Monitoring and research

Monitoring and research efforts will primarily be directed at population trends in the breeding colonies as a metric to enable adaptive management to ensure population survival and recovery, and to fill key knowledge gaps essential to conservation planning. This work will be led and coordinated by DoE but may rely on partnerships with local and international scientists which will be regulated through Applications to Conduct Scientific Study.

Public outreach, education and awareness

Public outreach will be directed both to residents of the Cayman Islands and to visitors, highlighting the seabird colonies which constitute significant visitor attractions, and ensuring that persons viewing these colonies are aware of the risks of disturbance. The education and awareness messaging includes rules for safe viewing distances and explains the strict protection these birds have under the NCA.

Implementation, Evaluation and Review

Responsibility for implementing this plan lies primarily with the National Conservation Council and the Department of Environment.

This Conservation Plan will be evaluated periodically by the DoE, and at such time that any revision appears to be necessary, the Department will bring proposed revisions to the NCC.

Species Success Criteria

For Cayman's colonial nesting seabird species, criteria which would have to be met to enable each species to be moved from Part 1 of Schedule 1 of the NCA are similar, though not sufficient in all cases.

It should be recognized that regional climate and ocean circulation fluctuations, marine pollution, and climate change all have the potential to affect the marine productivity which fundamentally supports these seabird populations. Local protection and management of their colonial breeding sites is essential, but may not necessarily lead to recovery of historic population sizes.

Furthermore, the Red-footed Booby and Magnificent Frigatebird colony on Little Cayman has moved location at least four times in its recorded history, triggered by habitat destruction through human agency and also by major hurricanes. Regardless of the protected status of the current nesting site, a major hurricane could again trigger a relocation of this colony, quite possibly to an unprotected site. Least Tern nesting colony locations appear to be even more unstable.

Minimum criteria for each species are as follows:

- Protection and management of existing, expanding and new nesting colony sites under part 3, section 7 or section 13 of the NCA
- Permanent control or local eradication of invasive mammalian predators that threaten nesting seabirds
- Recovery of the nesting populations to historically recorded numbers or more
- Large, stable or expanding breeding colonies in the Cayman Islands
- National Red List assessment classifies the population as neither Critically Endangered nor Endangered

These criteria are unlikely to be achievable for all of these species, and timelines for such recovery are speculatively in the multiple decade range at best.

Cost Estimates

Survey and monitoring costs

Annual costs for survey and monitoring activities are anticipated to vary between CI\$5,000 and \$15,000 per annum, depending on which of various bi- and tri- annual surveys are scheduled in any given year. These costs are expected to be covered within the Department of Environment's core operating budget.

Feral mammal control costs

Annual costs for feral mammal control activities are likely to begin in the range of \$8,000 to \$10,000 per year and are expected to be covered within the Department of Environment's core operating budget. In event that an eradication program is initiated on any island, costs will be subject to a Business Case and are likely to be drawn from the Environmental Protection Fund (EPF).

Protected Area land purchase costs

While most of the Cayman Islands' key seabird habitat is either already protected or is on Crown land which can be protected without land purchase costs, it is likely that some of these colonial nesting seabird species may require land acquisition or Conservation Agreements for protection of nesting habitat under the

NCA. Any such land purchase or Conservation Agreement costs will be met from the EPF.

Protected Area management costs

Management costs for Protected Areas relevant to this Conservation Plan cannot be determined until Management Plans have been developed and approved. Such costs, when identified, are expected to be met, in part, by the EPF and in part by the DoE. The latter is particularly true where DoE Enforcement staff is required.

Public Education and Outreach costs

Much public education and outreach can be achieved without cost through local media, and by the DoE staff. However, Protected Area Management Plans, when finalized, are likely to call for interpretation measures with currently unquantified costs that may be drawn from the EPF.

Legal Basis

Section 17 of the National Conservation Act, 2013 requires the National Conservation Council to formulate and adopt a Conservation Plan for each protected species whose range includes the Islands.

Schedule 1, Part 1 of the Act designates species that are the subject of protection at all times.

Species Conservation Plans must set out the steps which the Council considers to be necessary to achieve the conservation and survival of the species and their critical habitat.

For species listed in Part 1 of Schedule 1 the Plan must include:

- (i) objective, measurable criteria which, when met, would result in a determination that the species no longer requires the protection of Part 1;
- (ii) estimates of the time required and the costs involved to carry out those measures needed to achieve such goals and to achieve any intermediate steps towards that goal.

Priority is accorded to the development of plans for threatened or endangered species that are at risk from development projects or other forms of economic activity, or that would otherwise be most likely to benefit from such plans.

Species Conservation Plans may take into account traditional cultural needs and applicable regional programmes under the various biological, conservation and climate change conventions to which the Cayman Islands are party [section 6(2)(j)].