



First Mariana Islands Record of a Ruff

By Philip R. Ashman

On 28 January 1982 at 16:30 I observed two male Ruffs (*Phlommachus pugnax*) at Dungeas Beach, Tamuning, Guam. The Ruffs were observed foraging on mudflats with a flock of approximately 100 shorebirds. Species in the flock were: Lesser Golden Plover (*Pluvialis dominica*), Common Ringed Plover (*Charadrius hiaticula*), Mongolian Plover (*Charadrius mongolus*), Whimbrel (*Numenius phaeopus*), Gray-tailed Tattler (*Heteroscelus brevipes*), Ruddy Turnstone (*Arenaria interpres*), Rufous-necked Stint (*Calidris ruficollis*) and Sanderling (*Calidris alba*). I observed the birds for 30 min with 7x26 binoculars and a 30X spotting scope at a distance of 30 m. Lighting conditions were good. I returned to Dungeas Beach the following day with Gary J. Wiles, a biologist with the Guam Division of Aquatic and Wildlife Resources, and we observed the Ruffs again for approximately 30 min.

In comparison with an adjacent Lesser Golden Plover, the Ruffs were several cm taller with a more erect posture, longer neck, smaller head and a longer, thinner bill. Other field characteristics that I noted were: brown head; dark eye; straight bill $1\frac{1}{2}$ times the length of the head with the outer $\frac{1}{4}$ blackish and the basal $\frac{1}{4}$ yellowish; white throat; gray unstreaked breast; white belly and underparts; brown back with a distinct scaly pattern; and yellow legs and feet. In flight the upper surface of the wing had a faint white median stripe and the tail had two white oval patches separated by a dark medial line and fringed with black. No calls were heard. The fact that these two individuals were larger than a Lesser Golden Plover indicated that they were males.

I observed a single male Ruff on 1, 4, and 7 March 1982 and two males on 16 and 18 March 1982. John Enghring, a wildlife biologist with the U.S. Fish and Wildlife Service, also observed the birds on 16 March 1982. Field characteristics of these Ruffs were very similar to the marks noted for the January individuals. Probably they were the same birds.

This is the first record of a Ruff in the Mariana Islands. Previous records of the species in Micronesia have come from Palau. Owen (1977) observed Ruffs on several occasions at Koror, Palau during September-October 1974, May-June 1975 and September 1976 and John Enghring (pers. comm.) observed several individuals, also at Koror, during 1977-1979.

The Ruff breeds in Eurasia from western France and Belgium, north through Scandinavia and across much of northern Russia. It winters in the Mediterranean region, south through Africa and east to India and Indochina.



Golden Plover (facing right) and Ruff (facing left) at a Waipio Peninsula setting pond, Oahu, 7 October 1979.

Photo by Peter Donaldson

Stragglers have been recorded almost worldwide (Vauric 1965). Owen (1977) believes that the species is a regular migrant through Palau. Undoubtedly Ruffs will be recorded from other island groups in Micronesia when competent field observers visit them during migration or the winter season.

ACKNOWLEDGMENTS

I would like to thank Roger Clapp, John Enghring and Peter Paton for helpful reviews of this manuscript.

LITERATURE CITED

- Owen, R. P. 1977. New bird records for Micronesia and major island groups in Micronesia. *Micronesica* 13:57-63.
- Vauric, C. 1965. The birds of the Palearctic fauna: a systematic reference. Non-Passeriformes. Witherby Ltd. London.

LIHUE, KAUAI CHRISTMAS COUNT

by Winona Sears

We had a very severe hurricane 23 November 1982. It spoiled most of the habitat by taking off leaves (it looked like winter on the Mainland in many areas), uprooting large trees, and doing a great deal of damage to small bushes in many areas. The south shore of the island, which is part of the Lihue Count, was

almost totally devastated. We saw very few birds for several days, and some seem still (on 20 December) to be confused.

