

Invasive Alien Species Survey Aleipata Islands, Samoa Follow up visit to Nu'ulua

18 December 2015

GEF-PAS Invasive Alien Species project/Samoa



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Introduction

Between the 27th and 29th of October 2015 invasive alien species surveys were conducted as part of the GEF-PAS invasive alien species project/Samoa to help inform the Aleipata management Plan. As part of these surveys sticky traps were placed on Nu'ulua Island to detect the presence of *Rattus sp.* The sticky traps were checked after two nights with no evidence of rat presence. These sticky traps were left for a further 50 nights to increase the chances of detecting rat. As part of this return trip to Nu'ulua Island an incidental bird list was compiled and other species of interest (i.e. Yellow Crazy Ants and Coconut Crabs), were recorded when encountered.

Method

On 18 December 2015 a team of two (Vaatele and Stuart) were dropped in the bay on the eastern side of Nu'ulua Island to swim to the island. Due to the exposed aspect of the Island a calm day with a low wind speed (below 25km/hr), small swell size (0.8m) and an approach at high tide was required for an easier swim to the beach.

Vaatele and Stuart checked the sticky traps recording the condition of each trap, if any hairs were present and where possible took a photograph of each trap. The traps that were found were closed (folded over) to prevent other species getting caught in them.

Birds and other species encountered on the island were recorded and an effort was made to identify the sea-birds present on the north eastern rocky spit land to confirm the presence of Black Noddys.

The team then departed the island by the north eastern rocky spit rather than using the access route.

Results

Of the original 43 sticky traps placed 39 were located. It is not clear which of the original traps were not found, as such the recovered traps are numbered in order of their discovery. Of the 39 found trap locations, 20 sticky traps were found. Five were found crumpled on the ground, they were opened up and inspected for hairs. 15 sticky traps were still attached in their original position all were missing bait. The other 19 trap locations were found by the presence of nails and remnant pieces of cardboard. It appears that these traps disintegrated and were either washed away during rain events, or perhaps became stuck to large coconut crabs and carried away. The breakdown of trap locations found and status of each trap is detailed in Table 1. Of the original 43 traps only 15 were still open and had the potential to detect any rats. As such an additional 750 trap nights could be added to the survey effort for Nu'ulua Island. No signs of rat activity were sighted while on the Island.

Of the recovered traps, all had numerous invertebrates (i.e. ant species, moths, beetles, butterflies, flies and other unidentified insect groups) stuck to them. Several on the flats, slopes and ridge had Yellow Crazy Ants (YCA) stuck on them, unfortunately the exact location and number of traps with YCA were not recorded.

Two traps had caught vertebrate species. One trap had a lizard species and another had a gecko species and a lizard species. All were deceased.

Several traps had scratch marks across the sticky surface that resembled the tracks of hermit or coconut crabs. As crabs are numerous on the island and none were found in any of the traps it is presumed that they are not impacted on by the sticky traps. Two large Coconut Crabs were

encountered, one in the coastal forest on the eastern side of the island and the other in thick undergrowth close to the beach in the north eastern corner of the island. Both looked healthy and were left alone.

Table 1. Sticky trap location found on Nu'ulua and presence/absence of hair.

Trap	Comments
1	No hair
2	No hair, lizard
3	No hair
4	Unable to find sticky trap, found nails.
5	Unable to find sticky trap, found nails.
6	Unable to find sticky trap, found nails. No photo taken
7	Unable to find sticky trap, found nails.
8	Unable to find sticky trap, found nails.
9	Unable to find sticky trap, found nails.
10	Unable to find sticky trap, found nails.
11	Unable to find sticky trap, found nails.
12	No hair
13	Found crumpled on ground, no hairs found
14	No hair, top right corner folded over
15	Unable to find sticky trap, found nails.
16	Unable to find sticky trap, found nails.
17	Sticky trap found crumpled on ground, no hairs found
18	No hairs found
19	No hairs found

