



**Waterbird Conservation for the Americas**  
Conservación de las Aves Acuáticas para las Américas

# REPORT

## WATERBIRDS IN NAVASSA



Clean carcasses of Red-footed Booby at Lulu Bay.  
(PHOTO: JEAN WIENER)

**Authors:** Joseph Schwagerl (U.S. Fish and Wildlife Service) and Verónica Anadón-Irizarry (BirdLife International)



Edited by: Verónica Anadón-Irizarry and David Wege (BirdLife International)

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### 1. Introduction

Navassa Island is an unorganized unincorporated territory of the USA. It is grouped politically with other islands claimed under the Guano Islands Act of 1856 as one of the United States Minor Outlying Islands. Navassa is the only island of this group located in the Caribbean Sea; the others are all in the Pacific Ocean. The 500-ha island is situated 53 km south of Haiti, 136 km east of Jamaica and 152 km south of Cuba, and it rises abruptly from deep water with cliffs reaching heights of 20 m or more. There are no beaches, ports or harbors on Navassa and access (from offshore anchorages) is extremely hazardous. Dunning Hill, the highest point on the island at 76 m, is c.100 m south of the Navassa Island Light (lighthouse), which in turn is 400 m from the southwestern coast or 600 m east of Lulu Bay.



The climate is tropical, as a result of which the island's primary vegetation cover is evergreen woodland/forest comprising four main tree species, namely short-leaf fig *Ficus citrifolia*, pigeon plum *Coccoloba diversifolia*, mastic *Sideroxylon foetidissimum* and poisonwood *Metopium brownei*. The island's upper plateau around Dunning Hill supports small, scattered areas of grassland which seem to be maintained by frequent fires. A second major habitat is the fan palm *Thrinax morrisii* forest that occurs in pure stands in the lower north-western part of the island although the species is also scattered throughout the upper plateau and ridges. There is also a palm *Pseudophoenix sargentii* var. *navassana* represented by only one (relatively healthy) individual which is located on the ridge to the east of the lighthouse. Snow cactus *Mammaillaria nivosa* plants are scattered across the limestone surface of the island.

Historically, Navassa has supported a herpetofauna thought to consist of eight endemic reptiles, of which *Cyclura onchiopsis*, *Leiocephalus eremitus*, *Tropidophilus bucculentus* and *Typhlops sulcatus* are presumably extinct as a result of habitat alteration during the guano-mining, human exploitation or depredation by introduced mammalian predators. The four extant species are abundant (see "Other biodiversity" below).

Navassa is critically important for its marine environment, including pristine coral reef ecosystems, which sustains foraging habitat for one of the largest colonies of Red-footed Booby *Sula sula* in the Caribbean. More than 300 marine species have been identified by biologists, including three new fish species.

Haitian fishermen and researchers camp, albeit infrequently, on the island which is otherwise uninhabited and closed to the public.

### 2. Protected Areas and Conservation Systems

Navassa National Wildlife Refuge was established in 1999 by Department of the Interior Secretarial Order No. 3210. It is administered as part of the Caribbean Islands National Wildlife Refuge Complex, the headquarters for which are located in Boquerón, Puerto Rico. The refuge includes the island of Navassa and marine habitats up to 12 nautical miles (c.22 km) from the island. The U.S. Office of Insular Affairs retains authority for the island's political affairs and judicial authority is exercised directly by the nearest U.S. Circuit Court in Miami, Florida. Access to Navassa is hazardous and visitors need permission from the USFWS Office in Boquerón in order to enter refuge waters or to land on the island.

The island was discovered in 1498 by Christopher Columbus. In 1504, two Spaniards and several Indians who arrived on the island drank water contaminated with sea water and most in the group died. In 1857, Peter Duncan claimed Navassa under the Guano Islands Act as a possession of the USA for its guano deposits. Guano-mining operations were active from 1865 to 1898, and removed over 1 million tons. Navassa Phosphate Company of Baltimore built large mining facilities and railway tracks on the island, ruins of which can still be seen in Lulu Town. In 1898 the Spanish–American War forced the Phosphate Company to evacuate the island and file for bankruptcy, and thus the island was abandoned



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in 1901. The opening of the Panama Canal led to increased shipping in the area, and due to hazardous navigation past the island, the U.S. Lighthouse Service built the Navassa Island Light (lighthouse) in 1917. A lighthouse keeper and two assistants were assigned to live there until the U.S. Lighthouse Service installed an automatic beacon in 1929. The U.S. Coast Guard serviced the lighthouse twice each year until it was shut down in 1996 and the administration of the island was transferred to the Department of the Interior. A scientific expedition in 1998 described Navassa as a unique preserve of Caribbean biodiversity: the following year it became a national wildlife refuge to preserve and protect the biodiversity, health, heritage, and social and economic value of U.S. coral reef ecosystems and the marine environment. Scientific expeditions have continued.

