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**The Hawaiian Islands National Wildlife Refuge**

**March, 1961**

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Red-tailed Tropic bird - Many red-tails were seen

west side of the island and several were noted on the ground under the bushes. No eggs or young were seen.

Migratory birds - A flock of 100 or more turnstones and a few plover were seen circling the island but in general, shore birds were relatively scarce. Bristle-thighed Curlew were common in the interior grass land.

Pearl and Hermes Reef

On March 12, we arrived off Pearl and Hermes Reef at dawn. We were able to make an easy landing on Southeast Island and spent an hour and a half ashore. Two refuge signs were posted and photographic stations were established and several interesting observations were made.

Visitation and disturbance

Deep tracks on the beach landing point and over the length and breadth of the island were examined and it was established that some sort of amphibious tractor had been ashore within the last year or so. Near these tracks, in the center of the island, Foxtail grass (Setaria sp.) was found to have become established in small patches; usually not more than a foot or two across. It was assumed that the tractor must have come from Midway or some place where foxtail grows and seeds were brought in by it. In the time available, several plants were pulled up and the roots exposed to the sun. Establishment of such grasses on these small islands could have a drastic effect upon the ecology. Foxtail competes rather successfully with other strand zone plants in Hawaii and could conceivably crowd out such plants as Tribulus and Portulaca.

Other signs of visitation to the island were: a steel observation tower, about fifteen feet high; several 55 gallon drums, some apparently full of fuel; the shells of four or five turtles which were killed and some hollow tile blocks lying about. A later inquiry on Midway, revealed that an aircraft had indeed landed on Southeast island sometime last year on a project known as "LORAC." It is not known what this project involved.

No permit for this operation was issued by the Division of Fish and Game in Honolulu and the landing was apparently in violation of the regulations covering the refuge.

Biological Conditions:

From the short character of the vegetation, it would appear that, during high seas, waves wash over a good portion of the island. Such waves probably prevent the scant Scaevola from reaching a height of more than six inches or a foot.

There are two small pools of brackish water near the center of the eastern part of the island. From the depth of these, it seems likely that they dry up during summer dry periods.

All of the elements of Laysan teal habitat are present on Southeast Island except, perhaps, protection in the form of bushes. However, the island is much too small to be considered for the introduction of teal.

A shoreline count of the monk seal was made and 12 animals were noted. No pups were seen.

Four large green turtles were seen. Two males were alternately copulating with a female in the shallow water immediately offshore. No signs of eggs was found.

Albatrosses - Both species were with young. The Black-footed being much more abundant than the Laysan.

Boobies - All three species present but not abundant. All were with eggs or small young. The red-footed booby is definitely restricted due to lack of elevated nesting sites. Some nests were but a few inches off the ground on the Scaevola.

Upon returning to Honolulu, a further check of the records revealed that

### HIRAN Phase I

As mentioned earlier, U. S. Navy LST-758 (Duval County) was anchored at French Frigate Shoals when we arrived there on March 3. On her cargo deck was a navy helicopter. We met the Captain of this vessel, Lt. Francis L. Roach, on Tern Island. The ship was there to pick up some dynamite which was delivered by air while we were there.

We were informed that the ship was engaged in a project known as HIRAN phase I; and that they were visiting all of the islands of the Chain. The dynamite was to be used to blast a helicopter landing spot on Gardner Pinnacle. (See attached news clipping.) Before coming to French Frigate, the party had spent approximately five days each on Kaula, Nihoa, and Necker islands. HIRAN is apparently a surveying project, which is plotting the exact locations of the islands. Phase I, it seems, is using conventional instruments to plot them astronomically, while Phase II, which was scheduled for June, would employ electronic equipment. Accompanying the group was a fellow from the Coast and Geodetic Survey whose mission, he said, was to lay out survey markers and triangulation points.

When questioned as to whether a permit had been issued for this party to land on the islands of the refuge, we were assured that there was one on file with the Navy in Pearl Harbor. To our knowledge, no such permit was issued by our office; and it was assumed that, perhaps the permit had been issued directly from the Fish and Wildlife Service. Lt. Roach referred us to a Commander Wagner, CGM Hawaiian Sea Frontier, Honolulu.

We were able to learn that during the course of the work on each island power was used, and that "several or several hundred" birds on each island were killed. They also stated that they had de-dudded Necker Island and that birds were killed at that time. We were assured that such damage was not extensive and permanently irreparable.