Looking at the list, the ground-feeding birds, such as Mynas, Barred doves, House finches, and especially Cattle egrets, seem to have fared the best.

Areas	1	2	3	4	5	6	7	Total
White-tailed Tropicbird	1	-	-	-	3	-	-	4
Great Frigatebird	-	1	-	-	-	-	-	1
Cattle Egret	159	55	-	15	85	2	68	384
Bl.-cr. Night-Heron	-	-	-	-	1	-	-	1
Hawaiian Duck (Koloa)	3	2	-	-	2	-	-	7
Red Junglefowl	16	-	-	-	15	-	-	31
Ring-necked Pheasant	3	2	-	-	4	-	2	11
Chukar	-	-	-	-	3	-	-	3
Com. (Hawaiian) Gallinule	15	-	-	-	4	-	-	19
Com. (Hawaiian) Coot	31	-	-	-	7	-	-	38
Am. Golden Plover	40	2	-	1	2	2	-	47
Ruddy Turnstone	15	-	-	-	-	-	-	15
Black-necked (Haw.) Stilt	9	-	-	-	-	-	-	9
Rock Dove	-	6	-	-	-	-	-	6
Spotted Dove	20	6	-	1	9	50	1	87
Barred Dove	117	131	-	-	51	-	8	307
Mockingbird	1	-	-	-	2	-	2	5
Greater Necklaced Laughingthrush	-	1	-	-	-	-	-	1
Hwa-mei	3	-	-	1	-	2	-	6
Shama	3	-	-	2	7	2	1	15
Common Myna	271	30	-	40	37	36	27	441
Japanese White-eye	21	2	-	5	137	7	5	177
Spotted Munia	100	-	-	-	4	25	-	129
Black-headed Munia	-	-	-	-	2	-	-	2
House Sparrow	18	1	-	-	12	19	3	53
Western Meadowlark	5	-	-	-	1	2	-	8
Red-crested Cardinal	4	2	-	-	-	-	2	8
Northern Cardinal	13	6	-	2	13	7	-	41
House Finch	100	201	-	-	12	-	8	321
No. of Species	23	15	-	8	22	11	11	29
No. of Individuals	968	448	-	67	413	154	127	2177

Areas covered

1. Wailua River to north side of Lihue, including airport road and holding ponds west to Lihue, also Lihue town (formerly part of #6) and former #3 south of Lihue to Knudsen Gap Road, including Kipu Ranch and Waita Reservoir, Koloa town and Poipu (formerly part of #4).
2. Nawiliwili Harbor, Huleia Stream, Menehune Fishpond.
3. (Combined this year with #1).
4. Omao Road only.
5. Pacific Tropical Botanical Gardens.
6. Three feeders in environs of Lihue town.
7. Kalaheo, one feeding area plus Kukuilono Park.

The day of the Count (18 Dec. 1982), it rained with wind most of the morning, with the wind building up to gusts of 60 mph by the middle of the afternoon. There were more roofs blown off (possibly loosened by the hurricane) and some of the telephone poles just put back in the Poipu area were knocked down again.

Not only the birds, but some of our usual compilers were discomfited, so that some of our usual ones did not go out, were off island, or otherwise did not count. We did pick up a few new ones.

Much of the area had not yet been cleared, so that roads we have previously used for the Count were impassable, or very much in need of repair, and even walking was impossible in some of the areas we had covered before. We tried to cover as much of the same area as previously, so a comparison could be made.

Twenty observers participated in the Lihue count on 18 December, 1982, in seven parties, plus five at feeders.

Participants included: Stuart Bradley, Sr. and Jr.; Gladys Clark; Sophie Cluff; Zipporah Douglas; Elizabeth Hoffman; Dan, Donald, Hannah, Linda, and Mary Moriarty; Gilbert and Muriel Parfitt; David and Winona Sears (compiler - 190 Lulo Road, Kapaa, Hawaii 96746); Virginia Siewertsen; Reva Stiglmeier; William Theobald; John and Stephene Townsend.

