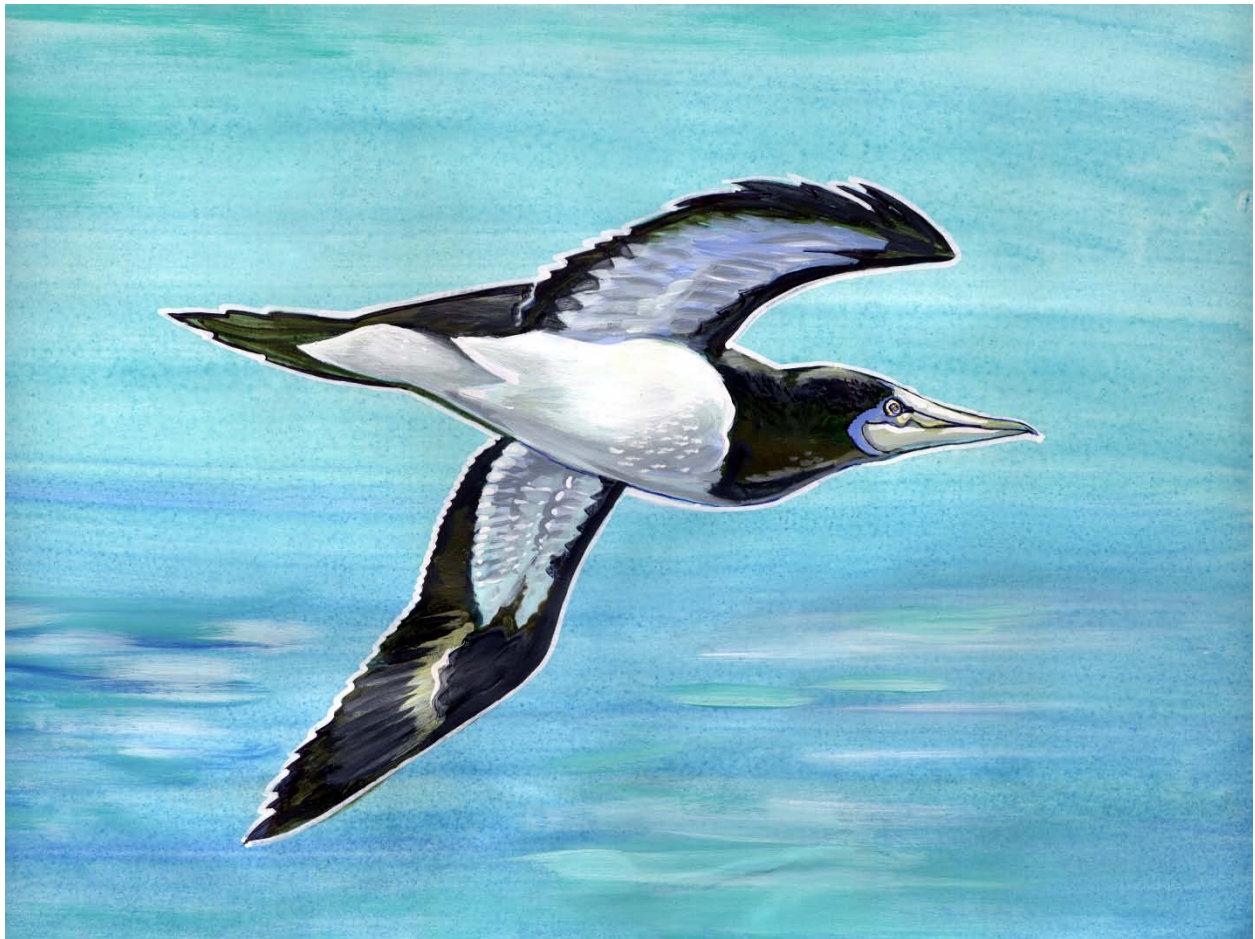




STINAPA BONAIRE / WASHINGTON SLAGBAAI NATIONAL PARK

**BROWN BOOBY MONITORING PROGRAM
YEAR REPORT 2008**



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1. Introduction

This report shows the results of the first year of monitoring the colony of Brown boobies roosting at the North of Bonaire, between Malmok and South of Boka Katuna. Terms in bold font are described in the glossary.

Brown boobies are dark brown, large sea birds with a wingspan of about 145cm that belong to the order Pelecaniformes, and are a member of the Sulidae family. Brown boobies, besides their intrinsic value as a species have significance as indicators of the condition of the fisheries around the areas they inhabit.

In his appreciated book, Birds of the Netherland Antilles, Dr. Voous reported on Brown boobies in the 1950's the following: *“Comunal sleeping roosts are located on the North capes of all three ABC islands. The most frequented one is that of Malmok, Bonaire, where up to 200 may assemble at dusk, together with an occasional Red-footed booby and larger numbers of Brown noddies. However, numbers and proportions of adults and immature vary considerably, apparently according to the progress of breeding activity in nearby colonies. (e.g. Las Aves)”*. He added, *“Periodically these and other roosting places are raided at night by local fishermen, who may snare considerable numbers (sometimes over a hundred) for food and for liver to be used in “bruha” (black magic)”*.

Despite of the fact that hunting has not been reported for many years, it is common belief of the local people that the number of birds at the roosting place at Malmok decreased dramatically, to numbers below 50, but there is no reliable data to support these assumptions. Also, there is no information available regarding the ratio of immature and adults or their **temporal dynamics** on the island. STINAPA Bonaire, as the authority in charge of preserving our natural resources, decided to implement a monitoring program of this colony in order to obtain data that can give an insight on all these matters.

