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GOONEYBIRD STUDIES ON MIDWAY

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Early in July 1954 the Military Air Transport Service requested assistance of the Fish and Wildlife Service in reducing hazards to aircraft on Midway Islands. Ten bird strikes had already been reported in 1954; damage in all instances was caused by albatrosses or the so-called gooneybirds.

When it was decided to send two biologists to Midway, Mr. Philip A. DuMont of the Branch of Wildlife Refuges in the Washington office and Mr. Johnson A. Neff of the Branch of Wildlife Research from the Denver laboratory were selected. The trip was planned so as to reach Midway early in November when the black-footed and Laysan albatrosses were returning from their summer wanderings over the North Pacific.

Transportation on MATS flights and housing at military bases were new experiences for both biologists, but were very pleasant ones. Flights were made in DC-6's, C-97's, and Super Connies, and all were comfortable riding.

Midway is an atoll with a barrier coral reef about 5 miles across. The two islands - Sand and Eastern - were both in use during the Second World War. Eastern Island, then used as a fighter base, is now inactive, or to use Navy talk, "secured". Sand Island is a Naval station with several hundred personnel, including a good many families. Free movies, bowling, roller skating, and gym provide recreation, but fishing and looking for "fish balls" - Japanese glass net floats - are the most popular pastimes. There are schools, churches, clubs, and a radio station with no "commercials". Stateside radio shows are presented on a regular schedule only a few weeks after being recorded.

Midway is maintained as a Naval station in the Pacific defense plan to provide navigational communications and as a refueling stop for vessels and aircraft. At present there are over 300 flights a month that stop at Midway. Over half of these are MATS flights eastbound and represent the first stop after leaving Tokyo. During one period recently 13 out of 30 MATS flights passed up Midway and flew nonstop from Tokyo to Honolulu - over 3,300 miles.

Even with all of our reading about Midway, we were surprised upon our arrival November 6 to see so many ironwood trees and other luxuriant vegetation. We arrived on the weekly "leg flight" and about half the population comes out to meet it Saturday afternoon. That is when new and old personnel come and go. Mail comes in by the ton, as does fresh milk, vegetables and fruit. Both species of goonies were on hand to greet us.

These are remarkable birds in many ways. Of the 13 albatrosses in the world, only three are in the North Pacific. The third one - the short-tailed - must be very scarce or possibly extinct since it no longer is found at Wake - its former nesting grounds. Three-fourths of all Laysan albatrosses are believed to nest on Laysan and the Midway Islands, the remainder are limited to the Leeward Chain. How they find their way back to these small islands year after year is remarkable. They are beautiful in flight with a wing spread of nearly 7 feet. For all of this massive size, they weigh only 7 pounds, - at least one we put on the post office scales weighed exactly that. They vary from maybe 6 to 8 pounds. Their eggs weigh 10 ounces and are 4 inches long. The egg requires 65 days to hatch, so we are told. We marked several eggs and we have persons alerted to check on hatching time for us.

During the month we were on Midway we conducted a lot of experiments looking toward the discouragement of goonies from the immediate proximity of the runways. None of our efforts were actually successful in diverting albatrosses from Sand to Eastern Island, a distance of about a mile and a half. We did learn a lot about these birds and we found out a good many things that evidently will not work.

For instance, they were not the slightest discouraged by smoke or noise. We used sulphurous flares giving off an orange smoke and we burned an old truck tire. The birds sat through both. They paid scarcely any attention to mortar fire. While 50 rounds were fired from the bazooka, one black-footed albatross 36 feet from the rear of the tube continued to sit on its egg even though the backflash repeatedly ruffled its feathers. Birds between the firing and the target failed to move. The noise of aircraft didn't bother them. Many times planes would take off while birds were on the airstrip. They generally sat tight, only to be upset by the prop wash as the plane passed by.

The possibility of using ultra-high frequency was tested. Using a signal generator, amplifier, and speaker it was found that albatrosses evidently receive no sound impulses above 3,000 cycles. Impulses in the ultra-high frequency range - above 20,000 cycles - are in daily operational use at the station and no effect had ever been detected on these birds by communications personnel.

Nesting studies showed the most promise. Two "egg-snatching" experiments were undertaken. On one group of 109 black-footed albatrosses, birds on marked nests and with lacquer-spotted bills were found to continue sitting an average of 4 days after their eggs were removed. Thereafter, they deserted the nest - all except one bird - but we could not be certain that any left the immediate vicinity. Another 130 marked birds showed the same traits of remaining. The latter area is being watched by one of the Navy Chiefs who was especially interested in our work. Dissection of birds which were killed, generally by trucks along the roads, convinced us they will not lay a second egg, or if they do, it will be greatly delayed.

