

MEMO

To: Joan Duffield, Entrix
From: Kathleen Viernes
RE: Red-footed booby oil bird survey report

Aloha Joan, attached is the report for the red-footed booby survey I conducted on September 29th and 30th at the Kilauea Point National Wildlife Refuge. If you have any questions regarding the format or the content please do not hesitate to contact me. Refuge Complex Manager Tom Alexander and Biologist Adam Asquith have both requested a copy of the final report of the survey and any information about the attempts to capture oiled birds. It would probably be good to send the information to Beth Flint as well. I would be happy to send them copies of the both this report and memo if you want me to, or you may prefer to send them this information yourself. Let me know if you would like me to do it.

I would also like to give you a summary report on the status of the trips into the booby colony at Kilauea Point NWR to capture oiled boobies with IBRC, Penco staff and State Vet Greg Massey (GM).

We made a total of 6 trips into the colony in attempts to capture oiled birds. I (KV) was present during each of the trips into the colony. I am including the names of the other participants for each trip and the number of birds captured. During each of the trips into the colony one or more oiled birds escaped during capture attempts. All attempts were made during the day except on October 3rd - the second trip was taken at night.

October 2nd -KV,Linda Elliot(LE) and Stan Souza (SS). 2 subadults captured.

October 3rd - KV,LE, SS and 2 refuge interns Jeremy and Shanon. 1 subadult captured.

October 3rd - KV, SS, GM, Wendy Sangiacomo (WS), Jeremy. None captured.

October 13th - KV,SS,WS,GM. 1 subadult captured.

October 15th - KV,SS,WS. 2 adults and 1 subadult captured.

October 22nd - KV,SS,WS,LE. None captured.

As you know there are many wedge-tailed shearwaters nesting in burrows within the booby colony. During one of our conversations I had given you estimate of 20 to 30 burrows total that may have been crushed between during October 2nd and 3rd trips. Since the teams were split up in different

Red-footed booby oil bird survey report

areas and we did not record these incidences this is merely my crude estimate. In addition I felt that the night time trip into the colony when adults were present at the burrows with chicks was very disruptive especially if adults flushed during chick feeding. I discussed my concerns with you, as well as Adam Asquith and Beth Flint. Beth and I discussed measures that should be taken to eliminate, or at least minimize burrow damage. These measures included avoiding dense burrow areas, eliminating night searches and conducting searches only every few days. This approach was apparently successful because no active burrows were crushed during the remaining trips.

The last trip into the colony occurred on October 22nd. IBRC staff person Linda Elliot informed me that October 22nd was to be the last search day. Although we did not capture any birds that day we observed at least 4 heavy to moderately oiled birds flying and made one unsuccessful attempt that day.

You will need to contact Linda Elliot if you need rehabilitation information and release dates for recovered birds as I do not have any of that information.

Let me know if I you need any other information from me and thank you for the opportunity to work on this project.

Sincerely,

KJFV

Attachment

REPORT ON A SURVEY OF OILED RED-FOOTED BOOBIES
AT KILAUEA POINT NATIONAL WILDLIFE REFUGE

By Kathleen J.F. Viernes

On Contract with Enrix

Introduction

A survey of the Red-footed booby (Sula sula) colony located at the Kilauea Point National Wildlife Refuge was conducted in order to determine if red-footed boobies in the colony were contaminated with oil.

Methods

The survey was conducted on the mornings of Tuesday September 29th and Wednesday September 30th. The survey was done on foot by me, the author, walking through the colony in an easterly direction beginning at the westernmost edge of the colony on the upper slopes of an area called the East Cove. The survey ended on the second day at the eastern limits of the colony which is located just east of an area referred to as the Crater Wall. The portion of the colony located in the Crater Wall was not surveyed due to the inaccessibility of the site. The survey was progressive over the two mornings and no area was repeated during the count.

Roosting birds and birds in flight were counted. Binoculars were used to aid in viewing birds when needed. Attempts were made to view as much of each bird as possible, but the visible area of each bird varied depending on its position and the proximity of the bird to the me. Birds were divided into two groups according to plumage. Birds in adult plumage were called adults and birds with anything other than adult plumage were called subadults. A bird was counted as clean if no oil could be observed. Any bird seen with oil was recorded with a silhouette sketch of the view of the bird with the oil pattern drawn on the silhouette. In addition, a letter notation of L for light, M for moderate and H for heavy was written next to the sketch to help in qualifying the degree of oiling. The degree of oiling was subjectively assigned.

Results

A total of 1150 observations were recorded. A total of 1092 were reported as clean and 58 were recorded as oiled. These 58 oiled birds represent 5% of the total number of birds counted (Table 1).

Table 1. Numbers of Clean and Oiled Birds Observed at Kilauea Point NWR.

	# Adults	# Sub-adults	Total
Clean	608	484	1092
Oiled	25	33	58
Total	633	517	1150
% Oiled	3.9%	6.4%	5.0%

Out of the 58 oiled birds observed, a total of 49 were recorded as lightly oiled, 5 as moderately oiled and 4 as heavily oiled (Table 2). The number of lightly oiled birds comprises 85% of the total number of oiled birds.

Table 2. Level of oiling among adult and sub-adults.

	Light	Moderate	Heavy
# Adult	21	3	1
#Sub-adults	28	2	3
Total	49	5	4

None of the oiled birds observed were obviously incapacitated, but 2 of the heavily oiled birds seen flying appeared to be struggling slightly.

Discussion

The red-footed booby colony at Kilauea Point NWR contains a population of over 2000 nesting pairs, based on refuge censuses conducted during the breeding season. Non-breeders, including subadults and juveniles are not counted in the census, therefore the population at the refuge could be estimated to be well over 5000 birds.

Since the total number of boobies counted in the 2 day survey was 1150 birds, this amounts to less than a quarter of the refuge population surveyed. The number of boobies roosting at the refuge from day to day, and even throughout the day, depends on feeding patterns, weather and other factors. Therefore, with this survey method there is no accurate way to determine the actual proportion of the entire population affected by oil.

Summary

The 2 day survey conducted on the Kilauea Point National Wildlife Refuge was effective in determining that there were oiled red-footed boobies in the refuge colony. A total of 1150 red-footed boobies were counted during the survey. Of this total, 58 birds were observed with oil on some part of their bodies. The majority of the oiled birds seen were described as lightly oiled. Both adults and subadults were affected.