

Black-capped Petrel Nest Monitoring in La Visite National Park, Haiti: 2022 Breeding Season



Report by

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Introduction

The Black-capped Petrel (*Pterodroma hasitata*) is a seabird that historically nested on many Caribbean islands (Dominica, Guadeloupe, and Hispaniola). The population of this species drastically declined during the early 20 century to the point they believed it was extinct, until David Wingate confirmed with evidence the species still occurred in Haiti in the 1950's and population was estimated at 4000 to 25,000 birds.

In recent years, field research in Hispaniola confirmed the presence of breeding colonies in Massif de la Hotte, Massif de La Selle, Sierra de Bahoruco, and the Cordillera Central. While difficult to accurately estimate the population size of these colonies, most of the reports concluded populations of the Black-capped Petrel were severely declining.

To better estimate the Black-capped Petrel population size, a series of radar surveys was conducted from 2012 to 2017 and the data result determined the highest population of Black-capped Petrel (~1900) in La Visite National Park, Haiti. The habitat of this park is under intense pressure due to deforestation, a result of agricultural expansion and the use of woods as the main source of energy for cooking. Additional threats to Black-capped Petrels included forest fires and tower collisions.

To better identify additional causes that drive the species population declining in Haiti, it was mandatory to get access to the species nest. It is in this context we initiated a long-term nest search and monitoring effort in La Visite National Park (specifically on Tèt Opak). From 2018 to 2021 we monitored petrel nest activities, determining nest locations and nesting success.

The main threats we initially identified that caused nest failure included: the harvesting of tree ferns, the predation by exotic carnivores (rat, dog, cat and mongoose), animals grazing, and unsustainable agricultural practices. To mitigate the impact of these threats we proceeded to control the exotic carnivore population and create awareness through the communities living nearby the breeding colonies we are monitoring.

Our goals for the 2022 Black-capped Petrel nest season in La Visite National Park included (1) monitoring the previous known petrel nest cavities at the Tet Opak nest colony, (2) search for new petrel nests along the La Visite Escarpment adjacent to Tet Opak as well as near Pic La Selle, and (3) reduce the number of predators by continuing to trap predators but increasing the number of mammal trapping days as well as the number of mammal trap stations within the Tet Opak petrel nest colony.

Methods

Nest Monitoring

At the beginning of the breeding season (January 2022) we revisited the three known nest areas of Black-capped Petrels on the flanks of Tet Opak. Initially, we removed all objects that blocked the nest entrances to facilitate birds access to nest burrows.

Each nest (defined as a cavity or crevice with evidence of petrel activity including feathers, feces, egg, chick, or adult) detected was labeled with an aluminum tag identified with a unique

number. Once a nest was located, we monitored it each month through July, to record its contents. Occasionally, when difficult to detect if a cavity had evidence of petrel use, we used a digital endoscope with a Smartphone as a monitor.

Additionally, we placed camera traps at the entrance of nests to remotely record information. The camera traps we placed in the colony were preset on auto to capture images in hybrid mode (2 photos and a 10-second video) with a 10-second interval between captures and allowed capture during all 24- hours each day. The image format was set on full screen while the video was calibrated to record 1280 x 720 image size. We download the camera images each month, to note the nest status and other relevant information.

Nest Searching

We carried out an 8-day mission to search for nesting Black-capped Petrels at Pic La Selle from 18-26 May. This included listening for birds at night and searching for nests during the day.

Predator Trapping

To control the rat population, we deployed rat-focused snap traps each day throughout the nesting season (January – July) at the three known breeding areas within the Tet Opak breeding colony. Snap traps were checked each day to note the number of rats we captured.

A Tomahawk-style mammal cage trap, adapted for mongooses and cats, was set each day at the Tet Opak nest colony, but was moved to different locations throughout the nest season, within the nest colony. The walk-in trap was baited with sausage.

Results

Nest Monitoring

During the 2022 Black-capped Petrel breeding season at the Tet Opak nest colony, we followed 56 nests. Four of these nests were newly located during 2022. Of the 56 nests, 44 nests contained evidence of petrel activity (adult, chick, egg, feathers, feces, or smell of petrel). Of the 56 nests, 14 nests contained evidence of active nesting (adult, chick, or egg). Of the 14 active nests, seven nests successfully fledged a chick while seven nests failed prior to fledging. Of the seven nests that failed, six failed during the egg incubation phase, while one failed during the chick rearing phase. Of the seven failed nesting efforts, one failed due to a dog depredating the egg (and adult) and six failed due to nests being destroyed due to agricultural encroachment. Of the 56 nests monitored monthly, 28 nests were destroyed due to agricultural encroachment, although as noted above, only 6 of these were active.

