

BANDING AND RECOVERIES OF RUDDY TURNSTONES IN THE PACIFIC

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In the summer of 1964, the Smithsonian Institution launched an intensive banding program of Ruddy Turnstones on St. George Island, the Pribilofs, Alaska. St. George Island was picked as the logical site for the operation as thousands of Ruddy Turnstones congregated here during migration to fatten up on insects before continuing southward. The turnstones are attracted to the abundant food on the Northern Fur Seal killing grounds. These grounds have been utilized for over a century for the harvesting of the fur seal. The carcasses on St. George are left on the killing field to rot away, thus attracting large numbers of insects.

At the height of the migration, the number of turnstones was estimated to be in excess of 10,000. The high density of turnstones lended itself well to the use of a cannon-net for trapping purposes. We had previously tried using mist nets, but the high wind and presence of Arctic Foxes rendered them unsatisfactory.

The cannon-net was a modified Miller type using 3 projectiles on a 75' x 35' nylon knotless net. The charges were commercially prepared and one per cannon was used in the firing. The cannons were detonated by a simple hand-cranked blasting machine.

It was found that the Ruddy Turnstones when frightened would fly down to the beach or off into the tundra and remain there until we had completed setting the net. After setting the net, one person would walk the area around the killing field and flush the birds back to the killing field. The other

person would be hidden near the net to fire it when the birds were in front of the net. After a few observations it became obvious that the birds tended to land in a certain area before fanning out to feed. We had a great deal more success by setting the net up in this area than where they were actually feeding. The net was first set without any camouflage, but after one or two firings, they soon became wary of the area and avoided sitting in front of the net although they would sit immediately behind it and on each end and in front just out of range. We then started placing grass cuttings over the net, completely hiding it from view. The birds never seemed to be disturbed by this rather straight line of grass in the middle of a black patch of earth.

The largest number of turnstones taken in one firing was 158 birds of which 31 were recaptures. We took as many as 321 in one day by setting up the net and firing twice in one day. This practice of firing twice in one day was usually avoided as the birds would be skittish after the first shot. We alternated between killing fields, so as to give the birds a chance to settle down for one day without being disturbed. The only two exceptions to this were when the schedule of the seal killing crews coincided with ours and we were unable to work in that area. The other exception was during heavy rains. At this time the ground would be so waterlogged that the net would saturate the birds by pressing them into the soil. The net would also become waterlogged and would not extend properly.

It took approximately two and one half hours to remove 158 birds from the net, band them and color-mark them with International orange paint. The turnstones were quite fatigued after this length of time in the net. Being heavy with pre-migratory fat, many were not able to fly and would sneak off

into the grass. We found that heaving them into the air was sometimes enough to get them started.

Our biggest problem seemed to be Arctic Foxes. We would set up the cannon-net and leave it for a couple of hours. When we returned we would have birds in front of the net and would fire the cannons only to find that the foxes had come along and chewed our firing wire into about six long pieces. The foxes were also another reason for halting mist net trapping. The best time to catch the turnstones with mist nets was at daybreak which came at 3 a.m. The foxes were usually a little earlier than we were and would catch the birds in the net and eat them. They were kind enough to leave the leg with the band on the Gray-crowned Rosy Finches so we could adjust our schedules accordingly. Besides being hard on mist nets, it was hard on the birds. We found that the quickest remedy was to shoot the foxes in the immediate vicinity of our operations.

Mortality from the cannon-net itself was extremely low and we lost only four birds out of 2,000 netted with the cannon-net.

In the course of banding the turnstones, we recovered three Japanese bands. These bands were badly worn and were replaced with U. S. Fish and Wildlife Service bands. The bands were returned to the Japanese. The turnstones had been banded near Tokyo in 1962 and 1963. They had received one other recovery from Siberia.

We suspended banding operations on St. George on September 2. Our first recovery was taken on Ailinglaplap Atoll in the Marshall Islands, 3553 miles southwest, on September 18. This was an average of 237 miles per day. The bird was the last bird to be banded on September 2. The turnstone probably

did not leave the island immediately after banding. We clocked a flock of turnstones by the jeep speedometer one day and found that they could go about 35 m.p.h. At this speed they could expect to cover the distance between Ailinglaplap and St. George in 4.2 days. There is no indication that the turnstones rest from the time they leave Alaska until they arrive at their destination. The fact of the matter is, there is no land between the Marshall, Gilbert or Caroline Islands and St. George Island. We did have a sighting of a color-marked bird at Umanak Island in the Aleutians on October 7. The longest recovery was from Truk Atoll in the Carolines. This bird traveled 4,128 miles in 21 days. All together eight of our birds were recovered during the fall of 1964; one of these was taken again on another island a month later. All of the birds recovered in the south had been color-marked. Nearly all birds recovered were taken by natives.

We will leave again in June to return to St. George for another summer of banding. We will have at least 25 days more netting this year than last year and hope to double the number of turnstones banded.

To be presented at Eastern Bird Banding Association - Ocean City, Maryland, April 24, 1965.

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1965

Journal

Washington, D. C.

2 Jan

Arrived back in Washington today about 11 p.m. I'm staying at the Vivian Hotel.

10 Jan

Left Washington this morning at 9:45 a.m. for Honolulu and arrived at 4:45 p.m.

Honolulu, Hawaii

11 Jan

Today Doug and I went to Pearl Harbor to get my gate pass and to see the USS Hitchiti. Doug forgot his gate pass and Smithsonian card so had to go back and pick it up. Finally got back and found the Hitchiti just so close to lunch time went to Pearl City to warehouse. Good God what a mess. Requesting Merrill be sent out on Jan 18 to help Doug sort and clean up the mess.

Went back to Hitchiti after lunch and talked with the XO. Real nice guy and seemed enthusiastic about the trip. Lots of space in the after hold for storing gear. Also an entomologist aboard in the

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Honolulu, Hawaii

11 Jan

form of an Ensign. The lab was brought out today from the warehouse for installation. XO said they didn't have an experienced boat landing crew but were going to train one.

Left the Hitchhiker and dropped by Bishop Museum but Cressitt wasn't there. Went on to Ala Moana Center and bought some field clothing.

Had busted break line on the car so traded with National for another. Binion came in this evening.

12 Jan

Went to Pearl City again today and also stopped by the Hitchhiker but the XO wasn't available.

13 Jan

Bloug took Binion to Hickam this morning and this p.m. we did some shopping at Ala Moana.

13 Jan

Binion and Skryford left for Sand Is. this a.m. Bloug and I went to Pearl City again and to the Hitchhiker but the XO wasn't there.

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Honolulu, Hawaii

14 Jan

This morning Doug and I picked up the outboard motors and took them to the ship. The XO and Captain were both present. The XO's name is Lieutenant J.S. Zogg and the Captain is Shelley or something like that.

Hackman and I will eat in the wardroom and the rest eat in the chief's quarters. Three people will stay in the Chief's Quarters and three in the Crew's Quarters.

We left the outboard motors at the ship. We later stopped and did some shopping for the trip.

15 Jan

Went out to Pearl City and packed some things for the trip. Everything out there is certainly a mess. We need a place closer in with shelving for storing things.

In p.m. went out to Ely's and took some excess gear which should have been stored there in the first place.

Learned yesterday that Bishop Museum

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Honolulu, Hawaii

15 Jan

is sending Al Samuelson on the ATF. Ely will be happy to hear that.

20 Jan

Nothing much has gone on the past few days. All the gear is ready to load aboard ship tomorrow. Ely returned on the 18th. Merrill arrived on the 17th. Everything seems to be running smoothly.

21 Jan

Started loading the ship in earnest today. All equipment that can be put in the van is being put in. Tomorrow we will load the afterhold. We are scheduled to depart at 0800 on Monday morning.

Bob Long has the botany equipment ready to go and we pick it up at 7:30 Saturday morning.

Corn meal can be purchased in 25[#] bags at Hawaii Bakery Supply Co. 730 Pohukaina St.

25 Jan

Got underway this morning at 0930. Huber arrived at 1010 last site. The lights

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Honolulu, Hawaii

25 Jan

in the lab. have been installed and make a tremendous difference. The weather is real good today with gentle swells. Nearly finished cleaning up the lab. Set the watches as soon as we cleared Pearl Harbor. Saw 6 *Larus* sp. sitting at the mouth on a coral reef. They were in juvenal plumage and seemed to be fairly large gulls.

← LARUS

Seemed to be many jaegers flying around the ship. It was difficult to tell whether or not they were the same one we were seeing over and over again or different ones.

Several flocks of *Sterna fuscata* were seen, the largest with about 25-50 in it.

At Sea Between Oahu & Howland

26 Jan

Sunrise this morning was at 0714. 1 Sooty Tern was observed at 0640. Today a total of 8 were seen (sooty Terns) all moving in a wnw direction. 9 Red-footed Boobies were observed, 1 wedge-tailed Shearwater, 1 Masked Shearwater, 1 Tern sp. and 1 Leach's/Harcourt Petrel. A total of 639

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At-Sea Between Oahu + Howland

26 Jan

minutes were put in observing birds.
A total of 12 sightings were made with
1.91 birds per sighting.

The weather continues to remain calm
and we are 40 miles ahead of schedule.

The Officers still seem agreeable and every-
thing appears to be moving along normally.

Doug's attitude toward the Navy continues to
be negative although they haven't done
anything yet. Only time will tell and
I prefer to reserve my opinions until
that time.

The supply officer will handle the re-
quests for food.

27 Jan

Watch was set at 0640 this morning
and secured at 1800. 35 birds were
sighted in 15 sightings averaging 2.33
birds per sighting.

Permission was granted today to visit
Palmyra. Took radios ^{batteries} up to radio man.

Weather was again excellent today
with easterly winds.

We are still running 4 hrs. ahead of
schedule.

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SW Johnston Island, Pacific Ocean

28 Jan

Skys were mostly cloudy today with squalls. The total bird sightings went up to 17 today for a total of 21 birds seen at 1.23 birds per ~~sight~~ sighting. A total of 682 minutes were spent observing.

Assignments were handed out today. XO and Captain want a meeting to discuss plans for island landings.

Several *Pterodroma* were seen today which appeared to be Juan Fernandez and one Kermadec Petrel? Woodward saw either a Tahitian or Phoenix Island Petrel.

SOOT NE Howland Is. Pacific Ocean

29 Jan

Watch started this morning with clouds obscuring the sun. A total of 694 minutes of observations were made with 18 sightings and 21 birds or 1.17 birds per sighting. Among the birds observed today were 2 Kermadec Petrels, 1 Juan Fernandez Petrel, 1 Bulwer's Petrel and a Black-browed albatross identified by Paul Woodward. Yellow bill observed

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500± mi. SW Howland Is. Pacific

29 Jan

clearly. Abundance of birds seems to be going up. 3 birds were observed before 1200 and 18 birds after 1200

30 Jan

The day was plagued with rain squalls all day long. Nevertheless this was our best day yet in number of bird sightings. A total of 41 sightings were made with a total of 159 observed or 3.87 birds per sighting. Christmas Island Shearwaters, Phoenix Is. Petrel were observed for the first time.

