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THE AXIS DEER - HANGING THREAT TO THE BIG ISLAND*

By Margaret Titcomb

A plan of action affecting the higher slopes of Mauna Kea that may have a great effect on the island of Hawaii is under way. The man-in-the-street doesn't know much about it yet, though the subject has come into the news more than once. On the Big Island, many citizens, especially all who make their living by cultivating the land—the planters, cattlemen, and gardeners—are well aware of the plan, which is to introduce to that island the spotted deer (Axis deer) as game for hunters.

It is possible that the hunters have convinced themselves that the deer will do no harm. They say: Why not let the deer roam over the "waste" land on Mauna Kea and elsewhere and furnish a more appealing animal to hunt—a wild animal rather than the domestic-gone-wild pigs, sheep and goats? Secondly, they figure that the amount of revenue brought to the State will be considerable, for besides the local hunters, a great many hunters from elsewhere will probably be charmed by the prospect of hunting deer on the Big Island—a delightful novelty. Axis deer have been present and hunting has been possible for many years on Molokai and Lanai, but there are no fine hotels there. One must take a plane to get to deer-hunting grounds.

Besides revenue from licenses to hunt deer on Hawaii, it is likely that a good deal of "tourist" money will flow in also. Tourists will need appurtenances as well as place to stay.

The hunters know that the deer have sometimes damaged crops, but they say their depredations are "negligible". And that if the deer do too much harm, they can be controlled. That is a comforting word, but what does it mean? It means just shoot the deer; control never means do away with the deer. So the harm may be minimized, but not eliminated.

The deer, native to India and Ceylon, is a charming little animal. Eight of them were sent to Kamehameha V as a gracious gift from a friend in Asia in 1863. Kamehameha promptly put them on the island of Molokai. Doubtless some casual hunting was done now and then, but as far as records show, there was no thought that they would do harm to the island until about 1898. At that time, the eight had increased to 7500, and were seriously interfering with plans for agriculture or ranching. Two professional hunters from California were hired to kill off the deer, and they killed 4500 in six months. That left a remnant of 2500. Since that day the number has fluctuated considerably. For several years hunting on State land has been entrusted to the Fish and Game Division of the Land and Natural Resources Department, and its forerunners in management. There is also hunting on private lands, under control of the owners.

*Reprinted from BEACON MAGAZINE OF HAWAII, May 1969 issue, by special permission.

A contingent of these deer was put on Lanai several years ago. George C. Munro, an ardent hunter himself, was the manager of Lanai Ranch. But he regretted that introduction, "One of my worst mistakes on Lanai," said he. Why did he say that, and why do a great many other people object to deer on the land?

Let's have an argument with the hunters. Some are not in favor of the introduction to Hawaii. Perhaps some others will listen to the arguments against the plan and withdraw their urging.

But first of all, we must summarize the present stage of the project. In some way an act of the Legislature decreed that the deer be introduced to the island of Hawaii. There was remonstrance against the Act, and a suit was brought by ranchers and sugar growers. They won a stay of execution, but finally that was annulled, and now the Board of Land and Natural Resources has given a directive to the Fish and Game Division to select some 30 Axis deer from Molokai or Lanai and bring them to a pen on the slopes of Mauna Kea, confine them there for several months, and when they can be guaranteed to be free of disease, set them free. Those who favor this plan envision the deer going down the mountain and picking some region where water is easy to reach and food sufficient, and make a happy hunting ground for the hunters. And do no harm.

But the arguments against this plan pile up.

Taking the smallest consideration first--income for the State--yes, the hunters will pay for their licenses. And if the hotels and tourist bureaus lure a great many hunters, they will bring money to the State. But all this expansion of service to those who shoot will be costly. There will have to be a larger number of employees just to keep track of the hunters, to see that they do not go into other than specified hunting grounds.

A three-year study has been made by Dr. William Graf, a wildlife biologist, at the instance of the State, through the Fish and Game Division, including a trip to New Zealand for comparative data. Dr. Graf made an excellent study of the deer and its habits, but he offered no suggestion as to whether to introduce the deer here on another one of our islands or not. Doubtless the study was a costly item, but worth it. Surely there will be many other charges under upkeep. But outside of the financial factor, there will be harm to the land, incalculable, irreparable, and progressively harmful.

