



'ELEPAIO

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NAS Report on the 'Alala Released

by Linda M. Paul

The National Academy of Sciences (NAS) released its long awaited report on the 'Alala on 6 May. Entitled "Scientific Bases for the Preservation of the Hawaiian Crow," the report emphasizes that only an active management program can prevent the wild 'Alala population from becoming extinct.

The NAS study panel praised the federal 'Alala Recovery Plan and the state 'Alala Restoration Plan as having sound recommendations for recovery, noting that each plan places priority on the protection and restoration of native habitat, the study of disease and predator control, and recommends the management of the captive and wild populations. The NAS panel noted that in the decade since the federal plan was issued and implemented, the 'Alala continued to decline. Currently there are only 11 adult birds and one or two chicks on McCandless Ranch on the Big Island, one reported lone female somewhere else on the Big Island, and 10 birds at the Olinda hatching facility on Maui.

Because the remnant populations are so small, the panel recommended joint management of the wild and captive populations as a single unit. The NAS panel emphasized that to avoid extinction, the goal of the joint management of the captive and wild populations should be to increase the density and distribution of the populations as rapidly as possible. To accomplish this task, a new recovery team or advisory working group for the 'Alala should be established. It should include state and federal biologists; experts in avian ecology, captive propagation, reintroduction, long-term population biology of birds, and population genetics; an avian veterinary pathologist; an aviculturist; and representatives from the private sector. The panel emphasized that the recovery team must be very active and flexible, able to adjust the recovery plan quickly as new information is


collected. The panel especially noted the deplorable lack of basic information on the 'Alala currently in existence.

The panel also evaluated the Olinda captive breeding facility and recommended that it be modified, improved, and expanded. It further recommended that a second facility be built to minimize the potential for loss of the captive population to a disease outbreak or other catastrophe. The panel emphasized that given the small number of birds left in the wild, it is critical that captive populations be maintained as a safeguard against a natural disaster which might wipe out the remaining wild birds.

The panel gave highest priority to the removal of first clutch eggs from the wild population beginning in 1993 in order to increase the populations of both wild and captive birds as rapidly as possible. The panel noted that egg removal has become a successful method for augmenting the natural reproductive output of wild birds and has been used successfully with other endangered birds. It relies on the capability of most female birds to renest after clutch removal or to continue laying eggs beyond the normal clutch size if eggs are removed in sequence as laid.

The young reared in captivity could be released back into the wild or could be retained in captivity to augment the captive breeding stock. The panel emphasized that the use of egg removal and later reintroduction of young into both the captive and wild populations requires an active recovery team and optimum incubation and chick rearing facilities on or near the McCandless Ranch, location of the last wild population of 'Alala. The panel noted that collection and examination of infertile eggs, dead embryos, and dead chicks can provide important information for understanding the effects of inbreeding on reproduction and the role of artificial incubation and nutritional influences on

embryo and chick development.

The panel also emphasized that because suitable habitat is necessary for the reestablishment of wild, self-sustaining populations, habitat preservation or restoration must have a high priority in every recovery program. In the case of the 'Alala, this is especially true. Essentially no native habitat remains in its pristine condition. The 'Alala is primarily a fruit eating, forest inhabiting corvid, and ranching, logging, and foraging by cattle, pigs, and goats have reduced the native understory of fruit bearing trees and shrubs. The panel noted that restoration and protection of forest preserves will have the added benefit of rescuing numerous other endangered plants and animals from similarly precarious situations. 

Four Tuition Scholarships Available

The Hawaii Audubon Society will be awarding four undergraduate one-year tuition scholarships of \$1,340 each to Hawai'i residents attending the University of Hawai'i. These scholarships, named the Rose Schuster Taylor Scholarship, are made available by the Yao Shen Trust and are in honor of Rose Schuster Taylor. Terms of the trust require that recipients be Hawai'i residents, attending the University of Hawai'i, whose area of study is related to Hawaiian natural history, especially if it may lead to the better protection of native wildlife in Hawai'i.