All seems to be in order for the Monday morning arrival. Blood samples are complete except for holding racks which are at Eliza. A message from Eliza yesterday said to proceed with the tagging mission on frigates.

Met with the captain today. We discussed the boat landings etc. and also signals in case of an emergency.

140 mi NE Howland Is. Pacific

31 Jan

The last day of January and we approach Howland in the morning.

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110 mi. NE Howland Is. Pacific

31 Jan

Everything appears in readiness. The life boats were inflated today and the splash rail on one promptly wore a hole thru and went down. All gear seems to be packed and ready to go.

Bird sightings increased to 43 today with a total of 525 birds seen or 12.2 birds per sighting. Nothing of any interest was seen.

The weather was mainly clear today with a very light shower about 7:30 p.m. The few clouds in the sky enabled us to see the "green flash."

I continue to break out in a severe rash when I expose myself to the sun. My right arm is becoming worse now. It really isn't a rash but blisters.

The air temperature is increasing at a steady rate as we go south. It was about 85° as was the sea temperature.

Larry Huber apparently blew his nose yesterday on the bridge without benefit of a handkerchief and splashed some on the watch. He complained and the complaint eventually got back to me and I reprimanded him.

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Howland Is. Pacific Ocean

1 Feb

Arrived Howland about 9:30 a.m. Went to shore almost immediately. The surf was running low so not much trouble.

We ran an island survey of breeding birds as soon as camp was set up. Doug says breeding Blue-faced Booby populations are way down. The survey turned up 800-1000 which is probably exaggerated. The east side of the island had 3-4 small clubs which Woodward banded in the evening. I believe he banded 152 in one evening & got 179 returns. There were 73 nests and 64 nests with chicks. A grand total of 152 were banded Sula sula. Only a few present on the interior of the island nesting in Cordia which is dead and fallen down. Fourteen pairs were present in daytime and 40-50 roosting at night.

Sula leucogaster - Population is apparently increasing as we found 33 nests, mostly on the west side of the island. Doug estimated 60 roosting.

Phaethon rubricauda - Only 5-10 seen. 2 nests with small young found.

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Howland Is. Pacific Ocean

1 Feb

Fregata minor - 80 nests in Cordia trees on interior of the island. 63 of the 80 had fresh eggs. Male displaying

Fregata ariel - Possibly 5000 on island. 1500 young still haven't left nesting area on south end of island. Social roosting at night in Cordia trees on interior of the island.

Sterna fuscata - A new nesting colony has started on westside of island. We banded a few here but hit the old colony on the east side with about 2700 bands. The colony on the east has both eggs and young. The west colony are all fresh eggs. Doug estimates 3000 nearly fledged and 25000 on heavily incubated eggs.

Sterna lunata - 50-60 nests on westside of island in coral sand & Lepturus. 1st nesting in this area.

Anous stolidus - 1-3/4 grown nestling banded by Woodward. 1st nesting for island.

Numenius tahitiensis - 10 on fringe of island.

Heteroscelus incanum - 16 seen on reef and 6 banded.

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Howland Is., Pacific Ocean

1 Feb

Arenaria interpres - 79 counted. Still in winter plumage.

Pluvialis dominica - 76 counted. 2 banded.

Blood samples were taken in p.m. by Hackman, Merrill and myself. Vacutainers worked real well for Blue-faced Boobies & Great Frigates. Sooty Terns were more difficult and we continued to use hypodermics. 100 samples were taken. 80 Sooty Terns, 10 Blue-faced Boobies & 10 Great Frigates.

2 Feb

A total of 2700 birds were banded last night. Today Doug and Ralph put blue streamers on Great Frigate birds. Couldn't see color. Larry & I looked for coelenterates on the reef. In p.m. looked at wing molt from sooty terns. No time or reason to molt and no patterns. Birds were scooped out of the air with a net and checked, banded & released. This evening we concentrated on Sterna fuscata and succeeded in banding 9000+. Total island banding was ~~12000~~¹¹²⁵⁵. Larry banded 3507 terns himself. A new record for the project. The reef was practically barren of the coelenterates.

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Houland Is. Pacific Ocean

2 Feb

we were looking for.

3 Feb

Rescued at 0800. Surf rough but the boat men are learning. Scheduled to land on Baker at 1130.

Landed on Baker and what a landing. Surf was terribly rough. Boat lost its motor coming back for second load and had to paddle back to ship. On second load couldn't get back out on westside so left on south end where it was fairly calm. They took many spills before they thought of the lee side.

This evening about 5:30 p.m. we made our island survey.

Sula dactylatra - 6 nests were found with eggs. My 2 had 2 eggs each. One club on south side of island 167 birds and another 30.

Several pair are spaced around the periphery of the island. Paul banded 60 + got 57 returns.

Anous stolidus - 250-500 nesting on small island in quano pit on eastside of island. Most all seemed to be sitting on eggs.

Sula leucogaster - Saw 10+ sitting on electric poles on eastside of island. Also few flying by island.

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Baker Is. Pacific Ocean

3 Feb

Fregata sp. Probably minor flying over island.
Saw about 20±.

Sterna fuscata - Saw several small flocks
fly overhead in evening & heard several bunches
in evening.

Sterna lunata - Saw several individuals
flying around island.

4 Feb

Called ship at 0700 and told them no
boat run. A tremendous surf today on west-
side of island. At 0800 I made the shore-
bird count and saw the following:

Pluvialis dominica - Saw 7 on island around
the beaches and back on grassy areas near beach.
Still in winter plumage.

Arenaria interpres - Saw an estimated 113
in flocks around the island. They are
all still in winter plumage.

Heteroscelus incanum - Saw 10 along
the beaches.

Numenius tahitiensis - Never heard & saw
two yesterday.

Sterna lunata - Saw what appeared to be 12
resting birds on the south side of the island.
This is first group away from island since cab killed.

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Baker Is. Pacific Ocean

4 Feb

Vegetation here looks worse than on Howland. So much dry weather. Mostly Digitaria, very little Tubulus and a plant that is not on Howland, Sida fallax which has a tiny Hibiscus type flower. Sponema a most prostrate plant grows on the beach. Lots of Boerhavia and Portulaca also. The island is generally rocky and very little soil for plants to grow.

This evening we took blood samples from Blue-faced Boobies. We took 30. The club panicked so we didn't get to work them much.

5 Feb

Broke camp at 0600 this morning. First boat made it to ~~shore~~^{ship} with out much trouble but second load got creamed. In melee the Polaroid camera was lost in the surf although all other equipment was saved. Saw a Phoenix Is. Petrel off shore.

During all the trouble a Phoenix Is. Petrel flew past the ship. This is the first record for this island.

Initiation of pollywoys occurred today and I got thoroughly initiated.

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McKean Is, Pacific Ocean

6 Feb

Arrived today at 0915. Put up camp on westside of island. Surf was very good and no trouble was had landing. A nest survey was run in the a.m. and in p.m. I banded Oygis alba. The island is 900 yards by 1000 yards and has a central lagoon which had 12" of water in it. The wind was 18 knots straight out of the east which made it impossible to put up a tent fly. In evening I took 100 blood samples, including 20 Sterna fuscata, 20 Anous stolidus, 10 Puffinus iheringii, 30 Sula dactylatra & 20 Fregata minor. Finished up about 1230 so banded a few Audubon's Shearwaters. When we came back to our tent we found it full of ticks. They were marching thru the door like an army. We were being eaten alive at night. Late in the evening we got about $\frac{1}{8}$ " of rain. In p.m. Larry and I dove around the reef looking for coelenterates. Found the same types as we got in Howland Is. Many large and beautiful reef fish here. Nesting survey

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McKean I., Pacific Ocean

Sept

follows. Hackman made wing molt studies on 50 Sterna fuscata. Hackman also made some ectoparasite collections from Sterna lunata, Fregata minor, Anous tenuirostris and Puffinus iheringeri. We put white wing tags on 21 Greater Frigates. This color (or absence thereof) shows up very well in flight (Hackman).

Nesting Survey:

Phaethon rubricauda

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McKean Is. Pacific Ocean

7 Feb

After a night of being eaten alive by ticks, I got up and went out and banded Ocyris alba until 1200. Merrill came back at 1400 and brought my Edixa and film. Took 36 pictures of birds. at \$5.6/500
Took 5 specimens of Sterna lunata and 3 specimens of Neofregatta albigularis in various phases of melanism. Yesterday we got 3 Anous stolidus. while sampling blood. Woodward and Huber censused the shorebird population this morning. This report follows at end of this one. Several Berlese samples were taken of various nests. The tent has been full of ticks all day so slept on beach this evening. As many or more ticks here as in tent. ~~This~~

This evening I banded Audubon's Shearwaters, White-throated Storm Petrel, Bulwer's Petrel, Fairy Tern, Hawaiian Noddy and Blue-gray Noddy. All told we banded about 8500 birds.

The radio wouldn't work again this p.m. Don't know what is wrong with it. Worked at 2 p.m.

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McKean Is, Pacific Ocean

7 Feb

Shorebird survey

Numerius tahitiensis - 42 on inner lagoon and around seashore. Eating Sterna fuscata eggs. 2 Banded

Heteroscelus incanum - On 9 seen and 6 of these banded.

Arenaria interpres - 286 estimated and 1 banded.

Pluvialis dominica - 48 counted and 1 banded.

Hull Island, Pacific Ocean

9 Feb

Ship picked us up at 0800 yesterday and we got underway about 1430. Arrived at Hull this morning at 0630. At 0800 we loaded our boats and attempted to make a landing. The surf was so rough that we finally returned to the ship and unloaded the gear. However, they managed to break the handle on the second motor, so we have two alike now. They still operate. We will steam around here until we see if the weather is going to calm down. If it doesn't we will go on to Burnie this evening.

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Hull Island, Pacific Ocean

9 Feb

About 1115 we arrived off of the village site and the surf was calm. Captain asked if we wanted to go ashore. I said yes so took gear in to poison fish etc & to collect coelenterates. Upon arrival on shore we went to get out the fish poison and it wasn't with us. So we went across to the lagoon & searched for soft bodied animals and found a fairly sterile lagoon. We came back to the life raft & find it had blown a hole in itself. Ship was notified and sent in another raft. We tied the end up on it and they pulled the half deflated raft out to the ship. The afternoon turned into such a fiasco that we all came back aboard about 3 p.m. At 1800 we got underway for Birnie &

Birnie Is, Pacific Is

10 Feb

Arrived off Birnie about 10 a.m. The surf was real quiet and an easy landing was had by all. The island is very thin being about 1000 yards long and 300 wide.