Nest Searches

The new colony search mission to Pic La Selle and surrounding areas took place from 18-26 May. We searched in the following areas: Bwa Dime, Ravin Ge, Pic La Selle, and Ka Jon. We located two petrel nests at Ka Jon. One nest had a chick and one had petrel feathers and feces.

Predator Trapping

To reduce rat populations in the Tet Opak nest colony, we set up 40 snap traps each day between January and July 2022. During this entire period, we captured 54 individual rats, (n=54; 59% male and 41% female).

The Tomahawk style walk-in trap did not capture any animals. The camera traps deployed at nests showed continuing evidence of both mongoose as well as what appeared to be the same female dog that we had determined preyed on petrels in 2021.

Notably, in June, we discovered remains of a petrel chick on the ground in the Tet Opak colony, that was recently killed by an unknown predator. To remove the predator from the colony, we poisoned the remains of the petrel with Lanate. We also placed a camera trap on the baited remains to determine any predator activity. When we returned later that day, the body was completely eaten. Camera trap images confirmed it was a mongoose that ate the remaining poisoned body.

Discussion

Regarding pre-season colony maintenance, we believe the effort put into removing debris from the entrances of known petrel nests benefited petrels as it provided easier access to nests.

Regarding predators within the colony, we continue to observe evidence of rats, mongoose, and dogs on the colony. We have had success at trapping rats but little success in trapping dogs or mongoose. In future years, we believe this colony would benefit from finding a more successful way to trap mongoose and dogs.

Regarding rat trapping, we expected a higher number of trapped rats than 54. However, many of our traps had the bait removed without the snap being activated. This was likely due to rusting or set too firmly. We will work towards improving our technique in future years.

Aside from petrel breeding monitoring, our team was involved in a few other petrel-related activities in the La Visite National Park area. On April 18th, 2022, we received a call from Wynne Farm area down-slope and north of La Visite. The callers informed us there was a grounded Black-capped Petrel found by two children in the area of Kenskoff and Furcy. The bird likely was disoriented by the lights at the communication towers in this area and was grounded when it struck a portion of the tower. We encouraged the callers to release the bird. We provided some basic care instructions including put the bird in a box, place it in a dark room, and release it at night. The people successfully released the bird that night as the bird flew away following being released.

Regarding environmental education in this area, we didn't have a chance to meet with local schools, because the field staff visits was not lined up well with school days. We will work towards aligning our visits in 2023 to better work with schools.

Regarding farmers in the area and beginning a sustainable agriculture program, we were unable to meet a large group of farmers at one time, but met with them in separate groups, while they

were farming. In 2023 we will continue this effort to gather the farmers into groups and move closer to starting a sustainable agricultural program.

Regarding tree fern harvest, and land clearing for farming, tree ferns were still being collected but they did not cause notable damage to the nesting colony with exception of one farmer. That one farmer cleared quite a bit of vegetation and several nests were destroyed before we came to the nest site and were able to talk with him and get him to agree to give up his farming project.

Since the SongMeter unit we installed at Tèt Opak in 2021 was stolen and the antennas remain insecure, we didn't install the second unit there, we installed it at Boukan Chat instead.

Regarding camera traps, of the 35 camera traps deployed, 24 of the camera traps malfunctioned and had to be removed from the nest site. In most cases, it appeared to be a problem of electronics within the units. We will replace these units for the 2023 breeding season. We will also replace silica packets in the camera traps to continue to reduce moisture in the units.

Recommendations

Research

- Continued Black-capped Petrel nest monitoring of the Tet Opak colony. Deploy camera traps at each nest and band adults and chicks.
- Expeditions to search the remaining areas along the La Visite Escarpment for nesting Black-capped Petrels.
- Expeditions to search for nesting Black-capped Petrels on and near Pic La Selle.

Conservation

- Mammal trapping in the nest colony areas prior to and during the nesting season by a mammal focused trapping team and providing them with appropriate trapping equipment.
- Work with family farmers that farm the areas above and below the Tet Opak nest colony to offset the human encroachment into this valley.
- Incorporate a local youth education program like the program we operate in Boukan Chat.

Tables

TABLE 1. Sub-colony locations for the Black-capped Petrel nesting areas at Tet Opak in La Visite National Park.

Black-capped Petrel sub-colony Site	Latitude	Longitude	Altitude (meter)
Site-1	18.351463°	-72.236568°	2142
Site-2	18.350923°	-72.231261°	2142
Site-3	18.35090°	-72.23165°	2249

Images



Image 1. Mongoose feeding on the remains of a Black-capped Petrel chick near Tet Opak, Haiti.



Image 2. Dog observed on camera trap at a Black-capped Petrel nest prior to feeding on a Black-capped Petrel chick.



Image 3. Vegetation at Tet Opak (Site-1) cleared for farming.



Image 4. Local staff conduct Black-capped Petrel nest monitoring at Tèt Opak.