The Republic of Haiti laid claim to sovereignty over Navassa in 1804, and they disputed the U.S. annexation of the island in 1857. The island has remained in the Haitian constitution since 1856. A socio-cultural assessment of the Navassa fisheries was carried out recently by Fondation pour la Protection de la Biodiversité Marine, a Haitian NGO. Haitians feel that they have been the only ones harvesting Navassa's marine resources over the generations, and therefore feel a strong sense of ownership over the island. The fisheries at Navassa are critical to the livelihoods of fishermen in south-west Haiti, making them an important stakeholder of the island's resources. Traditionally, the fishermen used sailing and rowing boats but motorized vessels have become more readily available, shortening the traveling time to the island and increasing the size of catch they can return to Haiti with. In the recent assessment, none of the fishermen encountered were aware that Haitian or U.S. fisheries laws existed or were in effect at the island. Harsh conditions including heat, lack of food and water, difficulty landing on the island (no beach or other landing site) and remoteness have prevented its habitation by fishermen.

Local human impacts at Navassa have varied greatly over time. The former guano-mining and lighthouse maintenance operations impacted both the vegetation and marine environment. Other specific threats include fishing for shellfish, reef fish, spiny lobster, queen conch *Strombus gigas*, and the federally listed (Critically Endangered) hawksbill turtle *Eretmochelys imbricata*. Harvest of nesting and roosting seabirds, fires from transient campsites, fires for large-scale land clearance for attempted settlement, and introduced invasive alien species (goats, rats *Rattus* spp.) are also concerns. Also, fishing operations out of south-west Haiti and incursion by international trawlers purportedly from the Dominican Republic are suspected of targeting pelagic (economically valuable) fish species.

Establishing refuge management has been very difficult. In 2004, a conservation plan was developed participatively with many stakeholders to strategize ways to address the issue of fishing and difficulties of dealing with the remote refuge. This plan is being implemented with management activities including close monitoring of the artisanal fishing pressure by Haitian fishermen and other nationals entering refuge waters with fishing trawlers. The establishment of monitoring stations for research (of corals, water temperature and photography, vegetation etc.), eradication of invasive species and continued socio-cultural assessments are underway. The opening of a dialogue with the Haitian conservation community has been a necessary first step and needs to be developed to ensure the conservation of the tremendous fish and wildlife resources of Navassa Island National Wildlife Refuge.

### 3. Waterbirds species occurring within Navassa

Fifty-eight (58) bird species have been recorded from Navassa including many Neotropical migratory landbirds. Navassa is notable for its breeding seabirds, especially Redfooted Booby *Sula sula* and Magnificent Frigatebird *Fregata magnificens* (see Appendix 1). Studies of *S. sula* nestling mortality suggest a number of causal factors including adult defense of the nest, chicks being left unattended or human disturbance. Carcasses of *S. sula*, eaten clean by humans have been found under several trees and at a campsite at Lulu Bay. Birds are dislodged from their tree nests using 7-m bamboo poles. The meat is eaten during the fishermen's stays or used for commercial purposes. More exhaustive research to better estimate the *S. sula* and *F. magnificens* colonies and establish a baseline against which to monitor the populations has been scheduled for the next biological expedition to the island.



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### 4. Locations and descriptions of key sites used by aquatic species

Navassa covers 148,100 ha of critical terrestrial and marine habitats that are legally protected as a national wildlife refuge. However, remoteness from USFWS administration in Puerto Rico and disputed sovereignty by Haiti have made enforcement of regulations and conservation management impractical. As a result, foreign nationals enter the refuge and harvest protected natural resources. Illegal commercial and subsistence fishing and hunting activities (including the breeding seabirds) have been documented during recent expeditions. In spite of these infringements and other threats, the significant populations of Red-footed Booby *Sula sula* and Magnificent Frigatebird *Fregata magnificens* are thought to have remained stable since the island became a refuge in 1999. Monitoring these seabird populations will help determine the true impact of the various threats and conservation management actions.

#### KEY SITES

##### a. Navassa Island (18°24'N 75°00'W)

- **Location:** Navassa Island is situated 53 km west of Haiti, 136 km east of Jamaica and 152 km south of Cuba.
- **Size:** Includes the 500-ha island and marine areas up to 22 km from it, thus covering 147,600 ha of open ocean.
- **Conservation Status:** It is federally owned, and is the only oceanic and coral reef national wildlife refuge in the western Atlantic. However, it lacks on-the-ground management due to its remoteness and lack of resident personnel.
- **Importance:** It is globally significant for its breeding colony of Red-footed Booby *Sula sula*, a large majority of which are immature, which is concentrated along the sheltered (leeward) north-western to southern perimeter of the island. The breeding population, conservatively estimated at 175 individuals, of Magnificent Frigatebird *Fregata magnificens* is regionally important, and small numbers of Brown Booby *Sula leucogaster* also breed on the island.
- **Threats:** There is a history of foreign nationals, primarily Haitians, entering the refuge and harvesting protected species. These illegal activities are a challenge: the island's disputed sovereignty means any move to prosecute could result in a diplomatic incident between the USA and Haiti.