Predictions as to where the deer will go are futile. Where do they go on Molokai? The answer is--where they like. They avoid dense, trackless forest, but on that island the feral cattle did penetrate the forest and break down a good deal of the native growth; the deer followed, using the cattle paths, and did their share of the damage. A recent examination of the formerly fine, native forest on Molokai, by Dr. Charles H. Lanouereux, revealed it a s a "disaster" area.

On Lanai, George Munro found many native plants destroyed--gone, extinct now, trampled out of existence by hard little hoofs. To most hunters this may be a matter of no consequence. One plant is as good as another. But to scientists who study the land, keep records of what is going on, what changes are taking place and why, the destruction of native plants is failure to take care of precious things which cannot be replaced. Deer like the edges of forest land, usually come out to feed toward the end of the day, and feed at night. But in seeking food they are quite capable of going into or across any terrain.

Hawaii is a unique place on this earth, a scientific treasure. Through long ages, before man came here, the land which was thrust up from the sea slowly developed from volcanic material to soil, receptive to seeds that came, perhaps infrequently, through air and sea currents, and were brought by birds. In the strange, isolated islands, plants grew and adapted themselves to conditions like no others on earth, and botanists and other scientists have studied them for years and still find more study waiting to be accomplished. With no animal except birds

and insects--until Polynesians came with their pigs and dogs and chickens--no self-protective habits developed among the plants. Now, when hoofed animals are allowed to tramp over the forest and open areas, great harm is done to this natural vegetation.

Why do all those who grow sugar, pineapples, macadamia nuts, coffee, vegetables, flowers, or who raise cattle on the island of Hawaii, object strenuously to the introduction we are talking about? Because the deer, roamers at will or need, have caused considerable damage to plantations. It has run into thousands of dollars. Hunters have said the damage is negligible. But "into the thousands" is not negligible by anyone's standards. There is not only the financial loss, but the nuisance value. And many citizens not involved directly are annoyed, to say the least, by having deer nibble away at their orchids or other flowers. It has happened on Molokai. The nuisance is compounded by expecting it to happen!

Deer must have a good deal of water to drink. They will take it from a pond or stream, of course, but neither are abundant and they frequently drink from water troughs set out in the great pastures for cattle. That may not be a great nuisance, but there is great danger here. For any disease that cattle may contract will spread to deer and vice versa.

Cattle can be controlled; there are few feral cattle on Hawaii. But the deer cannot. No matter how much shooting has been done against the goats, we despair of ever getting rid of them. Some manage to hide during any campaign for reducing their number or getting rid of them entirely. It will be the same with deer, according to records in other areas of the United States. So deer can spread disease and not be caught--that is, never all of them. Cattle will never be free of this danger, once the deer is admitted.

In Molokai and Lanai, conditions are not like those in Hawaii at all. Lanai is devoted to pineapple growing, with some forest, a small plantation town and little else. Molokai is an island of ranches, some other agriculture, a few vacation homes, a few Hawaiians living simply, and some necessary appurtenances, including a small airport. Steep-sided, deep valleys cut a great part of the southeastern end. In some areas there is a network of agricultural fields, some fields for grazing. Many of the fields are fenced. Kalaupapa is on the windward side, on its beautiful tongue of land, north of the lush and lovely valleys. Hunters get to Molokai when the hunting seasons are announced, and some who live there are hunters. But the area for public hunting is small compared to what might be had on the island of Hawaii.

The island of Hawaii is utterly different in character. There are good roads and many people settled there. Hotels are numerous, and many tourists frequent the island. Hilo is a town of considerable size. There are large plantations, and a National Park, which is harrassed by feral goats and doesn't want another animal of the same nuisance value. The whole Park would have to be fenced in, and so would the plantations. The cost of fencing would be enormous, for the deer is a high jumper, eight feet or more, and it is capable of going under many fences. They would have to be closely attached to the ground.

With the Park and the plantation owners, ranchers, as well as a great many other citizens against the project, antagonisms would mount. Those who work for the companies would, sooner or later, know that disaster to agriculture would be disaster for everyone. There is some danger of deer getting into areas of watershed, so valuable to the town of Hilo, and as population increases, more and more water will be needed. Because the island of Hawaii has many communities and an increasing number of hotels, the roads are used considerably. The danger of disastrous meetings of deer and automobiles is more than likely. Such accidents happened on Oahu occasionally when a few deer were living at Moanalua.