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Birnie Is, Pacific Is.

10 Feb

We searched the reef off Birnie for coelenterates and found the same one we had found on Howland and McKean present. A small shark was seen as were several rays.

There appears to be a small colony of Sterna fuscata and Sterna lunata present. The S. fuscata proves on a second look to be only hovering around the island and not nesting.

The nesting survey was run at 3 p.m. with following results:

Phaethon rubricauda - 6 nests = 1 egg each, later saw two more under rocks = 1 egg each. 1 nest had a small chick.

Sula dactylatra - 5 nests = 2 eggs each. 3 nests = 1 egg each and 1 nest = a small young. Also 14 nestlings were found.

Sula leucogaster. 1 nest = 2 eggs

The moon was too bright in p.m. to band birds so slept in early evening.

During dusk, several Puffinus pacificus were observed flying by the island, as were one or two observed flying over the island in afternoon.

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Birnie Is, Pacific Ocean

11 Feb

Awoke at 2:30 am to find moon just setting in west. Finally got crew around and set off to band birds. Doug and Ralph handled the blood sampling. I banded Terns. Although there were a lot of terns on the island they were very spooky and hard to catch. I estimate the populations as:

Anous stolidus - 2000 ±

" minutus - 500 ±

Sterna lunata - 1000 ±

Puffinus ihermeneri - 1 (banded)

Sula dactylatra - 500 ±

Sula leucogastra - 50-100 ±

Gygis alba - 100 ±

Procelsterna cerulea - 50 ±

Merrill returned from spinning blood at 1400. Temperature is very high today and everyone is suffering.

The rat population, Rattus exulans, seems to be fairly low. This may account for the large number of Gray-backed Terns present.

The vegetation which is mostly Portulaca, Boerhavia & Sesuvium, is closely cropped.

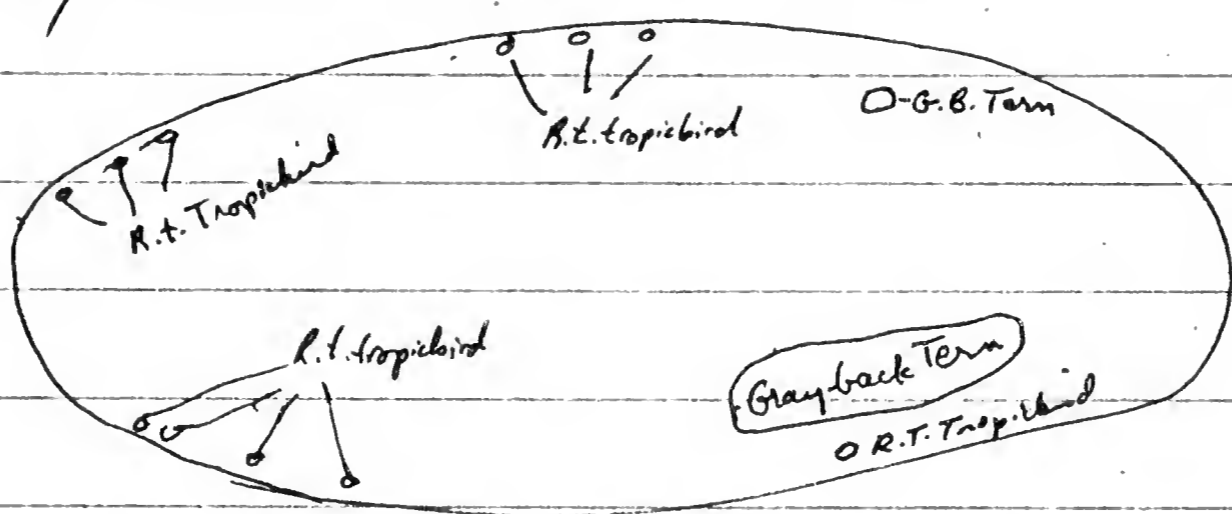
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Burnie I, Pacific Ocean

11 Feb

The population of *Phaethon rubricauda* is fairly small. A group of 8 were seen courting over the island. Whole population probably is not over 50.



12 Feb

Banded Common Noddies again last nite. The following is the banding record for the island

Wedge-tail Shearwater - 5 (1st banded?)

Audubon Shearwater - 2 (1st banded, 1 spairmen) 1 Return

Red-tailed Tropicbird - 13 banded and 3 returns

Blue-faced Booby - 23 Adults, 7 imm., 15 nestlings, 5 unknowns,
299 Returns, 5 recoveries.

Brown Booby - 16 Adults, 6 immatures, 18 Returns

Gray-backed Tern - 86 banded

Fairy Tern - 31 adults, 2 ~~immatures~~ nestlings, 7 returns.

Blue-gray Noddy - 1 banded

Hawaiian Noddy - 20 banded, 1 return

Common Noddy - 402 banded, 6 returns

Wandering Tattler - 3 banded

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Birnie Is, Pacific Ocean

12 Feb

Ruddy Turnstone - 8 banded

Golden Plover - 1

Total 647 banded, 335 return, 5 recoveries, 2 specimens

Left Birnie Island at 0700 for Enderbury.

Enderbury Is, Pacific Ocean

12 Feb

Arrived at the island at 1200. We are staying in an old abandoned hut which was used by guano diggers in the late 1800's.

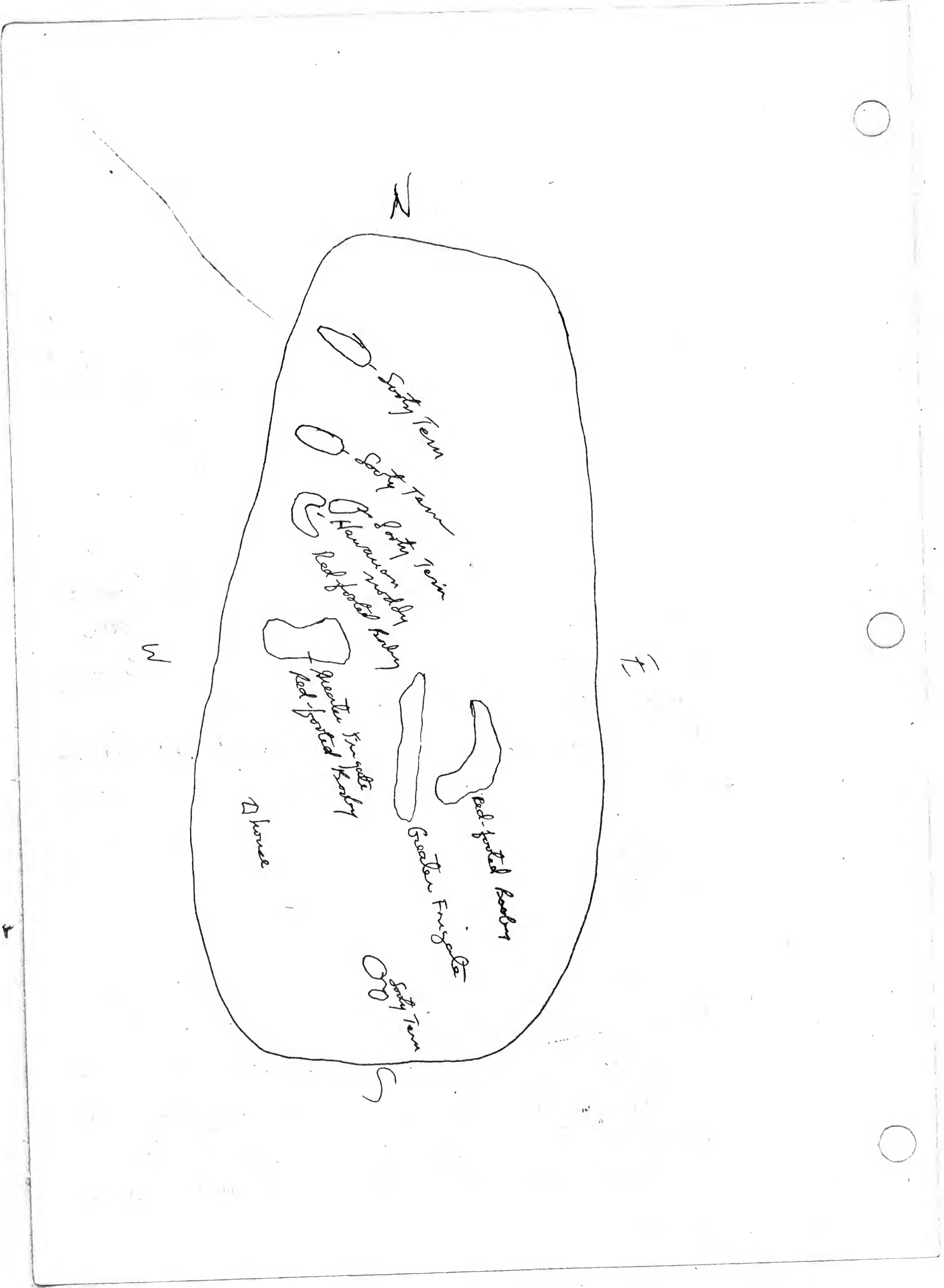
The island is roughly 1x3 miles. The surf was mild and no trouble landing.

We surveyed the island (southend) for nests and these will be included with the northend.

In late afternoon we collected blood samples from Sooty Terns (50). The moon came up at 4:30 p.m. Also banded Red-footed Boobies.

13 Feb

Arose at 0430 this morning to bleed birds. Got 25 Blue-faced Boobies and 25 Greater Frigate birds. Huber walked around the island taking the shorebird count and Woodward walked around the lagoon. Merrill took the blood to the ship to spin down and will be back in the afternoon.



N

E

S

W

Sooty Tern

Sooty Tern

Hawaiian Noddy

Red-footed Booby

Red-footed Booby

Greater Frigatebird

Sooty Tern

Horse

W

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Enderbury Is., Pacific Ocean

13 Feb

Went to take survey of nests on north side of house about 11 a.m. The Greater Frigates are nesting in mass in the Messerschmidia. Over 1000 nests were counted. A few Red-footed Boobies are nesting there also. We banded Sula sula and went on up further north to the stand of Cordia where Hawaiian Noddies were nesting along with Sula sula. Yesterday while banding Sula sula, I banded an adult with a newly hatched young. The adult returned to the nest and promptly killed it. Doug says he has never seen this before.

A fairly large group of Sooty Terns are nesting on the north end in about 3 distinct colonies. An estimated 100,000 in all 3. The southern most is just hatching young and has a few in pin feathers. The others have older young. There is also the tiny colony on the south end of the island with 5000 birds maybe. They are just hatching. Hermit crabs were observed to eat the young.