KAHAUALE'A GEOTHERMAL PROJECT

One of the most controversial, recent environmental issues has been the proposal of the Estate of James Campbell to develop the geothermal potential of its Kahauale'a lands in Hawaii's Puna District. This tract of land lies adjacent to the Hawaii Volcanoes National Park on its west and south, and the Wao Kele o Puna Natural Area Reserve on its east. The state's plans include development of 250 megawatts of power: five large power plants each surrounded by well fields, one of which is about 1/4 mile from the Thurston Lava Tube area, and many planned-for areas of as-yet unimpacted rain forest.

While Hawaii Audubon Society was and is generally supportive of alternate energy development for Hawaii, this particular project raised serious questions regarding both land use and possible adverse impacts to native biota in and around the drilling sites.

Dr. Charles Stone of the Hawaii Volcanoes National Park presented comments for the Hawaii Audubon Society (HAS) at the Board of Land and Natural Resources hearings regarding the Con-

servation District Use Application (CDUA) of the developer in May of 1982. HAS concerns were summarized by Dr. Stone in four general areas as follows:

1. The state of the art of geothermal technology does not warrant such large scale experimentation at this time. Experimentation should be of longer duration, on a smaller scale, with decision points and monitoring clearly defined. Priorities for drilling sites statewide need better substantiation.
2. The planning effort for development and use of the geothermal resource is inadequate, and social impacts, mitigation, and monitoring have not been adequately addressed.
3. The importance of Kahauale'a to Hawaii's natural resource heritage and future generations has been poorly addressed. In particular, the parcel seems necessary if we are to retain adjacent rain forest in a near-pristine condition in the future. However, the obligation for better land use planning rests with numerous organizations and individuals, not just Campbell Estate. What is needed statewide must be better identified before other piecemeal decisions are necessary.
4. The arguments for a special ruling by the Board on conditional use of Conservation Districts are not convincing, apparently without precedent, and destroy any credibility inherent in the land use classification system. Wise land use planning by the State and other landowners depends upon integrity of the zoning system. Large scale industrial use would seriously impact other land uses on adjacent areas.

After the hearings and in spite of overwhelming opposition to the project and much written comment by the public in regards to the inadequacies of the draft EIS, the BLNR approved the EIS. No decision on the CDUA was made by the BLNR.

Following the BLNR approval of the revised EIS, concerned parties (HAS among them) petitioned for a contested case Hearing on the developer's CDUA. These hearings convened in October and continued sporadically through mid-December. HAS testimony was again presented, this time by HAS Board member Maile Stemmermann. The additional hearings allowed for more complete discussion of the issues than had been previously possible. Portions of the testimony follow:

The Society is greatly concerned with the potential impacts of geothermal development of Kahauale'a: impacts not only to Kahauale'a lands, but to adjacent National Park, Natural Area Reserve, State Forest Reserve, and private lands as well. Many questions raised in our May 20 testimony as regards these impacts and the EIS's treatment of them were either insufficiently answered or were entirely ignored in the developer's response.

Two broad topics were particularly poorly considered in the reply to our comments: those pertaining to biological aspects of the EIS, and those pertaining to planning and land use. One of the main thrusts of our testimony on this subject was the differentiation between the direct effects of construction of the 422 acres of Kahauale'a necessary for roads and structures (emphasized in the Draft EIS), and the more subtle but potentially more damaging secondary effects of development on the surrounding forests. Meaningful consideration of these secondary effects was lacking in both the developer's comments and in the EIS.