Applicants should submit the following information: name, address, telephone number, class year, and explain how their academic major relates to Hawaiian natural history. They should also discuss how they
(Continued on page 41)

Failure of the 1989 Sooty Tern Breeding Season on Manana Island, Following Heavy Rain

by G. C. Whittow¹, L. M. Kurata¹ and Q. G. Zhang¹

Surface-nesting seabirds in the Hawaiian Islands are especially vulnerable to adverse weather conditions because most species do not construct nests and there is little or no protection from vegetation. There are several published reports of rain damage to Sooty Terns (*Sterna fuscata*) during the breeding season. Richardson (1948) recorded that "...thousands (of eggs) had...been washed from their nest spots (on Moku Manu) and deserted..." after heavy rain. Hundreds of "dead young sooties, often partly buried in rocks and soil" were observed. In 1970 "approximately 5,000 Sooty Tern eggs were washed from their nest sites along the western slopes of the island" (Manana), according to Shallenberger (1973). In his thorough study of Sooty Terns on Manana, Brown (1973) wrote, "Storms can cause substantial loss of tern eggs on Manana. On 21 April 1971, I found at least 300 sooty tern eggs washed down-slope from their sites by heavy rains of the previous few days." The present report documents the failure of the Sooty Tern breeding season on Manana in 1989, apparently triggered by heavy rain early in the breeding cycle.

During the calendar year 1989, we first visited Manana on 10 March. The island had a heavy cover of vegetation and there were large numbers of Sooty Terns incubating eggs. On 15 March we visited the island again; there were increased numbers of incubating Sooty Terns judging by their presence in areas in which there were none during the previous visit. A subsequent visit on 22 March revealed that some of the birds were incubating in quite dense vegetation and on a further visit on 29 March we estimated that the breeding population had increased further. The next visit was made on 5 April after a day of heavy rain. We noted that many Sooty Tern eggs were partly covered with soil washed down by the rain. On 12 April there were large numbers of pipped Sooty Tern eggs and much evidence of the run-off of heavy rain, i.e., channels in the soil and muddy

eggs. A visit on 19 April indicated the presence of a small number of hatchlings, but there were many abandoned eggs and fewer adults. Our impressions were reinforced during the next visit on 26 April when we saw many dead nestlings, fewer adult birds, and more abandoned eggs. Visits on 10 and 17 May indicated that there were only small numbers of nestlings near the rocky rim of the crater. Most of the adults were also concentrated on the crater rim (Fig. 1). Four visits to the island were made in June, on 7, 14, 21, and 28 June. The visits during this month documented the continued abandonment of Manana by the Sooty Terns so that, by the end of the month, there were no sightings of adults or nestlings on the island. Manana was observed with a telescope from Makai Pier on 12 July, and a landing was made on the island on 26 July. Our July observations confirmed the absence of Sooty Terns on the island but there were small numbers of terns in the air. On 2, 9, 16, 25, and 31 August, visits to Manana were made. Sooty Terns were not seen on the island but on each visit an occasional Sooty Tern was heard to call over the offshore waters. The island was visited on 5 and 12 September; field notes compiled by one of us (GCW) during the two visits did not contain any reference to Sooty Terns. The island was observed with a telescope on 21 September, and on 6, 13, and 20 October. There was no indication that the Sooty Terns had returned to Manana Island on any of those dates. No further visits to, or observations of, Manana Island were made during the remainder of 1989. An independent report was received that the Sooty Terns had returned to Manana by 24 January 1990.

It seems clear that the 1989 Sooty Tern breeding season on Manana Island was a failure. The primary cause of the failure appears to have been the heavy rain in April which resulted in the waterlogging of a large number of eggs. Many of the eggs were firmly embedded in dried mud, which prevented the incubating birds from turning