We came back to camp and the

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Enderbury Is. Pacific Ocean

13 Feb

beach party had come ashore. About 5 p.m. the crew returned to the north end to band birds and I banded on the south end until 6 p.m. and I went to the north end. We banded until 11 p.m. All birds had to be caught with nets due to the moon.

We watched about 1000 Hawaiian Noddies come in to roost. Banded 1 before they fled. Huber banded 1 Audubon Shearwater and collected one.

We took 25 samples of blood from Sula sula this evening and managed to kill 4 birds doing it. Woodward & Kirkpatrick helped this time for experience.

14 Feb

Left island at 0800 for ship to spin down blood. Hackman is suppose to band Greater Frigates and wing tag them. Huber is skinning. Picked up my camera and washed out some shorts and my t-shirt. The blood spun down well and I got 25 vials of sera. The lab had alot of soot in it where the stack gas had come thru the vent.

Max C. Thompson
1965

Journal

Enderbury I. Pacific Ocean

14 Feb

also
white-finned
& hawk

Arrived back at camp at 1315. Navy brought 20 men ashore for a beer party. About 1/2 got bombed. Some of them caught quite a few Red Snapper off the reef. In p.m. Doug and I went and banded Sooty Terns and checked wing molt on 50. Coming back we found a Brown Booby nest with 2 young, a small & large. The small was out of the nest so I put it back. No sooner had I put it back than the large of the two began to methodically push it from the nest. This was repeated several times until I put the large one out of the nest and the little one in. The large stayed put.

In evening Hack and I walked over to the Sooty Tern colony and did a molt check on 50 terns. We banded 50 more also. In evening we broke up into 2 teams to band Sala Sula. We returned about midnight. Our group banded 23 Sooty Terns & the other 500 chicks. The moon is still up all night and prevents our doing any more banding at night.

Max C. Thompson
1965

Journal

Enderbury Is. Pacific Ocean
15 Feb

Got up at 0730 a.m. and left at 0830 to band and put streamers on Greater frigates. About 180 were marked with blue band on right wing and white on left. We returned to camp about 1130 and went skin diving. Beautiful reef but quite sterile. Only a few coelenterates were found. We also saw a shark but very few large fish.

The last beach party arrived about 1 p.m. Rather subdued brunch after yesterday's fiasco. They left about 4 p.m.

At 5:45 p.m. we went down and netted 300 Sooty Terns in the south colony and banded them. Later in evening we tried to catch Blue-faced Boobies but had very little success considering the full moon. The clubs flew while we were 200' away.

The Brown Booby chicks we watched yesterday are both still alive and the adult was brooding them ~~yesterday~~ in the evening. The larger one made no attempt this evening to push the other from the nest.

Ralph brought back some hot fried chicken from the ship and other provisions. The days are hot and evening cold.

Max C. Thompson
1965

Journal

Enderbury I., Pacific Ocean

16 Feb

Rather dull day. Figured we had molested the frigates enough. Went over to east side of island in a.m. and took pictures of *Messerschmidia* and frigates. About 1130 or 1230 we went out and looked for more of the coelenterates. We found quite a few but you have to look hard to find them. We also saw quite a few fish.

Late in p.m. we went down and banded 200 Sooty Terns. Huber took 1000 bands & went to the north colonies to band chicks. After the sun went down we rounded up 115 returns on Blue-faced Boobies and banded 15 new ones. I almost caught a Curlew but missed when I jumped for it.

Tomorrow at 0700 we depart for Canton Is.

Killed 2 Sooty Terns while banding. Doug prepared one and I did the other. This evening we went out during our brief period of darkness and worked on Blue-faced Boobies.

Max C. Thompson
1965

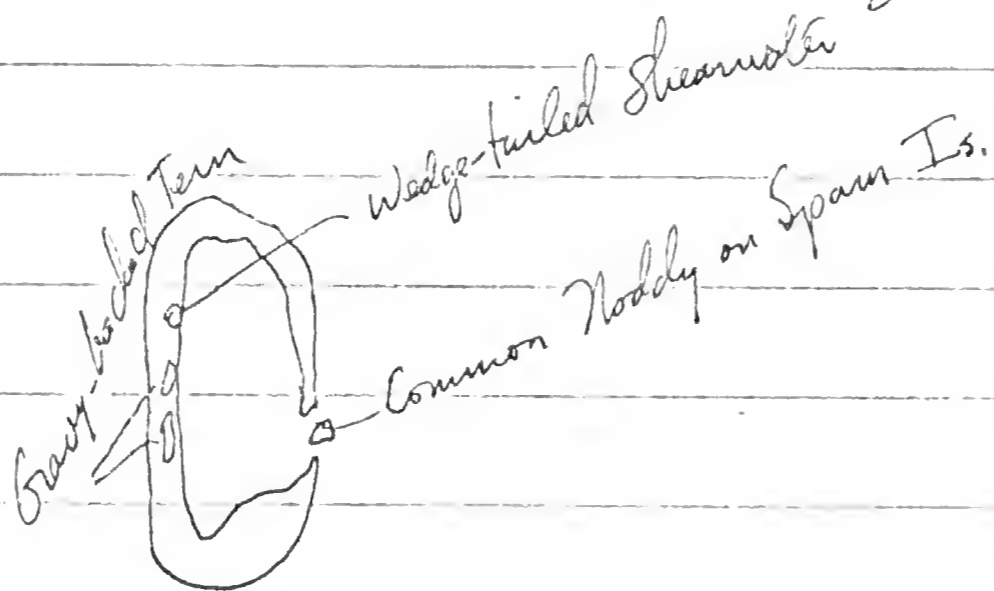
Journal

Canton G, Pacific Ocean

17 Feb

Left Enderbury Is at 0700 this morning and arrived off Canton at 1030. We put a boat ashore at 1200. Upon arrival the island manager Mr. George Avery, Comm. USN RET. met us at the dock. He took us to a Mr. Clyde V. Preese who rented a jeep to us for \$5⁰⁰.

We drove along the airport road and counted birds. The following map shows the location of the colonies.



The Gray-backs were incubating and also some had chicks $\frac{3}{4}$ grown. I also saw one or two young just hatched. The 2 colonies probably contained nearly 10000 \pm birds.

A colony of Wedge-tailed Shearwaters were also found on the ^{eastern} western shore of the island. We dug out 14 and banded them. This included 1 medium sized nesting.

Max C. Thompson
1965

Journal

Canton Is. Pacific Ocean

17 Feb

The colony consisted of perhaps 100 nests cavities. Both light phase & dark phase were found but predominantly dark. The colony is about 4.5 miles beyond the Pacific Missile Range tracking station.

Included in our island total today were also Sooty Terns nesting among the Gray-backs. The number probably didn't exceed 25 nests although 12 eggs & 3 nestlings were found.

About 2000± Common Noddies were nesting on Span Island. A few were seen flying around the island.

The following is the rest of the list.

- Golden Plover - 30
- Wandering Tattler - 15
- Red-tailed Tropicbird 3
- Ruddy Turnstone - 16
- Hawaiian Noddy - 2
- Brown Booby - 15+
- Fairy Tern - 4
- Blue-faced Booby - 10+ Adults & Imm.
- Lesser Frigate - 2

Left the island at 1815.

Max C. Thompson
1965

Journal

Enroute to Samoa

18 Feb

Left Canton Is at 0400 this morning. At-sea watches were resumed at 0600 this morning. A gun watch was set up on the bow in the p.m. A lot of birds were seen today. They included 982 birds in 104 sightings. This was 9.4 birds per sighting. A total of 11 shearwater/petrel were seen, no Red-tailed Tropicbirds were sighted. 85 of the sightings were terns in which we saw 10.9 terns per sighting. No shorebirds were seen. 22 boobies were seen in 15 sightings or 1.46 per sighting. Frigate-bird sightings included 11 with 22 birds. A total of 39 flocks were observed with 862 birds. 7 of the flocks were feeding with a total of 222 birds.

Some of the Blue-faced Boobies observed had black paint markings on the breast. The ship passed within sight of Birnie Is. about 0830 a.m.

19 Feb

Watch commenced at 0633 this morning. A gun watch was stood all day long. Only one bird was collected, a Sooty Tern.

Max C. Thompson
1965

Journal

Enroute to Samoa

19 Feb

by me.

This evening we pass within 20 miles of the Tokelau Is. as of 1805 there is no sign of pickup in bird numbers. We have seen rather large groups of Fairy Terns and at least 2 unidentified petrels one of which may have been Macronectes giganteus. The other was a small petrel which could have been Pterodroma ultima or possibly P. solandri. It didn't come close enough to shoot.

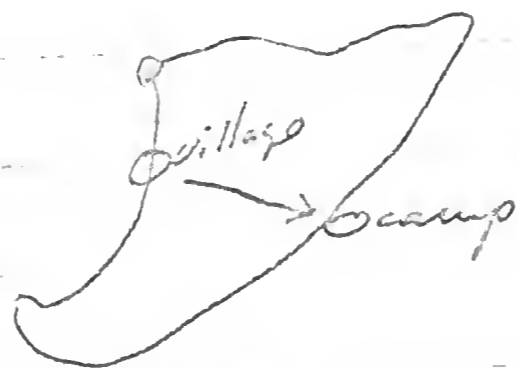
Mex C. Thompson
1965

Journal

Fakaofu, Tokelau Is Pacific

26 Feb

Arrived here today at 1030. The chief
Dexter and Sargent of police came out to meet
the boat. After lunch we took 4
village people and camped on a small
islet on the SE side.



As soon as possible after arriving.
(3 p.m.) Larry and I went out to collect
birds, Doug insects, Paul plants and the
rest??

The following is a list of birds ob-
served by me:

Egretta sacra - Collected one along the
lagoon and saw a white phase one which
I missed. Larry also collected 1 dark
phase. Several others were observed by
various people. The bird I collected had
4 collapsed follicles and an old brood patch.

Fregata minor - Common in the immediate
vicinity of our camp. Roosting in Pisonia
An estimated 400 in area.

Sula leucogaster - Saw 3-5 in immediate

Should be bird
MCT 4/29/65



FAKAOFO ISLAND

Max C. Thompson
1965

Journal

Fakaofu Is., Tokelau Is. Pacific

26 Feb

vicinity of camp. They were also roosting
in Pisonia.

Cygis alba - Very common. One seen sitting
on egg in Pandanus. Others seen carrying
fish.

Sterna sumatrana - An uncommon species.
I only saw 1 but Huber killed 3 and saw
others.

Anous stolidus - Saw about 100 off the
village but none around camp.

Anous minutus - A pair was observed
catching fish and carrying them inland.
This was observed several times. Larry
collected one.

Pluvialis dominica - Several individuals
observed around the island. 2 collected.