And what will happen if the deer do damage at plantations or private gardens? Who is to blame? Who bears the cost of loss of plants, revenue and repair? By

the time the damage is discovered, the deer may have moved off; if still visible, can the Fish and Game guards reach the spot in time? It is a big island. How many guards shall we have? It does not seem fair for the owner of the land to be called upon to act. He may loathe shooting an animal. Why should he be called upon to do so?

Another important consideration is the effect of hunting on the soil. All hoofed animals change the forest cover. Deer would trample on young plants or eat them if sufficiently tender, and the antlers of the bucks are hard enough to damage the bark of trees, when they rub against branches, supposedly to rub off the young coating of the antlers. Munro spoke of this as extremely harmful. Removal of bark causes a wound for the tree. But trampling is doubtless the greater damage. No forest can live if young plants are not given a chance to replace the old. They must die eventually, and without young plants, the forest dies. Deer follow cattle paths, as well as make their own. These worn places erode the soil. Water runs down a bare trail faster than over wooded terrain. Dr. Graf said that in some places there is a network of deer paths. They cannot help but cause erosion.

In high areas there may not be much rain but the fog-cloud leaves moisture on leaves and on the ground. Moisture seeps into the soil. The State bird, the nene, belongs to the goose family, a water-bird. It is far from large ponds on the heights on Mauna Loa, but has adapted itself to the area, getting some of the water it needs from the moisture on leaves. Soil that is trodden hard lets any water run off quickly, instead of seeping into the ground, and the land becomes dry. Bare land does not bear crops and few low plants. Eventually, where there is no cover and no food for the deer, even the hunters would suffer. But of more importance to all of us is that the land would suffer. We are all conservationists, whether we realize it or not. Ecology, the study of the soil, its water content, its use to animals and vegetation, is an increasingly important study. It affects all of us.

Some hunters are gentlemen, some are not. Some landed gentry are willing or glad to have game animals on their land so that they can make money from fees they charge to hunters, and the landowners themselves may like to hunt. There are complaints from some of them that hunters do considerable harm, to fences, gates and so forth, and even shoot a domestic animal if they are unsuccessful in finding deer. There are also the problems of poaching, and trespass. It happens on Molokai. Will Hawaii have such trouble? How can it be avoided?

A few people have tried to make a pet of this graceful little animal, but its habits do not fit into that role. In youth it is amenable, though probably not trainable. When maturity comes it hears the call of the wild. Friendship ceases. In youth and age, hunger drives it to eat anything succulent within reach: flowers for the house, the garden or the flower show, and vegetables for the table or the market. The deer cannot distinguish between them, and no amount of affection in its early months holds back its appetite.

Some non-hunters favor hunting even though they do not indulge in what is called the sport; some dislike it intensely, even abhor it. To take the life of a wild animal seems shocking to them. And they have just as much right over use of the land as do the hunters. They hear of stories of bad shots that do not kill, merely maim. The wounded deer leaps away and escapes, but dies a lingering death, unless a dog can find it and the hunter follows and kills it. Some hunters have been known to enjoy the sport of making a mark so much that they do not care what happens to the animal. All this is unpleasant to think of.

The hunters number something like one tenth of our population, state-wide. For each island the figure differs, rising much higher on Lanai and Molokai. They have one purpose in asking for the use of many acres of land--their hunting pleasure. To many it seems very selfish. Against this desire of theirs is consideration of the people of Hawaii. Many of the carefully managed and long-established agri-

cultural businesses would be seriously hurt, and the item of supplying great areas with fences might put them out of business. If the deer is introduced, there is no way to change back to deerless days. The deer and the trouble would remain. The State loses if the land is mis-used, and those who live now and those who live in the future will feel the loss.

Wise use of the land is an increasingly important study, now that we realize what mistakes and waste have occurred in the past. The list of extinct animals is growing and that is a great regret, and also imposes a study: how can we prevent animals from disappearing? Scientists find that one important method is to preserve the habitat of animals that is suited to them. At present, for instance, we are concerned about the Hawaiian crow a very rare bird that lives in the Hualalai region.

How can we convince the hunters of the extravagance and the folly of their wishes? We'll have to hurry; the directive has been sent to the Fish and Game Division.