Harvesting Red-footed Booby (PHOTO: RICK KANASKI)



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### 5. Formal and informal international instruments for aquatic bird conservation:

Navassa as an unorganized unincorporated territory of the USA, it is signatory to a number of international environmental conventions:

- Ramsar Convention: Convention on Wetlands of International Importance = *Signed and ratified*
- SPAW Protocol to the Cartagena Convention: Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region = *Signed and ratified*
- Convention on Biological Diversity (CBD) = *Signed but not ratified*
- World Heritage Convention (WHC) = *Signed and ratified*
- Convention on International Trade in Endangered Species of Fauna and Flora (CITES) = *Signed and ratified*

### 6. References/experts consulted

Institution	Address	Telephone	Email	Name	Contribution to the report
U.S. Fish and Wildlife Services	Post Office Box 510 Boqueron, Puerto Rico 00622-0510	787-851-7258	susan_silander@fws.gov	Susan Silander	Site general references
U.S. Fish and Wildlife Services	Post Office Box 510 Boqueron, Puerto Rico 00622-0510	787-851-7258	claudia_lombard@fws.gov	Claudia Lombard	Species information
Fondation pour la Protection de la Biodiversité Marine	P.O. Box 642 Port-au-Prince <a href="#">West Indies</a> <a href="#">Haiti</a>		jeanw@foprobim.org	Jean W. Wiener	Social cultural assessment

### 7. Key References:

BirdLife International (2008) *Important Bird Areas in the Caribbean: key sites for conservation*. Cambridge, UK: BirdLife International (BirdLife Conservation Series No.15)

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## Waterbird Conservation for the Americas

### Conservación de las Aves Acuáticas para las Américas

Table 1. Waterbirds occurrence, distribution, habitat and population estimates in Navassa.									
Family	Species	English name	Category (IUCN)	Ocurrence	Habitat	National population estimate	Distribution	In-country trends	References
Procellariidae	<i>Calonectris diomedea</i>	Cory's Shearwater	LC	Passage	Sea	Few	Sea		Lombard (2006)
Procellariidae	<i>Puffinus lherminieri</i>	Audubon's Shearwater	LC	Passage	Sea	Few	Sea		Lombard (2006)
Ardeidae	<i>Bubulcus ibis</i>	Cattle Egret	LC	Passage	Coastline	Few	Land		Lombard (2006)
Ardeidae	<i>Ardea herodias</i>	Great Blue Heron	LC	Passage	Coastline	Few	Land		Lombard (2006)
Phaethontidae	<i>Phaethon lepturus</i>	White-tailed Tropicbird	LC	Resident	Cliffs	5 pairs	Land		Bradley and Norton (2009)
Fregatidae	<i>Fregata magnificens</i>	Magnificent Frigatebird	LC	Resident	Forest	175 individuals	Land		Bradley and Norton (2009)
Pelecanidae	<i>Pelecanus occidentalis</i>	Brown Pelican	LC	Passage	Sea	Few	Land		Lombard (2006)
Sulidae	<i>Sula dactylatra</i>	Masked Booby	LC	Passage	Sea	Few	Land		Lombard (2006)
Sulidae	<i>Sula sula</i>	Red-footed Booby	LC	Resident	Forest	5,000-7,000 individuals	Land	Stable	Lombard (2006)
Sulidae	<i>Sula leucogaster</i>	Brown Booby	LC	Resident	Coastline	20 pairs	Land	Stable	Bradley and Norton (2009)
Scolopacidae	<i>Arenaria interpres</i>	Ruddy Turnstone	LC	Passage	Coastline	Few	Land		Lombard (2006)
Scolopacidae	<i>Calidris alba</i>	Sanderling	LC	Passage	Coastline	Few	Land		Lombard (2006)
Laridae	<i>Larus philadelphia</i>	Bonaparte's Gull	LC	Passage	Sea	Few	Sea		Lombard (2006)
Laridae	<i>Sterna anaethetus</i>	Bridled Tern	LC	Breeding	Sea	5-10 pairs	Sea		Bradley and Norton (2009)
Laridae	<i>Sterna fuscata</i>	Sooty Tern	LC	Passage	Sea	Few	Land		Lombard (2006)
Laridae	<i>Anous stolidus</i>	Brown Noddy	LC	Breeding	Sea	5-10 pairs	Sea		Bradley and Norton (2009)
Stercorariidae	<i>Stercorarius pomarinus</i>	Pomarine Jaeger	LC	Passage	Sea	Few	Sea		Lombard (2006)
Legend:									
The ranges are based on Wetlands International estimates:									
B: 10.000-25.000									
C: 25.000-100.000									
D: 100.000-1.000.000									
E: >1.000.000									



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For numbers below 10,000:									
A.a 0-50									
A.b 50-100									
A.c 100-250									
A.d 250-500									
A.e 500-1000									
A.f 1000-5000									
A.g 5,000-10,000									