their eggs and which must have interfered with the gas exchange of the eggs. Records of rainfall reported in the *Honolulu Advertiser* showed that 0.34 inches of rain fell at Honolulu International Airport on 3 and on 4 April. The rainfall on Manana Island on these two days was probably considerably heavier than indicated by these figures. It also rained heavily on Manana Island on 5 April. Shallenberger (1973) also commented on the discrepancy between rainfall on Manana and the main island of O'ahu. Thus, the heavy rain on Manana was localized and, as far as could be ascertained, there were no reports of desertion of Sooty Tern eggs or chicks in other parts of the Hawaiian Islands. A secondary effect of the rainfall was the extensive growth of a creeper (Fig. 2; *Merremia aegyptia*) after the rain, which must have reduced the area of ground available for the Sooty Terns to relay their eggs, had they been stimulated to do so. This plant was not reported to be present on Manana Island by either Richardson and Fisher (1950) or Tomich et al (1968). If the creeper proves to be persistent and its coverage of Sooty Tern breeding sites extensive, it may be necessary to contain its growth. Sooty Terns lay their eggs in grassy areas on Manana but the dense nature of the *Merremia* cover would seem to preclude their nesting on or under it.

Although eggs were not tested for their viability, it seems likely that many eggs on the rocky rim of the crater had not been adversely affected by the rain. Nevertheless, they were abandoned in concert with the desertion of waterlogged eggs by terns further down the slope. No attempt was made to count the number of fledglings produced on Manana in 1989 but it seems safe to estimate the number as less than 1% of the usual 50,000 eggs laid each year (Brown 1973). The mean value in a "normal" year would be approximately 26% (Brown 1973).

The Wedge-tailed Shearwater (*Puffinus pacificus*), which also breeds on Manana in



Figure 1. Above: Sooty Terns on the rocky rim of the crater, Manana Island. Photo by G. C. Whittow



Figure 2. Left: Part of the extensive growth of *Merremia aegyptia* on the crater slope, Manana Island, 1989. Photo by G. C. Whittow

large numbers, lays its eggs in a burrow in the ground. The burrow provides a considerable degree of protection from the elements. In addition, eggs are laid and hatch later in the year, when the average rainfall is less (Shallenberger 1973). Nevertheless, shearwaters are not immune from the effects of heavy rain (Whittow 1979) and rain must be counted as one of the environmental hazards to breeding in tropical seabirds. In fact, Harrison (1990) made extensive reference to the adverse effects of rain on the reproductive success of Hawaiian seabirds, while Schreiber and Schreiber (1983) described the effects on seabirds of flooding at Christmas Island (Pacific Ocean) during El Nino conditions.

Acknowledgements

We are grateful to the State of Hawai'i Division of Forestry and Wildlife (Department of Land and Natural Resources) and the U.S. Fish and Wildlife Service for permits, and to the National Geographic Society and the Frank M. Chapman Fund for financial support. Dr. Gerald D. Carr, Chairman of the Department of Botany, University of Hawai'i, kindly confirmed the identification of *Merremia aegyptia*. Special thanks are due to Dr. Michael Fry, Joe Van Ryzin, and Joe Martino for assistance in transportation to Manana Island. We should like to thank Craig S. Harrison for his constructive review of the manuscript.

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Black-crowned Night Heron Nests on Manana Island

by G. C. Whittow¹

Black-crowned Night Herons (*Nycticorax nycticorax honctli*) were recorded as "visitants" to Manana Island, off O'ahu, by Richardson and Fisher (1950).

Shallenberger (1973) reported that herons were regular visitors to Manana, the herons flying to Manana from their colony on O'ahu. Brown (1973) considered predation by the Black-crowned Night Heron to be the most obvious cause of mortality of tern chicks on Manana. He cites a personal communication from R. J. Shallenberger that there were 15 heron nests behind Sea Life Park, on O'ahu (opposite Manana Island), in 1970. Brown also stated that herons fly to Manana from O'ahu at dusk, or after dark, and that they were seen on Manana only occasionally during the day.