Larry saw one molting.

Arenaria interpres - Very common in flocks
of 5-10. I shot 7 with one shot. These
birds were in various stages of molt but all
were molting.

Heteroscelus incanum - Several individuals observed
on coral reefs around the island. 1 collected.

Sterna fuscata - 1 flying overhead. Said to nest by
natives but little habitat.

Max C. Thompson
1965

Journal

Fakaofu Atoll, Tokelau Is., Pacific

27 Feb

Spent almost all day collecting fish on the windward side of the island, in the channel and in the lagoon. The collecting was generally very poor but got 2-1/2 drums with fish. The ~~reefs~~ lagoon reefs are very poor on the windward side. We saw almost no large fish at all.

In the late late afternoon we went to the frigatebird colony and collected 5 adult males Fregata ariel. No other birds were seen (minor). Also collected 1 Sula leucogaster immature. These birds were all nesting in the Pisonia at night along with Anous minutus (1 coll.) and Gygis alba. The Pisonia was about 60' tall. The Anous minutus numbered about 2-500 birds.

We skinned birds until 11:30 p.m. Also taken today were 1 Ducula pacifica and 1 Numenius tahitiensis. Larry said he saw a Croethia alba and what he thought to be a Numenius phaeopus. At 12:15 a.m. they finished cooking the crabs and Frigates & invited us to eat although they intended to take it home. I'm sure.

Max C. Thompson
1965

Fakaofu Atoll, Tokelau Is., Pacific

28 Feb

Broke camp and got underway about 0630. By-passed the village and went straight to the ship. Departed Fakaofu at 8:45 a.m.

Nukunono Atoll, Tokelau Is., Pacific.

28 Feb

Sighted the island about 1015. Looks like coconuts from one end to the other. It is !!!

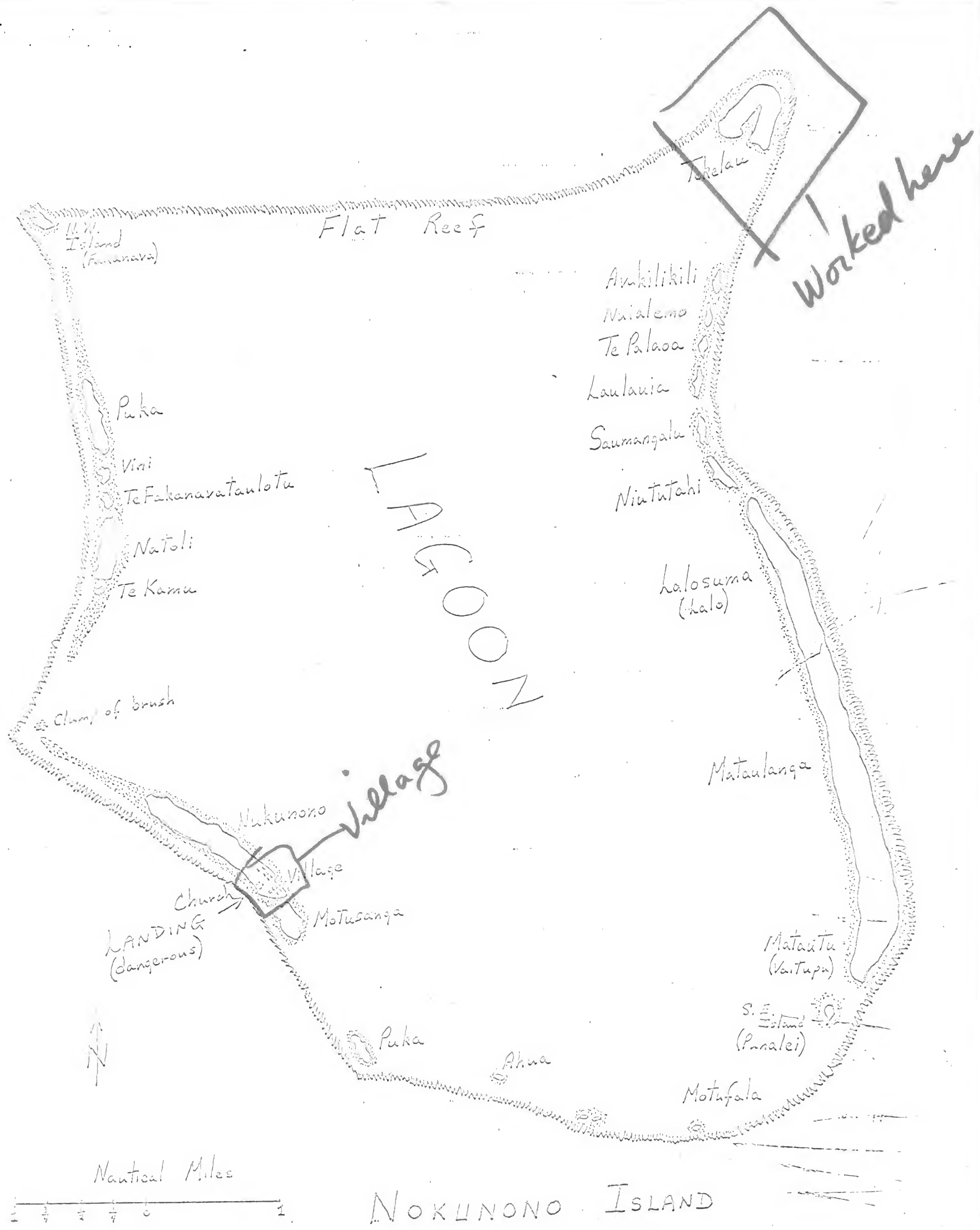
We had visitors to the ship and talked over situations. Father Polifenu a New Zealand priest helped with logistics.

We used his boat on our motor and another boat with our motor. Took us 1 1/4 hrs. to go 8 miles. We are situated on the furthest island north called Tokelau Island. This island still has some remnant forest on it such as Pisonia.

The village is fairly tiny and has 525 people. The island it is on is fairly large with ample room for expansion.

As with the other islands the flies are very bad as are our mosquitoes.

We arrived at camp about 4:30 p.m.



Max C. Thompson
1965

Journal

Tokelau Is., Nukunono Atoll, Tokelau Is Pacific

28 Feb

I completely forgot about the radio check.
A quick island survey shows the following birds:

Egretta sacra - Fairly common along the ocean shore. Both white and dark phase present.

Fregata ariel - A few were seen off the north end of island but roosting colony not seen.

Anous stolidus - Common around the island and coming in to roost at night. The birds we collected showed evidence of coming into breeding condition.

Anous minutus - Abundant & the most common tern around. A nesting colony is located on the north end of the island on Pisonia trees about 60' high. An estimated 150 nests were in the trees. I couldn't tell whether they had young or eggs.

Gygis alba - Also common & seen carrying fish into the forest.

Sterna fuscata - 50+ observed around the island. The one collected seemed to be coming into breeding condition.

Max C. Thompson
1965

Journal

Tokelau Is., Nukunono Atoll, Tokelau Is. Pacific

28 Feb

Sterna sumatrana - One seen at the village on rocks.

Heterosculus incanum - 1 observed at village and 1 at island.

Arenaria interpres - 2 seen along the lagoon. Larry saw 9 in same area.

Numenius tahitiensis - 1 flying along island in p.m.

Pluvialis dominica - At least 10 observed along the beaches.

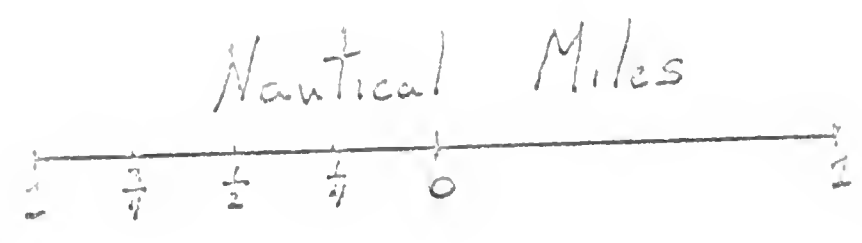
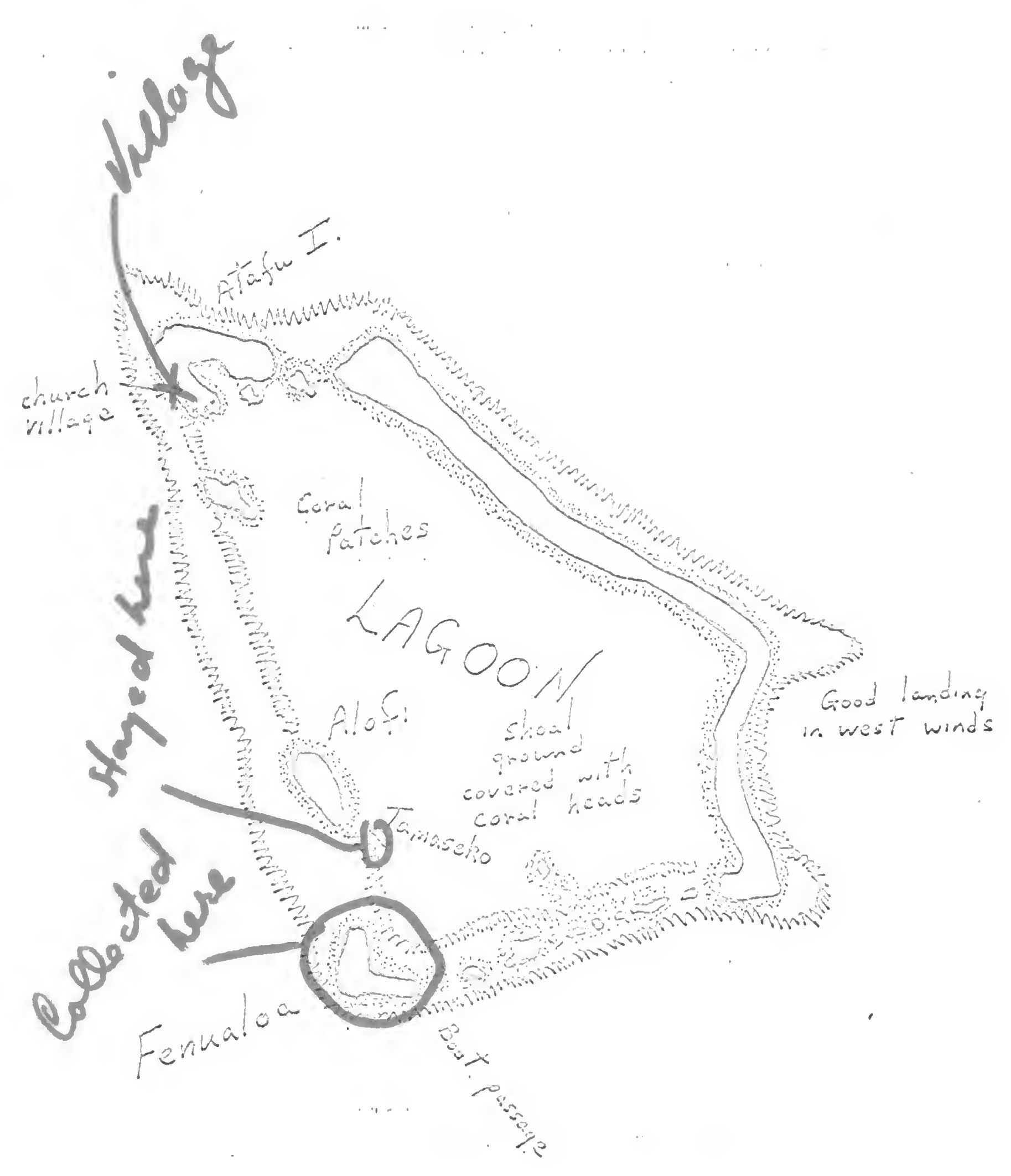
Dumetia pacifica - I saw 2 on westside of island about 6:45 p.m. Everyone saw them today so must be common.