Upon returning to Honolulu, a further check into the records revealed that there had been no permit issued by the Department of Agriculture and Conservation for the above activities, nor had the Navy informed the Department of the trip. Further checking with the 14<sup>th</sup> Naval District Office, revealed that a permit had been obtained from the State Department of Lands. Apparently, the Department of Lands erroneously assumed that they had jurisdiction over these islands. They have since been notified of their error and have subsequently withdrawn the permit.

The Navy and Land Department assured us that in the future all such requests for permits would be made to the Department of Agriculture and Conservation.

#### HIRAN Phase II

As mentioned before, this phase of the operation was scheduled for June of this year. It appeared to present an excellent opportunity for someone from our division to visit Nihoa and Necker as transportation also would have been available via LST and helicopter.

Photographic stations could be established; signs posted and general conditions noted. The personnel could disembark at French Frigate shoals and fly back to Honolulu via Navy or Coast Guard plane.

However, it appears that HIRAN Phase II started earlier than planned and is now at sea.

REPORT ON TRIP TO LAYSAN ISLAND

SEPTEMBER, 1961

By

D. H. WOODSIDE  
Wildlife Biologist

State of Hawaii

Geophysical Measurements - Dr. Vitousek made numerous magnetic and gravitational measurements about the island from which he was able to draw some tentative conclusions which indicate that the mass of the sea mount on which Laysan is situated lies to the north of the present island.

Seal Studies - Dr. Udvardy recorded rectal temperatures of several seals at various times of the day. This was accomplished with the aid of a net to hold and restrain the animals on the beach. He also attempted to mark seals by using quick-drying spray paint to attempt to determine daily movements. The marking was not entirely satisfactory, however, as the paint did not adhere well to the hair.

#### HIRAN Station

At the usual camp site there were four enlisted service men camped with four tents, a small power plant and a 40-foot portable radio tower. They had been on the island for two months and expected to be there for another two, at which time the station would be moved to Nihoa Island. The camp was relatively well-contained and appeared to be causing little disturbance. No signs of molesting the wildlife of the island were found. The men remarked that they had been briefed as to the refuge status of the island and were confining their activities to the camp area and beaches.

A LST with helicopter arrived and visited the island on the day of our arrival. It services the HIRAN Station every two weeks. We were told that there are similar stations on Pearl and Hermes, Lisianski, and Gardner Pinnacles.

#### TERN ISLAND, FRENCH FRIGATES SHOAL

During the hour ashore on Tern Island, only a few plover and turnstones and a sanderling were noted.

There were several additional towers and equipment vans of the Pacific missile range on the island and a small Hiran installation was new. Otherwise, the island was little changed since March.

REPORT ON TRIP TO NIHOA ISLAND

DECEMBER, 1961

By

RAYMOND J. KRAMER  
Wildlife Biologist

State of Hawaii



vegetative complex, as already described, is so randomized and in general, consistent, that there was no obvious zonation as is found on the atoll type islands farther north. The photographs taken would have to be enlarged to a greatly increased size if they are to show species composition variation over a period of years, and then they would be valid for only the small area between the stakes since it is impossible to distinguish between various types of Solamm, Sida, and Chenopodium at a distance on black and white photographs. Secondly, the terrain of the island is such that it is almost impossible to get camera angles on a three-stake layout that will work without sacrificing things of possible ecologic importance for good photographs.

#### OPERATION HIRAN

On landing on the island we found a military layout of four tents and one portable antenna on the plateau north of Miller's Peak. Two air force technicians and two army technicians had been living here for about two weeks. In general the camp was well organized and set up in a minimum of space. Only a few pairs of Masked Boobies were displaced by the camp but they moved a few yards and re-established territories. The personnel were relatively disinterested in the birds and made no attempt to molest them. Although these people had no weapons, a number of empty shotgun shells and what appeared to be small "line throwing" shells were found on the summit of Miller's Peak. These appeared to be less than a year old. One soldier's towel was found lying outside the tent with six Cenchrus sp seeds stuck to it. These were probably picked up accidentally on Midway. The seeds were burned, but this incident once again points out the necessity for a simple information brochure to be passed out to all people landing on the islands, telling them in layman's language of the importance of the islands and the effect that changes in the ecology could have upon the bird populations. To my knowledge this is the third introduction of exotics into the Refuge by the military in the last year.