In my work on Manana I have frequently seen herons during the day, especially in the crater. This prompted a search for nests. The first nest was found in a clump of *Pluchea* spp. bushes on 18 August, 1988. The nest was in a gully in the southerly part of the crater (Fig. 1). There were two large nestlings in the vicinity of the nest and four adults nearby. By 23 September, when the site was next visited, the nestlings had gone. The nest (Fig. 2) was a simple platform of twigs. On 19 April, 1989, the remains of a second nest were found in the same area, but it is not known if this was the result of an aborted attempt to build a nest in 1989 or the remnant of a nest missed during observations made in 1988. On 26 April, four adult herons were flushed from the gully on approach to the nesting area. On 17 May, a single heron was flushed from the area. The gully was not visited again until 25 August, when eight heron nestlings were observed in the gully. Three of them could fly. It seems important to point out that the small number of herons described in the present report refer only to those seen in the vicinity of the nesting site on the few occasions that the site was visited. The total number of herons on the island is probably greater in view of the level of predation on Brown Noddies (*Anous stolidus*) and Sooty Terns (*Sterna fuscata*) reported by Brown (1973).



Figure 1. Left: Nesting site for Black-crowned Night Herons in the crater on Manana Island. View from the southwesterly crater rim looking east. The clump of *Pluchea* bushes containing the nest is seen between the coconut palm fronds. Photo by G. C. Whittow



Figure 2. Below: Nest of Black-crowned Night Heron in a *Pluchea* spp. bush on Manana Island. Photo by G. C. Whittow

These observations are neither extensive nor complete, but they do establish that Black-crowned Night Herons nest on Manana and that they appear to favor the gullies, not only for nesting purposes but also as shady areas in which to rest during the day. The presence of breeding herons on Manana, as opposed to birds that fly across from O'ahu each evening, could increase the degree of their predation on terns and noddies. My own observations have confirmed the high degree of predation on Brown Noddy nestlings, described by Brown (1973), particularly during May and June. According to Brown (1973), herons do not take noddy nestlings older than one week. There are few Brown Noddy nestlings of that age on Manana in July and August (Brown, 1976). This raises the question whether the herons on Manana in July and August are feeding on Wedge-tailed Shearwater hatchlings, which are abundant during those months. There is no evidence for this but it is something that might bear investigation.

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Field Trip to Red-footed Booby Colony

by Molly Rowland

The 25 February field trip to the Red-footed Booby colony on Mokapu Peninsula was an experience of contrasts. First there were the people, 21 of us ranging in age from a boy of about 10 murmuring excitedly to his mother to an octogenarian, striding along with a firm grip on his walking stick. Then there were the contrasts in appearance, ranging from the long-haired camera-draped birder to the trim Marine Corps officer who wanted to visit the tip of the peninsula and see the bird colony before she left Hawai'i.


There was the contrast of the orderly, cultivated environment of the Kane'ohe Marine Corps Air Station (KMCAS) changing as we drove toward Mokapu Point to the wild, shagginess of the rocks and vegetation of Ulupau Crater. There were a cool sea breeze and hot sun; the breeze was fresh and invigorating but did not quite blow away the stuffy, bitter odor of guano. The soothing sound of the wind and the birds was punctuated by sharp reports of gunfire from a distant firing range. The deep blue ocean viewed from the sea cliffs became the placid aquamarine of Kailua Bay with just a 180 degree turn. Perhaps strangest of all were those concrete relics of World War II rearing against the blue sky above the crater rim, with lava and grass and old trees festooned with birds at their bases.

We were led in caravan from the H-3 gate by Bill Buck, KMCAS public relations representative. He also served as our trip

narrator. Although he said history was really his forte, he was informative about the birds as well.

The birds came into view suddenly, at least for me, as we rounded the last curve in the road. There they were — big, white, blue-faced, red-footed birds, sitting on large nests which were draped on the branches of the keawe trees. There was a surreal quality to the scene, like a bizarre Christmas tree display. The birds made clacking sounds as we drove and later walked nearby, but they seemed only mildly curious about us and not at all alarmed. In several trees, a brownish booby, perhaps a juvenile, perched in the highest branch looking more alert and "on guard" than the white birds on the nests. I saw only one young bird that I thought had some of the white fluff of a chick, but there were probably more. The whole scene was so absorbing and the sensations so varied it was easy to miss details.

We saw several 'Iwa soaring among the boobies in flight over the bay but looked in vain for whales we had hoped to spot out in the open ocean.


The ride back toward the gate after about an hour of walking, gazing, inhaling, and listening was a quiet one. As we reentered the world of curbs, buildings, and traffic lights, the world of open ocean, rocks, wind, and birds receded, and we began to talk about how much we would like to come back to Mokapu Point. 