We submit that these indirect effects, so underestimated by the developer, will be of critical importance to the biological integrity of not only Kahauale'a, but of the Hawaii Volcanoes National Park and the Wao Kili o Puna Natural Area Reserve as well. The geothermal wells, power plants, and access roads necessary for development cannot be considered as though built or operated in a vacuum. The revised EIS and responses to citizen comment are replete with statements indicating that the developer anticipates very limited disturbance from project activity, leaving most of the Kahauale'a parcel in an undisturbed state. In the same document, however, statements as "it cannot yet be determined the extent to which drilling noises would have an impact on fauna" and "Since little is known about the 'O'u...it is not possible to estimate the impact of the limited clearing operations associated with this project." are equally common. Apparently, the developer assumed that unknown impacts are equivalent to no impacts. This is a dangerous fallacy: the impacts are unknown *not* because they are minor, but simply because they have not been properly studied. As the developer considers the impacts of noise and clearing to be one aspect of the impacts of operation, it seems critical that these effects be carefully studied.

Another secondary impact of the geothermal development of Kahauale'a's presently untouched forests that has been underestimated in both the Draft and revised EIS is the very real danger of habitat degradation through an accelerated rate of exotic plant influx and establishment in the region. Exotic plants are present in varying densities in many native forests, with the higher densities generally being associated with high levels of human disturbance. The invasion of certain exotic plants into native forests can irreversibly degrade them in a relatively short period of time. This process will undoubtedly become an important factor in reducing the quality of native habitats in Kahauale'a lands for the native biota.

The revised EIS lists two of the factors discussed above (clearing and noise) as impacts on biota of operation of production wells and power plants, but totally ignores the possible long term effects of emissions and consequent reduction in air quality on native biota. The effects of H₂S and other geothermal emissions on any of the native plant or animal species are not known; nothing can be said about injury to sensitive species without experimental trials. The potential for widespread habitat damage from geothermal emissions cannot be written off as negligible simply because no data are available. On the contrary, even small scale perturbations to plant communities in the lee of project sites as a result of emissions, can be expected to radically affect animal species which depend upon them. The initial subtle perturbations to botanical communities would not necessarily be obvious. It is of the utmost importance that monitoring of project impacts be planned with this in mind, and that qualified scientists be contracted to perform the necessary on-site determination of project impact.

Yet another form of secondary impact entirely ignored by the developer (in spite of earlier testimony from this Society and by concerned biologists) is that of fragmentation. Recent studies on the ecological implications of forest reserve design have unequivocally shown that the failure to set aside sufficiently large tracts of undisturbed habitat results in the gradual reduction of species diversity. Thus, even without taking the more obvious impacts into account, a scenario involving irreversible damage to the species composition of the Hawaii Volcanoes National

Park, Kahauale'a, and of the Natural Area Reserve is not unlikely as a result of the simple disruption of the continuous forest tract which now exists.

Continued deficiencies in the revised EIS as regards biological data on species distribution and abundance are especially serious in the light of the inadequate information on impacts of the proposed development. These deficiencies are most critical in regard to the two endangered bird species, the endangered mammal, and the one plant species proposed for endangered status. Thorough, well-planned surveys of these species in the Kahauale'a parcel are necessary to adequately judge the relative importance of possible impacts; surveys of areas directly affected by construction of planned access roads, power plants, and well sites are not sufficient. The piecemeal, poorly documented additions to the data presented in the draft EIS are of little use in this regard. It is the developer's responsibility to collect adequate data on the species potentially affected by its planned project, *before* the EIS is accepted, *before* the CDUA is approved, *and certainly before* any work commences -- not the other way around. Data on the distribution and abundance of an endangered organism is of no use whatsoever once the damage has been done. This is not to belittle the importance of on-site surveys during the construction process, only to emphasize the need for baseline data before the onset of work.