Examination of leg bands put on by others before us disclosed an amazing longevity and an inclination to return to the exact spot of banding. Seven birds picked up around Gooneyville Lodge - the Pan American Airways hotel built in 1935 - were banded 16 years ago in 1938. Some of these bands were replaced because they were so worn. Two of the 1938 bands were very clear. Most series of bands were found to be on birds in the same locality. In all, 249 recoveries were listed - 172 blackfooted and 77 Laysan albatrosses. Many others were seen but time did not permit listing them. So far as we now know, all of these were banded originally on Midway. Most of them were put on 2 years ago by R. R. Sheehan. Evidently very little banding was ever done on Eastern Island. It is significant that not one single banded bird was noted on Eastern Island. We are convinced that no interchange of these birds between the two islands occurs even though they are only a mile and a half apart.

Bands were put on about 400 Laysan and 100 black-footed albatrosses by us. A hundred each of the white gooneys were banded in the post office yard, in front of the ship's store, and around Gooneyville Lodge. About 75 bands were used on Eastern Island.

In addition we banded 100 red-tailed tropic-birds, 388 Bonin Island petrels, and single frigate-birds, brown boobies, wedge-tailed shearwaters, and 3 common noddy terns.

One of the real treats during our month on Midway was the opportunity of making flights in the Navy's sea rescue planes. Three flights were made in these Grumman Albatrosses over Kure or Ocean Island (twice), the four islands inside Pearl and Hermes Reef (twice), Laysan Island and Lisianski Island. Over a hundred air photos were taken of these islands by the Station photographer using a K-20 and an F-56 camera. We were given both the prints and negatives to facilitate estimating bird and seal populations.

Before we left Midway on December 5, we prepared a report of our activities for the Commander of the Midway Naval Station. We endorsed several aircraft operational practices which should reduce hazards. These conclusions and recommendations were summarized as follows:

a. Aircraft damage. Approximately 305 aircraft transit Midway per month. While the damage to propeller-driven aircraft is acknowledged to occur, personnel stationed here recall that bird strikes doing damage requiring major repairs during 1954 were limited to three propellers, one wing flap, and two or three instances involving leading edges of wings or stabilizers. Propellers in all instances were damaged while aircraft were on the ground with props in reverse. No windshields were broken. Some of these repairs, involving prop changes, were expensive. There may have been other accidents to aircraft not known to the staff on Midway which were discovered after planes reached their destination. Sea-Rescue UF's, generally making several flights daily, lost no time because of bird strikes.

b. Birds along runways. Damage to aircraft is not caused particularly by birds nesting along the runways, but rather by birds in the air below 200 feet.

c. Egg destruction. Short-term egg destruction tests were inconclusive. Some observations lead us to believe a longer, more detailed study might demonstrate that egg destruction is a practical measure of control.

d. Condition on Eastern Island. The extremely low population of black-footed albatrosses on Eastern Island suggests a drift of such birds to Sand Island for open beach nesting requirements.

e. Sooty Terns. All information secured suggests this bird is no hazard except to air scoops. None of these birds were present during our assignment. If jet powered planes are to be used, egg destruction of sooty terns may be necessary. In fact, it was recommended that this be done next nesting season.

f. Operating hours. If the "moaningbird" (Bonin Island Petrel) is considered a hazard to aircraft, landings and takeoffs from near sunset to about 1:00 a.m. will encounter the maximum number of these birds. None of the many pilots with whom we talked consider either the sooty tern or the moaningbird a hazard to large transports. From 1:00 a.m. until at least an hour after sunrise, the air is relatively free of birds at this season of the year. Scarcely any albatrosses fly after dark.

g. Operational procedures. The Commander of Midway Naval Station made the comment that most planes taking off from Midway use a "short-field" takeoff. The short run and rapid climb with flaps, quickly takes a plane above the 200-foot danger zone. Our observations indicate that this is a very practical procedure.

Captain Ralph M. Pray of MATS Headquarters at Hickam Field expressed what is undoubtedly the ultimate answer concerning the gooneybirds and aircraft. He stated his belief that Midway will become inoperative for regular transport use within 5 years. He pointed out that the great circle route - Tokyo to Seattle - is 4300 miles as con-

trusted with the present 5500 miles via Midway and Honolulu. At \$400 per hour this will represent a real saving. This may be the answer to the question asked by so many persons we met on Midway, "Why don't they leave this place for the birds?"

RECENT LITERATURE

King, Joseph E. Annotated list of birds observed on Christmas Island, October to December, 1953. Reprint from Pacific Science, Vol IX, Jan 1955, pp 45-48, illus.