T-shirts for Sale

The Hawaii Audubon Society has a stock of T-shirts designed to spread the Audubon message. Not only are they attractive personal apparel, but they make excellent presents as well.

T-shirts bearing the Society's 'Elepaio logo are available in ash (gray) with a black design. We also have a few in aqua, navy, white, and beige. In addition, the "hot" Kolea (Pacific Golden Plover) T-shirts are also available. This T-shirt is white with a three-color design of the Kolea and native hibiscus. Proceeds from the Kolea T-shirt go to help HAS fund research on shorebirds

in Hawai'i and elsewhere in the Pacific region.

T-shirts are \$12 each, plus \$2.00 per shirt for postage. They are available in medium, large, and extra large adult sizes only. When ordering T-shirts, be sure to list size and first, second, and third choice of color. To order T-shirts send your check, payable to the Hawaii Audubon Society, to Yvonne Izu, 2069 California Avenue, #20B, Wahiawa, HI 96786. Don't forget to add \$2.00 per shirt for postage. Insufficient postage will delay your order until the proper amount is remitted. T-shirts are not available at the HAS office. 

Reading List


by Casey Jarman

Once again, I have perused my bookshelves for reading material that will entertain and inform (two prerequisites for recommendation in this column!). So, if any of these pique your interest, head for your nearest library or bookstore and take another journey into someone else's point of view. And before, during, or after your reading, call me at 956-7489 (W) and share books or articles that have touched you in some way. Let's get the written word out!

Shoal of Time: A History of the Hawaiian Islands by Gavin Daws (MacMillan Co., 1974). A well written, informative history of the socio-cultural-economic-political forces affecting Hawai'i from the arrival of Captain Cook until statehood in 1959. Knowing where Hawai'i has been helps to understand where we are now.

Arctic Daughter by Jean Aspen (Bergamot Books, 1988). For those of us who have dreamed of forging a life off the land in a true wilderness area, this book shows us that it can be done while reminding us of the difficulties of the task (particularly appropriate for those of us who tend to romanticize living off the land!). Ms. Aspen shares the compelling story of a journey she shared with her boyfriend up the Yukon to the Chandalar River in Alaska in search of a life in the wilderness.

Hayduke Lives! by Edward Abbey (Little Brown and Co., 1990). This sequel to Abbey's famous *Monkey Wrench Gang* reunites the members of the "gang" and adds some interesting characters as once again it becomes necessary to stave off the plans of those who are out to irretrievably alter the fragile environment of the desert southwest.

Ecotopia by Ernest Callenbach (Bantam Books, 1975). Imagine life in the west coast states following their secession from the United States, where the residents have formed a new government and lifestyles that are designed to be in harmony with the ecosystem. Told from the viewpoint of a journalist from the United States who is sent there to find out what is really going on in Ecotopia. Easy reading when you want to escape to the world of possibilities! 

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Volunteer Corner

by Rae Alice Hall

Dr. Renate Gassmann-Duvall of Maui feels that children get too much exposure to television commercials and too little contact with nature, so she decided to do something about it.

Renate is the Hawaii Audubon Society representative on Maui. She has also served as a board member and education committee chair. Two years ago she got together with Eda Kinnear of the Native Hawai'i Plant Society and they set up a nature excursion program for Maui school children.

Renate says her own children were the inspiration for the project. "They were taking field trips to the police station and the electric company, but there was nothing about nature or the environment."

Eda and Renate take groups of school children to a wildlife sanctuary near the Kahului Airport. Eda teaches them about the plant life and Renate tells them about the birds. They learn about the stilt, coot, water birds, migratory ducks, and migratory shore birds. Renate explains about their nesting habits, what they eat, their diseases, and their predators. The Sanctuary also is the site of an ancient royal Hawaiian fish pond, and a kapuna teaches the children Hawaiian history and folklore.

"We average about 300 public and private school students each year, and it is all done on a volunteer basis," she says. They are very careful, however, to curtail their excursions during the birds' breeding season.