2. Objectives

2.1 Main Objectives

- Determine the approximate total number of Brown boobies roosting at Malmok throughout the year and their seasonal variability.
- Determine the ratio of immature and adults.
- Find indications of breeding or nesting activities.

2.2 Secondary objectives.

- Determine the presence/absence of rare sea birds for Bonaire, like Brown noddies, Masked boobies and Red-footed boobies.
- Learn about bird behaviour and ecology by observations during the surveys.
- Find and identify ringed birds.

3. Study Area and Methods

After close observations of the shoreline between Malmok and Playa Funchi, 7 locations were chosen for conducting the counts. The points where the largest amounts of birds aggregate were selected. They were notorious by the white coloration present on the cliffs caused by the guano and several site inspections corroborating that these spots were indeed the most commonly occupied, they were GPS recorded and marked on the field. Exactly the same points were used on every survey.

All seven points were visited 4 times a year and simultaneous counts were carried out during the first two weeks of January, April, July and October. The bird surveys started 1 hour before sunset and concluded exactly at sunset. Binoculars 8x40 and two 20x-60x 82mm telescopes were used. One individual surveyor counted at each one of the spots. Each spot has a “blind area” where a direct count cannot be made; for these sections of the roost, the total number was obtained by keeping count of how many birds went into the blind area and how many came out.

Instead of using this first survey as the **base line** for this monitoring program, we use the total number of 200 birds given by Dr. Voous in the early 1950's.

4. Results and Discussion

We can observe in figure 1 that during the month of July a total number of 186 birds were counted. This is 93% of the base line number selected from Dr. Voous book. Since detection probability is less than 100%, we can estimate the numbers of Brown boobies roosting at the colony very close or even larger than 200, which indicates that the roosting site is as “healthy” as it was 50 years ago and, if there was a dramatic decrease in numbers as it was perceived by local people, they colony has recovered to satisfactory numbers.

We could not collect enough reliable data during this first year regarding the ratio of adults and immature for different reasons, being the main one the lack of experience of some volunteers, consequently no results will be shown regarding this matter. This ratio is important because it gives you an indication of the production of the colony. A large number of immature birds could confirm that the population is healthy. This issue will be addressed next year in order to help the volunteers obtain this valuable data.

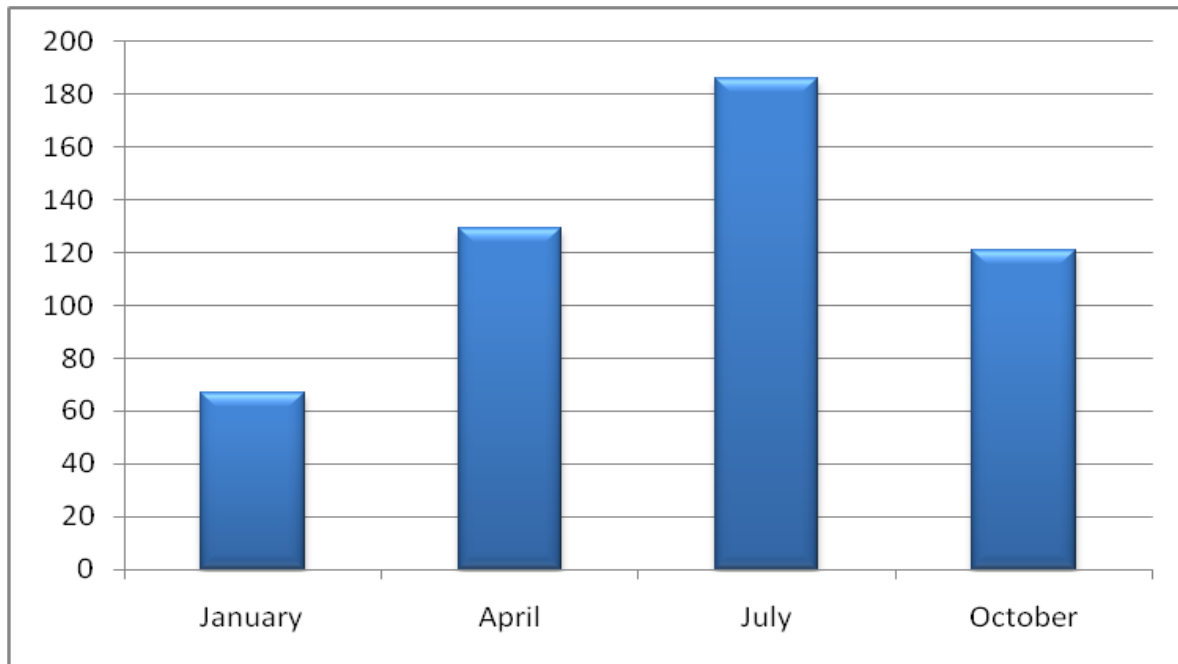


Fig. 1 Total number of Brown boobies at the 7 roosting sites at Malmok

Looking at the **temporal dynamics** we can observe that there is a significant difference in the numbers of birds present during the different months, especially January. This is something to compare with the data obtained in future years in order to see if there is a seasonal pattern or an absence of it.

Only thirteen Brown noddies and only one Masked booby were observed during the surveys. No ringed birds were observed and breeding or nesting activity was not observed either.

5. Recommendations

- To keep collecting data for long term monitoring programs. It is fundamental for the proper management of our natural resources.
- Try to find permanent local volunteers to do these surveys until an adequate amount of professional staff is available.
- Provide more training for the volunteers.

Glossary

Base line data: The first set of data collected regarding a certain subject, usually but not always with the intention of comparing it with future data.

Temporal dynamics: The changes in population numbers of a group of animals during a period of time. In this case, during the year 2008.