The broad questions of land use and long range planning are especially important as they apply to geothermal development here in Hawaii. It is our opinion that neither of these important issues have been fully explored in the revised EIS or in responses to our questions on the subject. One of the greatest flaws of the EIS in this regard is the repeated insistence of the developer that geothermal exploitation of the area does not constitute a form of industrial development, that it is a permissible activity in a Conservation District and in this particular limited subzone. The HAS feels quite strongly that this is *not* the case; that the proposed project is an entirely inappropriate use of Conservation District land in general, and that the restrictions on permanent structures and prolonged human activity in this limited subzone are entirely justifiable due to the high susceptibility to volcanic hazards along the east rift. The granting of a Conditional Use Permit for geothermal develop-

ment in Kahauale'a (considering their biota and the spatial relationship with adjacent biological reserves) would set an alarming precedent, violating the goals of the conservation district and weakening the State's land use laws. The developer considers suggestions that they ask the Land Use Commission for a zoning change for this project to allow industrial development inappropriate and ridiculous. Such ideas are far from that: in fact, they reflect a far more realistic view of the project's scope and its possible negative impacts on the environment. While industrial zoning of the area is obviously unthinkable, it is no more so than the issuance of a Conditional Use Permit for industrial development of Conservation zoned land. In view of the lack of a coherent master plan for alternate energy development in Hawaii, the potential for large scale impacts on the flora and fauna of both the affected and adjacent parcels, the public health dangers, and the presence of widespread community opposition, we feel quite strongly that the CDUA approval desired by the Campbell Estate for this project should be denied.

Formal proceedings of the contested case hearings concluded in December. Recent volcanism within the proposed project area prompted a request (which was granted) for supplemental testimony as regards its impact on the geothermal venture. It is expected that BLNR will announce their decision on the CDUA in February.

Maile Stemmermann

PRIMARY CLIPPINGS

**The USFWS is soliciting data (see Federal Register Vol. 47, No. 251, Tues. 30 Dec. 1982) concerning many proposed threatened and endangered species for the U.S. Among those on the long list are the O'opu alamo'o and the Bishop's 'O'o from Hawaii. For more information write: Regional Director (ARD/FA), USFWS, Suite 1692, Lloyd 500 Building, 500 N.E. Multnomah St., Portland, Oregon 97232.

**The Wed., 12 Jan., 1983 Federal Register (Vol. 48, No. 8) carries a new set of proposed Falconry standards. Comments about the proposed Federal changes must be received by 11 Feb. 1983.

**Paper or microfiche copies of the Palila and Hawaiian Waterbirds Recovery Plans are available (for a small fee) from: Fish and Wildlife Reference Service, Unit i, 3840 York St., Denver, Colorado 80205.

**A California Condor was caught and fitted with a radio telemetry device in Oct. 1982. Since then, the transmitter has led biologists to previously unknown condor habitat, which can now be provided with extra protection.

WALK FOR THE WHALES

It's whale season again in Hawaii. All around the islands, the remaining Hawaiian humpbacks have arrived from their feeding grounds in the cold arctic seas to rest, mate, give birth to their young and to rejoice in life itself by throwing their 50-ton bodies out of the water in incredible breeches. This year the whales have something to rejoice about: Greenpeace, working in conjunction with other environmental groups around the world, has managed to convince the International Whaling Commission to pass a total moratorium on commercial whaling that is due to commence in 1986. The huge rusting Soviet whaling ships that have slaughtered whales for years will be forever barred from the practice.

Although encouraging, the whales are not yet safe: over 80% of whaling is now done by "coastal" whaling operations which are virtually impossible to monitor. Many of these operations have no compunctions against taking "protected" species. The nation of Japan has announced that it will not honor the International Whaling Commission's ban on commercial whaling. The continued unrestricted trade in black market whale meat in Japan keeps the "pirate" whalers from many nations in business and thriving killing humpback, blue, right, fin, and orca whales of all ages and sizes, including pregnant females and nursing infants. The Korean Grey Whale is already extinct and many more species face that threat in the near future.

This year, to fund upcoming campaigns to encourage Japan to honor its commitments to International Whaling Commission rules and to discourage "pirate" whaling by all nations and organizations, and to also fund the campaigns that are attempting to end the practice of purse-seining by the U.S. tuna industry (a practice that kills over 20,00 dolphins a year) Greenpeace and KIKI will be sponsoring the 7th annual WALK FOR THE WHALES. The ten mile walk, which begins and ends at Ala Moana Park, will be held on 26 February 1983.