This short, but very useful work consists of a resume of the history and geography of the island, a review of the literature describing the avifauna of Christmas, and a list, with life history notes, of the birds seen by Mr. King during his stay there. There is also a discussion of some of the authors' field observations. A map showing the locations referred to in the text, and some very fine illustrations of the birds seen, taken, I presume, by the author, are also included. The bibliography provides a good introduction to the literature of ornithology pertaining to this area.

Certainly, a splendid contribution in a field rarely visited by ornithologists, made by one of our own Hawaii Audubon Society members.

Priscilla G. Harpham

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Madden, Jack. The Second Battle of Midway. Trans-Pacifican, Dec 1954, pp 16-18.

An airman's, layman's review of what Mr. DuMont and Mr Neff did on Midway to control or improve the situation there, caused by the gooneybirds. Humorous and readable.

Priscilla G. Harpham

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Honolulu Advertiser, Thursday, February 1955. The following appeared on the editorial page of the Honolulu Advertiser, and it is being quoted here, because each and every member of the Society should have knowledge of such a very nice pat on the back given by one of Honolulu's leading newspapers.

AUDUBON SOCIETY

Have you thought of joining the Audubon Society? It is a national organization working for wildlife conservation and it has achieved notable victories in the last half-century. Honolulu has a chapter and the mimeographed periodical published by the members is called the "Elepaio". Practically anyone at the Bishop Museum can put interested persons in touch with the Society, so can the Editor of the Advertiser, during office hours.

Says John Kieran, chairman of the national membership committee, "For ourselves and our children, for health and happiness, we should join in the fight to preserve the wildlife that remains of the vast heritage that was once the wonder and treasure of this country. Alone, one person can do little. But many thousand in an efficient organization can do great work. The National Audubon Society is such an organization, wide in scope, strong in principle, rich in ideals, and fearless in action for the fine things we cherish today and hope we have for the future."

GENERAL NOTES

A report has been received from Miss Margaret Newman that the Waihole School children have seen a plover nesting in Waihole valley, in the vicinity of Mr. Frieas' yard.

Mrs. R. L. Summers reports that her children found a bosun's red tail feather. The editor wonders if what is meant is the red tail feather of the tropic bird.

How do birds in the tropics, where there are no seasons, know when it is time to find a mate? In temperate zones, the problem is solved by the season: all members of a bird species nest at the same time, and then rest the rest of the year. Where it is forever summer, birds get no guidance from the weather. Some answers to the dilemma of the tropic bird have been found by Dr. Alden H. Miller, Professor of Zoology at the University of California and President of the American Ornithologists' Union.

Dr. Miller revealed his findings, made on a trip to the Magdalena river basin in Columbia, South America, at a meeting of the Union in Madison, Wisconsin. The tropic birds, he said, just nest all the year around. The breeding cycle appears to be determined by the time each individual hatches. When the bird becomes of age no matter what time of the year, he finds a mate. Then he rests for an appropriate period before breeding again. So in the tropics individuals of a single species may be found nesting at any time of the year, while others of the same species are resting instead. --

Science News Letter, October 2, 1954

FIELD TRIP - January 30, 1955

Eighteen persons went bird-watching on two trails in the Nuuanu district, Sunday, January 30.

By special permission of the Territorial Board of Agriculture and Forestry, the party hiked portions of the old Pali road. On this trail at least six Shama thrush were heard and one was seen. Two elepaio were seen, and some leiiothrix, white-eyes, and cardinals.

The Judd memorial trail, in the Dowsett highland district, was recently cleared by the Hawaii Employment Program. It begins at the top of Ragdale place, off Kahawalu drive, which is reached from Kimo drive. At the start of the trail, the party saw a pair of Kentucky cardinals, and caught an excellent view of a house finch. A white-eye's nest, possibly blown down by the recent wind-storm, was found on the trail. On both trails, big trees lay uprooted and large branches littered the way. The storm probably destroyed many nests.

Most members of the party ended the excursion by visiting the petroglyphs behind Nuuanu cemetery, and lunching near the banks of Nuuanu stream. The group included a number of mainland visitors, including Mr. and Mrs. George Borst of Wayne, Penn. He is a member of the Delaware valley ornithological club. Mr. and Mrs. Thomas McGuire accompanied the hikers on the old Pali road and Judd memorial trails.

Peggy Ferris

MARCH ACTIVITIES

FIELD TRIPS: Will be taken on the Second and Fourth sundays - March 13 and March 27. Destination to be decided by those taking the second field trip in February. Mr. McGuire will lead the trip on Sunday, March 27.

MEETING: March 21 - At the Aquarium at 7:30 p.m.

AUDUBON SCREEN TOUR: March 16 - At Dillingham Hall. Dr. Telford H. Work and his film, "Arctic to the Tropics"

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