1 Mar

Continued collecting activities today. Mr. Goldfinch arrived in morning and is spending the night.

2 Mar

Returned to village in afternoon. About 4 p.m. transferred our gear to ship. This evening Father Goldfinch invited us to dinner & a dance. Returned to the ship & got underway at 10:30 p.m. in Atafu. New maps of Tokelau Is. maybe available thru Lands & Survey Dept. Wellington.



ATAFU ISLAND

Max C. Thompson
1965

Journal

Atafu Atoll, Tokelau Is., Pacific

30 Mar

We arrived here at 0930. Boat with officials came out to meet us. Dr. Semo was the spokesman. Soon as all decisions were reached we took the rafts & went to Fenufoa Is. About a million natives horned in also.

I collected fish while Hubert Merrill collected birds, Doug insects, Ralph rats & Paul plants.

I didn't have much of a chance to look at birds. The lagoon was very sterile for fish and we got very few. On the outer reef of Fenufoa we got alot of new fish we hadn't seen on the other islands. It was a flat reef with live coral pools. These pools had alot of coral cables in them.

We transferred our camp to a smaller island in evening as it had been raining all day long and there was no sale on Fenufoa. Boys got about 30 birds today including a New Zealand Cuckoo.

Dr. Semo came to the island late in the evening & stayed all night.

Max C. Thompson
1965

Journal

Atafu Atoll, Tokelau Is., Pacific

4 Mar

People went out collecting this morning. A very hectic morning in which we ended up mums a snorkel, my contact lens, batteries etc. People were robbing us blind. We returned to ship about 1230.

The bird summary is in Doug's journal.

We got underway for Jarvis at 200 p.m.

5-6 Mar

Enroute to Jarvis.

Jarvis Is., Pacific Ocean

7 Mar

After looking for about an hour we finally found the island about 4:30 p.m. We got the boat in the water about 5 p.m. Porpoises were playing around the boat & raft. The next worry was the landing. 8-10' waves were crashing into the channel.

Once we got past the channel we faced an abrupt rock wall 3½' high which was pounded by waves. We didn't get the boat ashore.

The next boat made it okay also. We brought the old boat ashore & deflated it & took the motor ashore.

Max C. Thompson
1965

Journal

Jarvis Is. Pacific Ocean

7 March

After moving everything to the house and straightening up we set out to band birds. The Sooty Terns were non-existent as far as banding goes. The ones that were present last trip were gone. It appears that large numbers of terns have laid eggs in past but have abandoned them.

Several large Blue-faced Booby clubs were present when we arrived. They were extremely skittish and very few were banded. We did manage to band 210 out of 2500±.

Red-footed Boobies were present in 2 clubs of about 800 total. Total island population is about 1000±. We banded 346.

Greater Frigatebirds and Lesser Frigatebirds are present in low numbers. The Lesser Frigatebirds number about 3-500 near the house & the Greater Frigates about 200 near the guano pits. No attempt was made to band either species.

Cats still abound on the island. We killed 4 this evening and saw more. Cats have really upset the ecology of the islands. I also saw 1 Mus musculus on the island ~~at~~

WETA C. Thompson
1965

Journal

Jarvis Is, Pacific Ocean

8 March

Worked until 3:30 this morning. Got up at 7 and finished the banding records. Went back to sleep about 0830 and slept until 11 a.m. We did our nesting survey today. Left the house about 12 p.m. and returned about 4 p.m. It is quite a long walk around the island. Nesting survey adds up as follows:

Blue-faced Booby - 11 nests with eggs & 2 with young.

Brown Booby - 69 nests with eggs and 34 nests with young.

Red-footed Booby - 45 nests with eggs and 21 with young.

Greater Frigate - 87 nests with eggs.

All populations are down except Brown Boobies.

The vegetation on the island is exceedingly sparse and badly burned. Lepturus is badly burned up as is Triplaris. The central depression is damp and the Suaeda is green. This evening we are taking blood samples and hope for a good surf tomorrow.

Mox C. Thompson
1965

Journal

Jarvis Is. Pacific Ocean

8 Mar

This evening we bled birds. About 25 Greater Frigatebirds, 25 Lesser Frigatebirds, Red-footed Booby 25, Blue-faced Booby were done. We finished about 1:30 a.m.

9 Mar

Paul took the shorebird count today. Only saw 8 Wandering Tattler and 25 Golden Plover. The latter had a few in breeding plumage.

Showers were all around the island today but failed to hit the island. Ralph hunted cats this afternoon and got one. I saw 2 this evening around the island.

The moon set about 11:30 p.m. so we didn't go out until 12 a.m. A couple of large slugs were present but they didn't hold very well so banding was poor. We started dragging back in about 4 a.m.

Filled out banding schedules today.

10 Mar

Talked to ship this morning about 0900. Surf is worse than anyplace on trip. 15' waves are piling in. If it

Max C. Thompson
1965

Journal

Jarvis Is., Pacific Ocean

10 Mar

is like this tomorrow, we won't be going anywhere. Sent Larry to the ship yesterday with swollen inguinal lymph glands. He will stay aboard ship until we leave tomorrow. Ackman also has swollen glands. These stem from tick bites gotten on McKean Is. and are now infected.

It is another windy day with the wind out of the northeast. The surf should be flat but it sure ain't. 13 more days to go.

Went out this evening at 0115. We banded the usual birds. We also got caught in a rain storm which must be the first that Jarvis has had in a long time.

11 Mar

The ship came in to pick us up but surf was too high to get off. Loaded the raft with our gear and pushed it in the inner reef tidal pool around to the east side of the island. We managed to push off and started the engine. The boat was partly inflated and the engine went under the boat killing the engine. The other

Journal

1965

Jarvis Is. Pacific

11 March

boat would have made it to us. They were cruising offshore and threw a line to us and towed us to the ship. Then waves that seemed sky high. Needless to say we were all very happy to get to the ship safely. We departed for Xmas Is. at 1100.

Christmas Is. Pacific

12 March

Arrived off London about 0900. The ship got us ashore about 1030 a.m. Doug and crew went immediately to Motu Tabu to work. I went with the XO to meet Mr. Douglas Cook, island manager. We rented a Land Rover from him to take down the island. Charges us for petrol only.

About 1230, Paul, Al and I drove to the south east end of the island. Lagoons are hard to get to there so came back to the Gale's Lagoon on Denver Way to work. We went out in a 3-man raft and surveyed the islands. Not much on any of them except the larger one on the south end. This island had large numbers of frigates, Petrels and Shearwaters. We banded what we could

Max C. Thompson
1965

Journal

Christmas

Jarvis Island, Pacific Ocean

12 Mar

and got back to camp about 7 p.m. The birds observed today were as follows:

Puffinus pacificus - A common nesting species on the large island. A few banded.

Pterodroma alba - Many adults with young nearly fledged, many adults courting and a few setting on eggs. About 50 banded.

Nesting mainly under Lepturus clumps.

Puffinus nativitatis - Fairly common in same habitat as the Phoenix Island Petrel. A few with young, eggs and others just roosting.

Puffinus iheringianus - Saw only one and it was nesting on a small island under a stone ledge. Maybe first nesting record for Xmas.

Sterna lunata - About 50 pair nesting on small islands. Only one young found.

Sterna fuscata - Just starting to fledge young in colonies along the main road.

We counted at least 6 groups of many thousand each. Some young already flying. We banded 400 in evening but very leary of us and difficult to catch.

Max C. Thompson
1965

Journal

Christmas Island, Pacific Ocean

12 March

Proceliterna caerulea - Maybe 30 on islands in the lagoon. Not too common & no nests found.

Anous minutus - A few observed nesting in low trees but definitely uncommon in area at the time.

Anous stolidus - About 10 nests on the islands. Not a common nester but birds observed at most times of day & heard at night.

Cyrcia alba - Only about 5-10 were seen in the lagoon nesting on Messerschmidia limbo.

Numenius tahitiensis - Estimated atoll population 1000+. Very common along the beach ridges. Largest concentration I have seen on whole trip.

Pluvialis dominica - Only shore bird more common than the curlew. Total island population probably around 5000.

Heterosculus incanum - Most uncommon of the shorebirds. Maybe more common along beach edge.

3 March

Spent the night at the Isles Lagoon. Packed up this morning to go to London Town and car wouldn't start. No matter what we did it wouldn't

Max C. Thompson
1965

Journal

Christmas Island, Pacific Ocean

13 Mar

Start. In about 7 am. I jumped my bike and started for town at 0820 I was at the airport about 20 miles away when they picked me up. A guy had happened by in a Land Rover and gave them a push. No apparent reason for the car not starting.

Ate lunch with Mr. Cook and then started back to Isles Lagoon with our motor for the boat. Left Al at the airport to work.

We drove nearly over to Cecilia Lagoon to see what we could see. Actually very little use going any further than Isles Lagoon in search of birds. We visited one island 3 miles west of here and it had a few Audubon Shearwaters resting but very little else.

In evening we come back to the lagoon and putted over to band birds. We also visited another island which we had missed previously. ~~One~~ One of the more startling things was the Audubon Shearwaters resting and a few resting on the big island. I kept my no. 3 bands. The Wedge-tails were even

W.C. H. H. H.
1965

Journal

Christmas Island, Pacific Ocean

13 Mar

more common than I originally suspected yesterday but you had to dig them out. Well that we banded about 200 Phoenix Is. Petrels and 75 Wedgetails. Paul also banded Frigates and Red-footed Boobies. We returned to the car about 1030 p.m. Dead since no sleep since 0200 this morning.

The small islands in Isles Lagoon have rats on them. I saw at least one on the main islands. There didn't seem to be much effect on the bird populations.