FIRST RECORDS OF BAIRD'S SANDPIPER FROM THE CENTRAL PACIFIC*

By Paul W. Woodward and Roger B. Clapp

Clapp collected two Baird's Sandpipers (*Erolia bairdii*) 6 September 1967 as they foraged at the northwestern corner of the lagoon on Laysan Island. These birds usually fed apart from the flocks of Golden Plovers (*Pluvialis dominica*) and Ruddy Turnstones (*Arenaria interpres*) but when flushed occasionally flew with flocks of turnstones. Both sandpipers (USNM 543044, 543045) proved to be immature females. Neither was molting and both had little fat.

On 23 August 1968 Woodward saw a Baird's Sandpiper feeding with Golden Plovers and Ruddy Turnstones in a settlement basin about one-third mile north-northeast of the sugar factory at Kahuku, Oahu. He collected the sandpiper (USNM 544275) which was an immature male with very heavy fat deposits and no molt.

There are no previous substantiated records of Baird's Sandpiper from the central Pacific although Donaghho (ELEPAIO, 1968, 28(10):89) reported seeing a peep, which he thought was possibly this species, at the Waipio settlement basin, Oahu, 9 November 1967.

The spring migration of this primarily Nearctic breeder is chiefly through the central United States but these birds are regular but local in fall migration along the west coast of North America (A.O.U. Checklist, 1957:196-197). Thus it is not surprising that both central Pacific records are from the fall.

*Paper No. 56, Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, D.C., 20560.

Field trip to Honouliuli Trail, 13 July 1969

Seventeen people attended this hike led by Alex MacGregor. It was a relatively easy hike; however, very few birds were seen. 'Elepaio was the most common, less than 10; 'anakihi and linnet were heard. Who cares, we all had a good picnic at the end of the trail, which did not lead to any ridge or summit.

Henry Yuen

Field notes from Henry Yuen: Fairy Tern

- 20 & 25 June 1969 - One adult on egg.
- 27 June - Three adults, one incubating egg.
- 30 June - Chick hatched and is brooded. Moves around. Two other adults in area.
- 3 July - Chick doing well, five adults in area.
- 11 July - Chick standing up, preens self, no pin feathers yet.

- 11 July 1969 1530 - Chick was fed 4-5 red little eel-like fish.
 1545 - Chick was fed one silver fish.
 1550 - Chick was fed; no details.
 20 July - Appearance of tail pin feathers, about $\frac{1}{2}$ - $\frac{3}{4}$ inch.

ATTENTION! The following news article USE DDT ALTERNATIVES, SCIENTISTS SAYS by Robert Udick in the 16 August 1969, HONOLULU STAR-BULLETIN, page 2 should be everyone's concern:

DDT and its long-lived chemical cousins, traces of which are now present in the fatty tissues of virtually every human being, are on the way out.

An increasing number of government agencies in the United States and in Europe are moving to ban the use of DDT after some seven years during which public and scientific opinion has pendulumed between panic and apathy.

But Island housewives and gardeners are still buying solutions containing DDT or similar chlorinated hydrocarbons, many without knowing it. They don't read the fine print on the labels.

There is no reason that Islanders should panic about it, toxicologists said today. But there are excellent pesticides available on the market now which break down into harmless components in a few days or weeks. These are the Pyrethrins or Carbamates.

The long-lasting DDT and associated chemicals reach us mostly from two sources: using the stuff in our houses and gardens or from imported fruit and vegetables not properly washed.

While it is now broadly known that DDT has a strong effect on the ecology of the planet, it is also known that the acute toxicity for human beings is relatively low. Scientists such as Dr. Thomas H. Jukes, a biochemist at the University of California have said, "I am sure that DDT is present in my fatty tissue and I am not worried."

But long range effects are still being studied, and it is known that DDT in the system affects production of certain enzymes in the liver which in turn affect the metabolism of some medicines. It could complicate the medication of some sick people.

Studies are still being made on the possible long term effects such as possible chromosome damage which could affect heredity, Dr. Lewis J. Casarett, of the University of Hawaii's department of pharmacology, observed, stressing that this did not mean there would be damage, but that the possibility indicates the need for more investigation.

Urging that the problem be approached sanely, he said that there is now polarity between two groups: those who regard the use of DDT as a complete catastrophe and those who say that we will be reverting to a primitive state without it.

"Both are totally false," he said. But so far as using it in the homes and gardens of islanders, he said, simply, "Who needs it?" He recommends using the other chemicals available which do not persist for up to a decade.