#### Conclusions and Recommendations

From observations made, it can be concluded that:

### Photographic Stations

Two stations were set up. Both are considered relatively useless due to relative lack of vegetative zonation, inability of the black and white photographs to be useful for distinguishing species, and awkward photo angles available.

### HIRAN Activities

The physical presence of people and equipment is negligible in effect but accidental introduction of exotics could prove disastrous on such a small, relatively uniform area.

### Recommendations

It is recommended that:

1. An entomologist familiar with plant host relationship studies be invited to participate in any future expedition.
2. A more intensive study of the Nihoa Miller bird be made in order to ensure its continuing survival.
3. Another expedition be made to Nihoa in the near future in order to utilize the facilities of the HIRAN ship and helicopter. If it were decided to transplant Miller birds to Laysan, the ship schedule could probably be worked out to go directly to Laysan from Nihoa, thus eliminating the hazards involved in taking the birds back to Honolulu for an unknown period before transfer back to Laysan.
4. A staff member of the U. S. Fish and Wildlife Service accompany Hawaii biologists on the next trip in order that they may more fully understand the myriad of problems inherent in these island populations.
5. A more specific type of permit be issued to all individuals or groups intending to land on any of these islands. Permits for military use should state (primarily for our information) when, exactly where, and

approximately how many people will be involved in operations on each of the islands. They should also include what type of facilities they will establish (how many tents, vans, antennas, etc.)

6. An information booklet or brochure be made telling in layman's language (with humour, perhaps, to hold interest) a little about each island, its birds and how to recognize them, the importance of specific types of plant life to these islands, and why it is a refuge. They could be issued not only to visitors to the islands but distributed throughout naval or coast guard vessels passing these islands for the interest of officers and crew. (We have continually noted an avid interest in what we are doing and why!)

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ACTIVITIES AND OBSERVATIONS

**A REPORT ON A SURVEY TRIP**  
TO  
**THE HAWAIIAN ISLANDS NATIONAL WILDLIFE REFUGE**

JUNE, 1962

by  
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Wildlife Biologist  
Hawaii State Division of Fish and Game

**ENTOMOLOGICAL REPORT**

by  
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Hawaii Sugar Planters' Association

APPENDIX

Photographs  
Beardsley report

tropic birds, Bulwers petrels; Wedge-tailed shearwaters were noted. Laysan Albatross Young (abandoned?) were abundant, while a few young of the Black-footed Albatross were seen.

### Military Operations

It is entirely probable that here, also, the military shall abandon the tents, tent frame works, water barrels and C-ration cartons when the project is finished. This is also an extremely hazardous island to land on by helicopter and the dangers preclude making unnecessary trips. Here also is an unsightly garbage dump down the north face of the center of the island but which could not have been avoided. Unfortunately, one of the main camps was set, no doubt in complete ignorance, upon the site of one of the larger stone terraces of the pre-Hawaiian inhabitants, thus increasing the deterioration of this ruin. The Stone Maraes (basaltic slivers of religious importance) on other parts of the island were left undisturbed and various small retaining walls remain intact. No sign of introduced weed seeds was found.

### GARDNER PINNACLE

No landing was attempted on Gardner Pinnacle due to the restricted area on the summit of the island for helicopter approach. Ordinarily, it is only possible for a helicopter to touch its front two wheels to the island and personnel aboard must then jump a considerable distance down. One thing of interest was noted: The several hundred frigate birds seen hovering over this island. Where these birds come from or roost is unknown since there is apparently no vegetation on this island except Portulaca which certainly does not provide the favorite nesting materials of this species.

### LAYSAN ISLAND

#### Monk Seals

On June 16, a circuit of the beaches of the island was made and a total of 261 seals were counted. An attempt was made to break the composition up into adults, i.e., those 7 feet long or longer; sub-adults, those having obtained the adult coloration but less than 7 feet long; and new-born pups, that is, those with the black pelage. Twenty-three pups were seen on the island having been born within the last 6 or 7 weeks. Of unusual note was the large number, 96, of sub-adults seen. The majority of these had left their parents and displayed absolutely no fear or caution towards man, whereas, almost all the 142 adults had at one time or another apparently encountered man and almost invariably rushed for the water when disturbed. Many of the "sub-adults" were covered with considerable algae, indicating a fair length of time spent at sea in the recent past. Of the black pups, all appear to be in excellent condition with some so fat they could not readily get into the water from the beach. Several pups were born while we were on the island. One large dead and decomposed adult was found in the Scaevola. Of interest was the apparent fearlessness and complete unconcern for sharks displayed by the seals. On several occasions, I watched three or four seals swim into a school of 30 to 50 sharks of up to 7 feet in