14 Mar

After a good night's sleep we loaded the Rover and it wouldn't start. I took the hood off and let the sun hit it for a few minutes and it started straight away to borrow an English term.

We headed for Manuka Lagoon to check the islands that Fred had looked at in November.

White-throated Storm Petrels were virtually finished nesting and only a few nests were found. One or 2 were on eggs.

W. C. Thompson
1965

Journal

Christmas Is. Pacific Ocean

14 Mar

Placium S. Ptil. - A few were seen on the islands but quite scarce. Mostly $\frac{1}{2}$ grown chicks.

Wedge-tailed Shearwater - Fairly common on "Scarf" island. Population estimated at 30 pairs.

Christmas Is. Shearwater - One or 2 banded but fairly scarce.

Brown Booby - 3 nests found, one with 4 eggs, 1 with 2 eggs & 1 with 1 egg.

Red-footed Booby - A few around the lagoon.

Common Noddy - A few nests around but not common.

Proceliterna cerulea - Common on the few islands. Young & eggs both present. Probably 200+ in lagoon.

Sterna lunata - About 250+ nestings on "Scarf" Island.

Thalasseus bergii - 1 near airport.

Gygis alba - About 10 seen in whole area.

Chin. Is. Warbler - Saw 2 at airfield and they were singing. Yesterday I saw one near Carver Way.

1965
The [unclear]

Journal

Christmas Is., Pacific Ocean

14 Mar.

The following is an account of all the birds seen on the main area of Xmas.

Wedge-tailed Shearwater - 300-500± nesting.

Phoenix Is. Petrel - 700± nesting - young to grown. eggs.

Audubon Shearwater - 50-100±, nesting. eggs.

White-throated Storm Petrel - 30± eggs to nearly fledged young.

Christmas Is. Shearwater - 200±, nesting & nearly fledged young.

Red-tailed Tropicbird - 50± 15 nests with eggs to large young.

Blue-faced Booby - 25± 1 banded

Red-footed Booby - 200-300±. Some nesting.

Brown Booby - 25± 3 nests.

Greater Frigatebird - 400± 48 nests ± eggs.

Large number of flying young.

Golden Plover 5000±.

Wandering Tattler - 300± c. ad.

Crisal-thighed Curlew - 1000±

Sooty Tern - 300,000± large young

MAR 14 1965

Journal

Christmas Is. Pacific Ocean

14 Mar

- Gray-back Tern - 1000±, 500± nests with egg.
- Common Noddy - 200±, 8 nests.
- Hawaiian Noddy - 10±, 2 nests
- Blue-gray Noddy - 400± / 55 nests - eggs & young.
- Fairy Tern - 20±, 2 nests.
- Christmas Is. Warbler - Saw at least 3 around airport singing
- Crested Tern - 1

15 Mar

Left the island about 10 a.m. for Palmyra.

Palmyra Is. Pacific Ocean

16 Mar

We arrived this p.m. about 2 o'clock. Raining and quite windy but cleared in evening. This evening we banded Sooty Terns and bled them. The population is fantastic and covers the entire runway from one end to the other. I estimated it at about 500,000-1,000,000. Tomorrow we will examine it closer. The birds are on eggs and the young are just hatching.

Other birds observed on the main island around the camp ones: Hirtle-thighed

Mar. C. Thompson
1965

Journal

Palmyra I., Pacific Ocean

16 Mar

Lark 5, Golden Plover 20, Ruddy Turnstone 2, Wandering Tattler 1. Also saw Brown Boobies & Red-footed Boobies.

This evening we banded Sooty Terns to the tune of 3300. They were fairly jumpy & hard to band.

17 Mar

This morning we took the boat across the lagoon to the other side. We walked about $1\frac{1}{2}$ down the island to look at a pond for ducks. No ducks. We did make a survey of shorebirds along the coast. An estimate: 40 Brisk-shighed Lark, 20 Wandering Tattlers, 2 Ruddy Turnstones, 50 Golden Plover. The latter are molting into breeding plumage.

We also saw a white-tailed tropicbird flying quite high toward the island.

This evening we finished up the Sooty Tern bands 1800 of them. I notice that some of the chicks midway down the island are larger than the ones just hatching & run around on the ground.

W. C. Thompson
1965

Journal

Palmyra Is. Pacific Ocean 18 Mar

Went over to the islands near the channel & banded a few boobies today. Quite a few Hawaiian Noddy Terns and Common Noddy Terns nesting on the island. We managed to get 20 Red-footed Boobies banded.

This evening we crossed the lagoon to the south end of the island and banded Red-footed Boobies there. We got around 2:30. The water was running neck deep and we finally got the boat to help us.

Dick walked around the Sooty Tern colony and confirmed my estimate of the number of 1,000,000 in the colony.

Some rain fell this evening but it was generally a dry stay.

19 Mar

Hooray hooray it is all over. We left Palmyra at 0630 for the ship. The ship had 6 cases of *Guthy sarcosis* one fairly bad but he pulled out of it.

1966

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11

A
PRELIMINARY REPORT
ON
SOUTHERN ISLAND CRUISE
NUMBER ELEVEN
(ISLAND REPORT)

BY
Max C. Thompson

ITINERARY

Date	Island	Depart	Arrive
January 24	Oahu	0900	
February 5	Howland		0600
	Baker		1300
February 7	Baker	0630	
	Howland	1330	
February 13	Hull		0630
		1300	
February 14	Underbury		1300
February 16		0635	
February 18	Swain's Island	1130	0730
February 19	Samoa (Pago Pago)		0800
February 23		1130	
February 24	Swain's Island	1230	0830
February 27	Baker Island		1330
	Howland Island		1730
February 28	Baker Island	1830	
March 1	Howland Island	0730	
March 11	Christmas Island		0830
March 15		0345	
March 19	Oahu		2230

by

Max C. Thompson

SIC 11 departed Honolulu with a complement of nine personnel aboard, including Max C. Thompson (Biologist-in-charge, island work), Richard S. Crossin (Biologist-in-charge, at-sea work), Brian Harrington, Norman Heryford, Robert DeLong, James Lewis, Dayle Husted, Frank Smith and Jeff Tordoff. Tordoff was returned to Honolulu from Canton Island due to illness. DeLong returned to Honolulu from Pago Pago. The second half of the trip was made with a complement of seven personnel. Support was given by the USNS Shearwater (T-AG 177) with G. Krull, Master. The usual cooperation was received.

Bird populations were generally low. The first half of the trip resulted in the banding of approximately 900 birds. The second half of the trip showed an improvement with about 28,000 birds being banded, mainly on Christmas Island. The trip banding total of 28,755 was an all time low for the POBSP. This season of the year has consistently produced low banding totals and represents that period in which most of the birds are between nesting cycles. The second half of the trip was beginning to show signs of a population increase on Howland and this will be discussed below.

A brief summary of the island work and the more important elements in the avifauna are discussed below. Tables listing the different compilations from the islands can be found at the back of the report.

Howland Island

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After an absence of nearly one full year, Sooty Terns were again swirling over the island. The following is a daily activity account showing the swirling behavior and number of birds:

6 February

- 1530 Small swirl over SE end of island (30).
1555 " " " (75).
1610 Swirl broke up.
1640 Swirl forming over SE end of island (125).
1700 Swirl Broke up.
1705 Swirl alternately breaking and forming.
1725 Swirl over end of island contains 250 birds.
1745 Swirl over sea west of island (100).
1810 SE swirl has 1000 birds.
W swirl has 250 birds
Much interchange between swirls.
1830 New swirl over lighthouse (200).
Three swirls now present.

1830-0130

Swirls amalgamated into SE swirl and swirl over lighthouse. Each swirl probably had 2-3000 birds. Birds departed from the island at 0130.

28 February

- 0200 Many terns still calling over the lighthouse.
0300 Only a few terns were calling.

0400 No terns present.

0400-1530

Occasionally Sooty Terns were seen flying over the island, but rarely more than 3-4 at one time.

1530 30 terns flew over lighthouse but back to sea.

1550 50⁺ off west shore, 100⁺ off SE shore both groups moved over land and then back to sea.

1558 SE swirl again moved over land but moved back to sea shortly.

1603 SE swirl broke up but immediately started reforming over water.

1605 W swirl (50) came in over island and formed a loose swirl.

1700 200 terns in swirl over center of island; 300 terns over SE section; 100 terns off W shore. Groups forming and breaking up constantly.

1800 1000 terns over SE shore; 500 over S end; 500 over lighthouse. Groups appear to be stabilizing.

1900 Two southern swirls merged and single group (5000+) over SE shore; 1500 over lighthouse. Impossible to estimate numbers after dark but calling and flying around the island again ceased around 0300.

From past behavior of Sooty Terns we feel certain that the terns will be down within a month or two to begin a new nesting cycle.

The second trip shows that the Howland nesting season was

beginning in earnest. The Blue-faced Booby nests had increased within a month from 49 nest to 111; Red-footed Booby 15 to 21 and the Great Frigatebird from 0 to 11. The shorebird survey showed an increase in the number of birds of the three species recorded.

Baker Island

Baker Island continues to show little bird activity except for the Common Noddy Tern breeding at the lagoon on the east side of the island. On both visits this trip a small Blue-faced Booby club was found on the south shore of the island.

Approximately 400 Common Noddy Terns were utilizing the lagoon nesting area. There were 25 eggs found on the island in early February and 92 in late February. The young in early February numbered 70 and in late February 19. A total of 65 young and 33 adults were banded.

The daily activity on Baker Island was limited to a few Sooty Terns and frigatebirds flying overhead with Blue-faced Boobies gathering in a small club on the south side of the island in the evening. There were no Blue-faced Boobies banded during the first visit of SIC 11 but 10 were banded out of 40 handled the second visit.

The shorebird population was generally down from early February except for the Ruddy Turnstones which increased in number from 159 to 200+.

The House Mouse populations were high both trips and six blood pools were taken.

The weather machines set up in early February functioned

poorly and only one machine recorded any usable data. This record showed the wind to blow generally from the northeast during the month of February at a speed of 10 mph. The machines were reset but only one was working and one was removed from the island.

Hull Island

Approximately four hours were spent on the island to determine if Sooty Terns were breeding. They were not but swirls over the island indicated that possibly they may be by early April. A swirl of 3000 was noted over the lagoon in the morning.

Fourteen species of birds were seen on the island including a New Zealand Cuckoo, Eudynamys taitensis. This was the first record of this species for the island. Also seven Crested Terns were seen flying around the atoll. This species is not common in the Phoenix Island group.