Renate, a native of Berlin, lives with her husband Fern and two children in Olinda. Her husband is the director of the Endangered Species Breeding Facility Olinda, Maui. Olinda is the site of the old Hawai'i Prison, and the Gassmann-Duvalls live in the old prison superintendent's house. Renate has a Ph.D. in veterinary medicine. Her specialty is birds and bird diseases.

When the Gassmann-Duvalls first moved to Hawai'i, the Endangered Species Program was located in Mauna Kea State Park on the Big Island. "Our house was a primitive little cabin, and our only neighbors were wild pigs and turkeys," Renate says. Noise from a nearby military facility caused problems for the birds, however, so the Endangered Species Program was moved to Maui.



Renate Gassmann-Duvall with her daughter Anna.


As the Hawaii Audubon Society representative on Maui, Renate evaluates environmental issues on the island. She attends hearings, listens to testimony, and keeps in touch with other environmental and native Hawaiian groups. All of her findings are sent to the HAS office on O'ahu.

"There are two key issues we are working on right now," she says. The first is the proposed lengthening of the Kahului Airport runway to accommodate international flights. We are strongly opposed to this. We feel it would have a very bad impact on the environment.

The other major issue concerns the wetland in the Waihe'e Dairy area. Developers want to turn the area into a golf course.

"When I first came to Hawai'i," Renate says, "I thought it was so beautiful. But then I felt sad because so much has been lost. I felt a responsibility to do something about it."

In addition to her other activities, Renate is also a bird rehabilitator. She has a permit that allows her to treat sick or injured wild birds. Her most unusual experience involves a bird that was injured on Moloka'i. There was no one there to treat the bird, so it was put on an airplane and flown to Maui. Renate would like to see a bird rehabilitation station set up on Maui, one that would also serve Lana'i and Moloka'i.

As for the future, Renate says, "we should educate our children to be good watchdogs for our environment." 

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Your Bequest Can Help

A bequest to the Hawaii Audubon Society is an excellent way to help in our conservation efforts. George C. Munro, enthusiastic and tireless field ornithologist and naturalist, provided for a fund to be used exclusively for the protection of native dry forests. Today, the George C. Munro Fund provides money for research projects on such forests.

Although an attorney should be consulted in the drafting of your will, a model clause for bequests is set forth below.

"I hereby give, devise, and bequeath to the Hawaii Audubon Society, Honolulu, Hawai'i, the sum of _____ dollars (or set forth a description of property), to be used for the general purpose of said organization."

For more information and assistance, contact the Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813, (808) 528-1432. 

Hawaii Audubon Society desperately needs help in the following areas:

Phone Tree Coordinator. You will be responsible for maintaining the list of persons participating in the telephone tree and giving information to phone tree participants when calls need to be made. We need a self starter who is a good communicator and who can devote four to eight hours a month for a minimum of a year. This work can be done from home. Some knowledge of environmental issues and legislators is a plus. To volunteer call David Hill, 943-2784 (H).

Phone Tree Callers. We are growing a phone tree—a chain of people who can make calls to decision-makers on environmental issues. This allows the environmental community to respond very quickly with public pressure on important issues. To join our phone tree, call David Hill at 943-2784.

Testimony Presenters. Here we need self-starters who can tactfully and effectively present testimony at the legislature, county councils, and hearings of governmental boards and agencies, usually on weekdays during daytime hours. If you can't write the testimony, we will have someone else do it. A knowledge of Hawai'i, including issues, politicians, and who the players are is a big plus. A minimum of four hours a month is required. To volunteer call David Hill, 943-2784 (H).


Recordkeeper. This position, which requires you to spend one morning or

afternoon a week at the office, entails integrating our membership records with our fundraising records and locating telephone numbers for all new members. The work is done manually. To volunteer call Lynne Matusow, 531-4260 (H).

Volunteer Coordinator. This hardworking, gregarious individual will match volunteers with available jobs, see that volunteers are trained, and maintain contact with volunteers to see if they are happy or have suggestions for improving things, and plan volunteer recognition events. This job will take two hours or more weekly. To volunteer call Lynne Matusow, 531-4260 (H).