- Bonin Petrel: Only one pair of this species was noted. No eggs or young were found.
- Bulwer's Petrel: Only one pair of this species was noted. No sign of eggs or young was found.
- Red-tailed Tropic Bird: This bird was extremely abundant on the western shores of the island. Young were noted in all stages of growth and nuptial flights were occurring overhead daily.
- Masked Booby: Eggs were found on several occasions but most of the chicks were one-half to three-quarters grown.
- Brown Booby: More brown boobies were noted this year than in the past. Majority of the boobies had nested with the young being still naked.
- Red-footed Booby: Found in their usual abundance on the Scaevola. Eggs and downy young.
- Frigate Bird: Majority of these birds were with downy chicks.
- Sooty Tern: By far the most abundant bird on the island. Various colonies had been established periodically, with some colonies almost entirely on eggs and others almost entirely with downy chicks. In several colonies, no breeding activity at all was noticed.
- Common Noddy Tern: Abundant and with downy chicks.
- Hawaiian Noddy Tern: Common, with eggs and chicks.
- Fairy Tern: Common, with eggs, downy chicks, and fully feathered young.

#### Migratory Birds

- Golden Plover: Common throughout the island.
- Ruddy Turnstone: In large numbers this year.
- Bristle-thighed Curlew: Very common at this time of year, scattered randomly across the island.
- Wandering Tattler: Least common of the migrant birds but still numbering in the hundreds.

#### Military Operations

Two Air Force and two Army men landed with us on Laysan to re-establish their camp. The camp area has been expanded considerably in the past with four large tents set up and approximately 30 fuel and water barrels stacked neatly to the west. Just northeast of the ironwood tree a five-foot high concrete block has been permanently installed. It has been set up for engineering purposes of the project and should serve as a permanent photo station location. In general, the camp was quite clean and former garbage accumulations had been buried; however, the constant trade winds had blown away much of the loose sand over these garbage dumps and had re-exposed the upper portion of them. It is believed that when this station is dis-established, the military will leave the tents, cook shack frame, and the 55-gallon drums behind. If on the next trip, such is the case, efforts should probably be made to clean the island or have it cleaned by military personnel. Of interest was the fact that the common potato and garden variety onions were noted to be growing next to one of the larger garbage dumps. All plants that could be located were torn up and their roots exposed to the sun. Further efforts to assure complete destruction should be made on the next trip although it is doubtful that these plants would survive a season of drought.



A REPORT ON A SURVEY TRIP

TO

The Hawaiian Islands National Wildlife Refuge

February, 1963

by

Raymond J. Kramer

Golden Plover - Very common; scattered island-wide. 6 Banded by Smithsonian group.

Ruddy Turnstone - Abundant. Large numbers along lagoon edge, and singles scattered commonly throughout the openings in the vegetation. Collected by the Smithsonian group.

Bristle-thighed Curlew - Very common; scattered island wide.

Wandering Tattlers - Present in fair numbers. Several collected by Smithsonian group.

Sanderlings - Several were seen.

Gull - 1 large gull (believed to be an immature Heermann's gull) was collected by the Smithsonian group.

#### Military Operations

The HIRAN camp was again operating on Laysan. Several of the people had been there last June when Marshall and I were there, and were familiar with the purpose and extent of the refuge. The only detrimental factor noticed was the garbage dump. Winds had exposed last years dump, and little effort had been made to cover this years dump (see photo in appendix). Neither the potato or onions seen growing last June had survived the winter. The stack of about 30 empty 55 gallon drums were as noted on the last trip and will probably remain abandoned.

Laysan - Another walk on Laysan Island led by the Smithsonian

#### Monk Seal

No accurate count was made, since I started in the opposite direction from the Smithsonian people, and upon meeting them about 3/4 of the way around the island, found that the best estimate they could give me of seals was "about 50". I counted 101 on a 3/4 circuit<sup>of</sup>, which only one was a newborn pup. Some 30 seals were tagged by the Smithsonian group.

found on the eastern beach