20	Unable to find sticky trap, found nails.
21	Unable to find sticky trap, found nails.
22	No hairs found, gecko and lizard found dead on trap
23	No hairs found
24	Unable to find sticky trap, found nails.
25	No hairs found
26	Found sticky trap crumpled on ground. No hairs found
27	Found most of sticky trap crumpled on ground. No hairs found
28	Found half of sticky trap on tree. No hairs found. Trap removed from tree
29	Found nails and some cardboard but not sticky part
30	Unable to find sticky trap, found nails.
31	No hair
32	Found crumpled on ground, no hairs found
33	No hair
34	Unable to find sticky trap, found nails.
35	Unable to find sticky trap, found nails.
36	No hair
37	Unable to find sticky trap or nails.
38	No hair, Trap folded over before arrival
39	No hair, Trap folded over before arrival

Birds that were seen or heard calling were recorded during the checking of the traps (Table 2). As these are incidental sightings they offer only a guide as to some of the avian fauna that might be present on Nu'ulua and do not reflect population numbers or status. One Friendly Ground Dove was sighted on the flats. Many Red-footed Boobys were observed resting in the tree canopy along the ridge. The Noddy and Booby species appear to use the North east rocky spit as a resting and nesting area, with several Brown Noddys seen nesting and a Brown Noddy chick sighted (Photograph 1).

Table 2. Incidental bird sightings on Nu'ulua Island and number sighted 18 December 2015

Nu'ulua Island Bird List	
Brown Booby	10+
Red-footed Booby	40+
Great Frigatebird	2
Brown Noddy	30+
Black Noddy	?10
White Tern	20+
Friendly Ground-dove	1
Pacific Pigeon	2
Flat-billed Kingfisher	1
Samoan Starling	3
Wattled Honeyeater	5+



Photograph 1. Brown Noddy chick

Discussion

Surveys in 2000, 2003, two in 2009, 2010 and these two most recent surveys have all failed to detect *Rattus sp* on Nu'ulua. It appears very unlikely that there are any *Rattus sp* on Nu'ulua. The prevailing wind and currents appear to have prevented rats reaching Nu'ulua from Nu'utele. Future events such as a tsunami, cyclone, ship wreck or other event that may introduces rats to the island will require the island to be checked again.

Yellow Crazy Ants are prominent on Nu'ulua. Due to the small size of the island eradication of YCA by hand cast baits appears feasible.

The large number of young Coconut Crabs and the presents of two larger, possibly adult Coconut Crabs suggest the population is not yet affected by YCA or harvesting by humans.

The presence of Black Noddys on Nu'ulua was not confirmed. A flock of approximately 10 bird which with the naked eye were identified as Black Noddys were seen departing the island, unfortunately due to the movement of the boat it was not possible to confirm the identification using binoculars. Black Noddys were not seen again while on the island. As they are found on Nu'utele it is quite likely that they would use Nu'ulua. Brown Noddys nesting on Nu'ulua can be confirmed with the sighting of eggs and a chick.

Annex 1. Photographs of recovered traps and trap locations



Trap 1



Trap 2



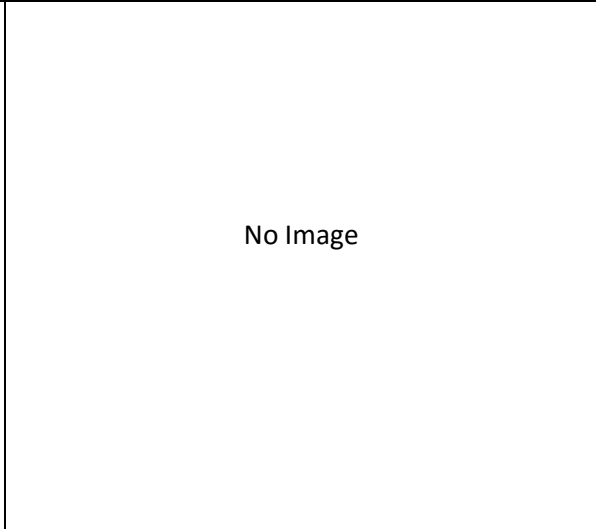
Trap 3



Trap 4



Trap 5



Trap 6



Trap 7



Trap 8



Trap 9



Trap 10



Trap 11



Trap 12



Trap 13



Trap 14



Trap 15



Trap 16



Trap 17



Trap 18



Trap 19



Trap 20



Trap 21



Trap 22



Trap 23



Trap 24



Trap 25



Trap 26



Trap 27



Trap 28



Trap 29



Trap 30



Trap 31



Trap 32



Trap 33



Trap 34



Trap 35



Trap 36



Trap 37



Trap 38



Trap 39