Pledge sheets will be available at KIKI, most local running stores and the Greenpeace Office. For more information call Greenpeace at 595-4475.

Jacque Blundell

HELP WITH 'ELEPAIO

Volunteers are needed to help with all the phases of 'Elepaio production. No experience is needed; we will train! Spend as much or as little time as you like. Call Marie at 533-7530 and/or show up for March "paste-up" at 1415 Victoria St. #1515 on 15 February (Tuesday evening) beginning at 6 p.m. (Dial the entry phone for "Simasko").

FEBRUARY PROGRAM:

BRIGHAMIA IN HAWAII

The program for the Tuesday 22 February general meeting will be *Brighamia in Hawaii*, by Charles "Chipper" Wichman Jr., a Univ. of Hawaii Botany student. In the past, Chipper has worked for the Pacific Tropical Botanical Gardens on Kauai.

The program will feature slides from the whole *Brighamia* genus, as well as fantastic slides of Chipper and Steve Perlman searching for plants on cliff sides of the Na Pali Coast. History and status of these rare plants will also be explored.

The meeting will be held at McCully-Moiliili Library at 2211 S. King St., Honolulu, at 7:30 p.m. Please notice that due to the holiday, the meeting day has been changed to Tuesday instead of the usual Monday.

HELP THE STILT

A Kamehameha School Ecology Workshop is being conducted at the Marine Corps Air Station, Kaneohe Bay, on 20 February, 1983. Volunteers are needed to help the students with a one-day pickleweed clearing project which is designed to enhance Hawaiian Stilt nesting habitat on the Station. Interested persons should call Rob Shallenberger before 15 February. No experience necessary! (Home phone: 261-3741; work phone: 546-5608.)

KANAHA POND OUTING

On Sunday, 27 February 1983, there will be a Sierra Club outing to Kanaha Pond Wildlife Sanctuary on Maui. The primary focus of the trip will be to view migratory birds as well as the endangered native waterbirds there.

Meet at the Pond lookout just off the Hana Highway by 8:45 a.m. Be sure to bring binoculars, lunch, water, and friends. For more information, contact the leader Kay Kepler at 878-1418.

FEBRUARY FIELD TRIP:

KUAOKALA

The Sunday, 13 February field trip will be to the Kuaokala Forest Reserve at the north-west tip of the Waianae Range, Oahu. Trip participants can search for introduced birds, including game birds such as Erckel's Francolin. There should also be scenic views of Makua Valley and the Waianae Coast.

The trip will involve a significant drive, so car-pooling is encouraged. It is suggested that riders make a donation to the driver to help defer gas and vehicle operating costs.

Meet at 6:45 a.m. at the Hawaii State Library on Punchbowl St. and S. King. Bring lunch, hat, sunscreen, and lots of water. Call the trip leader, Peter Donaldson, at 456-5662 for more information, or to arrange a meeting place closer to Kuaokala.

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Local Hawaii Audubon Society memberships (except life members) and 'Elepaio subscriptions were due for renewal on 1 Jan., 1983. The dues remain at \$6.00 for the 12 months of 1983. Dues for junior members (18 years and under) remain at \$3.00. Any membership not paid by the end of February will be dropped from the rolls.

Hawaii Audubon Society members who are also members of National Audubon Society should NOT send dues at this time. These joint memberships are automatically renewed with the National membership.

Send your check to: Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822.

CALENDAR OF EVENTS

- Feb. 13 (Sun.) Field trip to Kuaokala, Oahu. (See page 67 for information). Leader is Peter Donaldson (456-5662).
- Feb. 14 (Mon.) Board meeting at the home of Marion Saunders, 3596 Woodlawn Dr., Honolulu at 7 p.m. (988-2635).
- Feb. 22 (Tuesday) General meeting, featuring *Brighamia in Hawaii*, with Charles Wichman. McCully-Moiliili Library, 2211 S. King St., Honolulu, at 7:30 p.m.

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