Enderbury Island

Enderbury Island showed signs of recent rains with the central depression containing approximately 10 acres of water. The islands in the depression were flooded, preventing some of the usual birds from nesting, i.e. Common Noddy Tern and Gray-backed Tern. The water attracted large numbers of shorebirds with 544 Golden Plovers, 627 Ruddy Turnstones, 74 Wandering Tattler and 35 Bristle-thighed Curlews. Also three Pintail Ducks were seen.

Although Sooty Terns were not nesting, there were at least two small groups on the ground and an estimated 5000 swirling

over the island. These birds should be coming down in a few weeks to breed.

Only two small clubs of Blue-faced Boobies were seen on the island and no evidence of breeding was observed.

Most of the time was spent banding Great Frigatebirds and a few Lesser Frigatebirds. The Great Frigatebird colony numbered approximately 5000 birds of which 80 nests were found. The Lesser Frigatebirds had apparently just finished the breeding season as nearly all birds banded were immatures. The Greater Frigatebirds appeared to be going into another nesting cycle as many displaying males were seen.

The usual roosting population of Hawaiian Noddy Terns was roosting in the Cordia at the north end of the island. Blue-gray Noddies were seen regularly around the central depression and one flock of 35 was seen resting in the Sesuvium.

Swain's Island

An emergency stop was made at Swain's Island to take in supplies for the people. The hurricane that struck in late January had destroyed most of their basic supplies. About 8 hours total was spent on the island on both stops. The island was small and entirely covered with coconuts with what indigenous vegetation that was left, growing underneath. A few large Pisonia were present and several other trees which could not be identified.

The mammals taken on the island were Rattus exulans and were collected with .22 dust shot. These animals were abundant on the island and were seen running in and out of the

piles of coconut husks.

The birds on the island consisted of nine species. Since this is the first visit to this island, a species account follows:

Golden Plover--Common around the periphery of the island and along the trails in the coconuts. One was collected out of an estimated 50 seen.

Ruddy Turnstone--Several small flocks were seen feeding on the reef surrounding the island. The total island population was estimated to be 60.

Wandering Tattler--This species was seen singly feeding along the outer reef at low tide. It was not nearly as common as the two former species with only 30 being seen.

Sanderling--One bird collected on the south side of the island on sand beach.

Common Noddy Tern--Abundant in the coconuts where many were seen sitting on the fronds. It was undoubtedly breeding there as the five specimens taken had brood patches.

Hawaiian Noddy Tern--This species was not common and only 200 were seen feeding around the reef. It undoubtedly occurs in larger numbers during the breeding season as the habitat is nearly like that of the Tokelau Islands where it was breeding in abundance.

Sooty Tern--Three birds were recorded from the island on the last trip as the ship was departing.

Fairy Tern--The most abundant bird on the island. The population was estimated to be 3000. Several were seen sitting in Pandanus and were thought to be incubating eggs.

New Zealand Cuckoo--This species although not unexpected, was certainly not expected in the numbers seen. We estimated a population of 50 on the island. This seems an exceptionally early migration date but the literature has not been surveyed.

The island had no bandable bird populations.

Christmas Island

Since an extra day was picked up during the course of the trip, we spent four days on Christmas Island instead of the intended three. The Sooty Tern populations were just completing the breeding cycle and had many flying young. Two colonies were investigated and worked, i.e. Four Wells at the north end of the island (probably formerly called Northwest Point but several miles east of there) and one at the southern end of the island at Aeon Point. There was another colony at Isles Lagoon area but it was not investigated. Both colonies worked, probably had an aggregate of 350,000 birds. We banded 27729 Sooty Terns in four nights banding. Fifty-one returns from birds banded in July 1965 were obtained at Four Wells.

The three main islands in the lagoon were worked but briefly. One full night was spent on Motu Upua to bleed and band petrels and shearwaters. The Phoenix Island Petrel and Christmas Island Shearwater were both in various stages of the breeding cycle from fresh eggs to fledged young. The Christmas Island Shearwaters were also in the same stage. The Wedge-tailed Shearwater were present but not breeding except for one pair which had a $3/4$ grown chick in a burrow. Motu Tabu was worked briefly one afternoon for shearwater/petrels and Cook Island was visited about one hour to determine whether the Sooty Terns were breeding

there now or not. The colony was just finishing and had 3 young left. The Crested Tern colony had also just finished up and only two large young remained.

Isles Lagoon and Manula Lagoon were not surveyed due to insufficient time.

A folder containing all of the bird information from the District Commissioners files on Christmas Island was given to us by the Commissioner (for a fee of \$20).

Table 1. Banding

	Howland	Baker	Enderbury	Christmas
Wedge-tailed Shearwater				254
Christmas Island Shearwater				125
Phoenix Island Petrel				532
Red-tailed Tropicbird				1
Blue-faced Booby	5	10		
Brown Booby	9		24	
Red-footed Booby	64		89	
Great Frigatebird	18		576	
Lesser Frigatebird			140	
Golden Plover			1	
Sooty Tern				26800
Common Noddy Tern		98		
Fairy Tern				18
Blue-gray Noddy Tern			1	
ISLAND TOTAL	96	108	831	27730
GRAND TOTAL	28765			

Table 2. Returns

	Howland	Baker	Enderbury	Christmas
Wedge-tailed Shearwater				27
Christmas Island Shearwater				22
Phoenix Island Petrel				45
Red-tailed Tropicbird			1	
Blue-faced Booby	168	37	111	
Brown Booby	2			
Red-footed Booby	25		66	
Great Frigatebird	1			
Sooty Tern				51
Common Noddy Tern		5		
ISLAND TOTAL	196	42	178	145
GRAND TOTAL	561			

Table 3. Recoveries

	Howland	Enderbury	Christmas
Christmas Island Shearwater			4
Phoenix Island Petrel			2
Blue-faced Booby	9		
Lesser Frigatebird	1		
Great Frigatebird		6	
Sooty Tern			2
ISLAND TOTAL	10	6	8
GRAND TOTAL	24		

Table 4. Blood Samples

	Howland	Baker	Hull	Enderbury	Christmas
Wedge-tailed Shearwater					30
Christmas Island Shearwater					23
Phoenix Island Petrel					33
Blue-faced Booby	132	5		110	
Brown Booby	9				
Red-footed Booby	48			25	
Great Frigatebird	13			70	
Lesser Frigatebird				1	
Ruddy Turnstone		2			
Sooty Tern			2		105
Common Noddy Tern		1			5
House Mouse		6			
ISLAND TOTAL	202	14	2	206	196
GRAND TOTAL	620				

Table 5. Specimens Collected

	Howland	Baker	Hull	Enderbury	Christmas	Swain's
Golden Plover						1
Ruddy Turnstone		3		2		
Wandering Tattler			1			
Bristle-thighed Curlew			1			
Sanderling						1
Sooty Tern			3		50	
Common Noddy Tern					5	5
Hawaiian Noddy Tern						1
Fairy Tern						5
Crested Tern					2	
New Zealand Cuckoo			1			1
Line Island Warbler					2	
House Mouse		4				
Polynesian Rat						12
ISLAND TOTAL	0	7	6	2	60	26
GRAND TOTAL	102				59	

M. Thompson
Field notes
from SIC 12

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Howland Island - 6 April

We arrived off Howland Island at 1930 and put the skiff ashore to collect Sooty Terns. I returned to the ship at 2300. While I was gone they collected on board. These specimens were taken for nasal mite samples.

Howland Island - 7 April

A 30' survey was made offshore this morning at 0630. Most of the birds had left the vicinity by that time. The actual departure times were not noted due to an error in records.

Enderbury Island - 13 April

Arrived at the island at 0900. The Sooty Terns were swirling over the island but weren't on the ground to stay. Other birds weren't present in any numbers except frigatebirds. The central lagoon was about 6-12" lower than it was in March. However the vegetation was green indicating continuing rainfall. We banded Lesser and Greater Frigatebirds, Red-footed Boobies and a few Gray-backed Terns and Noddies.

Enderbury Island - 14 April

After looking over the situation we decided to pull out this morning and head for Phoenix Island. Departed at 0900.

Phoenix Island - 14 April

Arrived at 1300 on the island. Lots of birds but Sooty Terns weren't on the ground. They have just finished breeding (See Sooty Terns). We worked the island for blood samples and banded several species of birds. The central depression had about 5 acres of water. Vegetation is luxuriant and two small rain showers fell today. Winds are NE and a very low surf provided ideal landing conditions.

Phoenix Island - 15 April

This morning I sent the blood to the ship about 0830 and we then took the nest survey and shorebird count. at least Six Erolia were seen on the count including melanotos and acuminata. Generally speaking there were very few nests and lots of curlews.

Hull Island - 16 April

Arrived here about 1100. We went in and surveyed the island but no Sooty Terns so departed about 1400

McKean Island - 17-18 April

Arrived here about 1100. Nice calm landing. Vegetation on the island was very dense compared to last year in March. The Sida around the ruins is so dense the Sooty Terns could never get down. We had rain this evening, a general rain and not just a shower. Probably 100,000 Sooty Terns over the island. The central

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McKean Island - 17-18 April (cont.)

depression had about 1 foot of water in it. Departed the island at 0730 the 19th.

M. Thompson
Species Accounts

Phoenix Island - 14-15 April

Pterodroma alba: Present in low numbers. About 8 were banded. Population 25+

Puffinus pacificus: Common. The nesting season is advanced with young in each burrow examined. One pair observed copulating. One club of 50+ birds was found and 43 banded. Population 3000 +

Puffinus nativitatus: This species was in all stages of breeding from fresh eggs to 3/4 grown young. Most common just above the beach crest in the coral rocks. A few around the lagoon area where nesting sites were available. Population 1000 +

Puffinus lherminieri: Abundant around the beach crest. Most all nests had fresh eggs but at least one had a 3/4 grown young. Population 1000+

Nesofregatta albigularis: Present in the dense stands of grass on the west side of the island. They are using old Wedge-tail burrows under the grass. Population 350 +. 1 dark phase collected

Phaethon rubricauda: Quite a few seen and had eggs and young. Some of the eggs were quite fresh.

Sula dactylatra: Boobies were quite numerous with at least one club on the west side of the island. We took 75 blood samples. Very few nests. Population 500+

Sula leucogaster: A few nests and birds observed but very uncommon. Island population 50+

Sula sula: A few dotted around the island but only 10-20 total

Fregataminor: A few nesting on SE side of island. Area on NW side of island still has a few young thought to be this species on the ground. They weren't banded because of poor health. Many dead young around. Population 1000+

Fregata ariel: Large flock (500 +) over SE corner of island over Greater colony. No known nests.

Pluvialis dominica: Several seen around the island. Many in mottled plumage (47)

Arenaria interpres: (14 April) Not too common but small groups observed. Most in breeding plumage. (15 April) Count was 46

Heteroscelus incanum -- No entry in notes

Numenius tahitiensis: Still present. High density population. 1318