Office Staff. We would like to have our office open five days a week. People are needed for morning or afternoon shifts Monday, Tuesday, Thursday, and Friday. Among the duties are answering the telephone, distributing the mail, referring problems to the appropriate officer or committee chair, filing, and responding to routine correspondence. To volunteer call Lynne Matusow, 531-4260 (H).


Writers and Editors for 'Elepaio. If you can write stories, edit copy, and come up with story ideas call Lynne Matusow, 531-4260 (H).

The above is only a partial list. If you have a particular skill or interest, call Lynne Matusow, 531-4260 (H). Who knows, maybe we have the right opening but haven't publicized it yet. 

Scholarships (Continued from page 35)


plan to apply their academic degree to further study or work experience in Hawaiian natural history, how their course of study will enable them to contribute to the better protection of native Hawaiian wildlife, and if they have made contributions to the study of Hawaiian natural history, especially to anything that might contribute to the protection of native wildlife.

Applicants should attach a transcript of their college or high school records and three letters of recommendation.

Applications should be sent to Phil Bruner, Chair, Scholarship and Grants Committee, Box 1775, BYU-H, La'ie, HI 96762, telephone 293-3820 (W). The application deadline is 1 August. 

Research Grants

The Hawaii Audubon Society makes grants for research in Hawaiian or Pacific natural history. Awards generally do not exceed \$500 and are oriented toward small-scale projects within Hawai'i.

The deadlines for receipt of grant applications are 1 April and 1 October. For an application form send a self-addressed stamped envelope to Grants, Hawaii Audubon Society, 212 Merchant Street, Suite 320, Honolulu, HI 96813. For more information, call Phil Bruner, (808) 293-3820 (W). 

Calendar of Events

First Monday of Every Month

Monthly meeting of the Conservation Committee, 6:00 p.m., HAS office. To join or for more information call David Hill, 943-2784 (H).

June 8, Monday

Board meeting, 7:00 p.m., HAS office. Call Reggie David on Hawai'i, 329-9141 (W), for details.

June 14, Sunday

See seabirds at the Makapu'u Lighthouse. Meet at the State Library on Punchbowl Street at 8:00 a.m. or the lighthouse parking lot at 9:00 a.m. For more information call Casey Jarman, 956-7489 (W). Suggested donation: \$2.00.

June 15, Monday

General meeting, 7:30 p.m., Atherton Halau, Bishop Museum. Jerry Leinecke, deputy project leader for the Hawaiian-Pacific National Wildlife Refuges Complex, will give a slide presentation and talk about refuges and efforts by the U.S. Fish and Wildlife Service in Hawai'i. Refreshments will be served.

July 19, Sunday

Ko'olau Poko Trail. This three mile stretch of trail in Maunawili was recently completed by the Sierra Club for the Hawai'i State Department of Land and Natural Resources. It will be part of a larger trail system along the Ko'olau Mountains' windward side. Come with us and be the first to find out what birds are there. Everyone is to meet at the State Library on Punchbowl Street at 7:30 a.m. For more information call Casey Jarman, 956-7489 (W). Suggested donation: \$2.00.

Board Welcomes Kevin Shaney

In April the board of directors appointed Kevin Shaney to fill a vacancy on the board. His term expires in December, 1993. Kevin is vice president and general counsel for Castle and Cook Land Company, a Division of Dole Food Co., Inc. The Board has set a high priority on forging links with Hawai'i's business community. Kevin will be a key element in helping us meet that goal.

Table of Contents

NAS Report on the 'Alala Released 35
by Linda M. Paul

Failure of the 1989 Sooty Tern
Breeding Season on Manana Island,
Following Heavy Rain 36
by G. C. Whittow, L. M. Kurata, and
Q. G. Zhang

Black-crowned Night Heron
Nests on Manana Island 38
by G. C. Whittow

Reading List 39
by Casey Jarman

Volunteer Corner 40
by Rae Alice Hall

Volunteers Needed 41

Four Tuition Scholarships Available .. 41

Moving?

Please allow four weeks for processing address changes. Because our records are kept in order by zip code, we need both old and new addresses.

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