He disclosed that in addition to solutions and sprays, treated shelf paper is now coming under suspicion if it contains Chlordane. Experiments here indicate the powerful insecticides used can penetrate sacks of flour and other somewhat porous food containers. Instances have been noted where Chlordane levels have, in this fashion, been raised in flour to a point where it would not be acceptable for interstate shipment.

DDT is still being used in Hawaii's pineapple fields. A spokesman for one of the big pineapple growers says its use is being reduced and "we are trying to eliminate it." But at present it remains the most useful weapon against damage by the pineapple mealybug.

Pineapple growers here are in much the same boat as California's agricultural industry. Efforts in that state to ban DDT entirely by 1972 were quashed when witnesses testified that California's \$4.5 billion agricultural industry could not survive a cost-price squeeze without the use of DDT.

This peerless eradicator of pests, now being cloaked in the robes of a villain, has been credited with many life-saving acts. It won the Nobel prize for its Swiss developer Paul Mueller. Now compelling evidence that it is threatening the balance of nature and the future of many birds and some fish has caused it to be banned in Sweden where the Nobel prizes are given. It is also banned for varying periods in Michigan and Arizona.

Behind this are four disturbing characteristics of DDT and its cousins: toxicity to almost all animal life, persistence in toxic form for a decade or more, mobility through air and water, solubility which allows it to be absorbed and accumulated by living organisms.

Two newer families of insecticides, the organic phosphates and organic carbamates, presently cost more but they do not remain toxic for long. It is expected costs of these will come down as volume of use increases.

The Hawaii legislature at its last session called for an investigation and the report by the Department of Agriculture is expected to be ready for presentation to the next legislature.

Independent scientists here feel the state's agricultural workers are presently adequately protected. The principal concern is the leeching of the DDT into water which finds its way into the ocean with the resultant possibility of upsetting the ecology of the off-shore ocean life.

For persons who may now begin to read labels of the bug killers and dog washes they purchase to see if DDT or its "cousins" are present, here is a list of the common chlorinated hydrocarbon compounds which do not lose their toxicity for a decade or more: DDT, DDD, Chlordane, Lindane, Dieldrin, Aldrin, Endrin, Toxaphene.

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Any comments? Please share your experiences with other members by writing to Kojima, 725-A 8th Avenue, Honolulu, Hawaii 96816.

Excerpts from the minutes, Hawaii Audubon Society General Meeting, 21 July 1969:

...Alexander MacGregor reported on the July trip to Honouliuli Trail. It was a beautiful day, dry, and the trail lead through a piece of the virgin forest. Unfortunately and oddly there were not a great many birds seen. However, the lehua was not in full bloom; possibly that was one cause.

One 'amakihi* was found, dead. It was sent to Bishop Museum. The fact that there are many less leiothrix than formerly makes it more than ever advisable to send dead birds to Bishop Museum for examination. There were several 'elepaio and white-eyes.

Someone remarked that there are a fairly abundant number of leiothrix at Kaena Point.

Mr. Eugene Kridler gave a wonderful talk with his superb slides of the islands northeast of Hawaii, The Hawaiian Islands Bird Refuge. His pictures showed the high, rocky islands of Nihoa and Necker, the pinnacle, La Perouse, and the atolls, Laysan, French Frigate Shoals. It was extremely interesting to see the Laysan Island rail, the miller bird, both in fair numbers, and the thousands of albatross and tern, the wedge-tailed shearwater, the monk seals and the now rare green turtle.

We looked with amazement at the precarious landings necessary on the high islands, and the few channels through the reef at low islands. Tagging was done throughout the trip. One monk seal has been found a few hundred miles from its tagging spot.

We look forward to looking at the formal report of this yearly survey (which may become semi-yearly in the future) and will enjoy again the particulars of this conservation survey of the Federal Government....

For the Secretary
Margaret Titcomb

*Bishop Museum Zool. Cat. No. BEM-X 145533, complete skeleton on female 'amakihi.
Dead 'amakihi found by Jan London.

At the meeting HAWAII'S ENDANGERED WILDLIFE, a handsomely prepared blue pictorial booklet with NENE on the cover published by the U.S. Dept. of the Interior, Fish and Wildlife Service, Bureau of Sports Fisheries and Wildlife, was distributed. The booklet starts with the black and white picture of the crested honeycreeper and ends with three stilts flying over the water. The following remarks headed STILL A CHANCE closes the booklet: The words threatened and endangered have been used frequently in this book. They imply that things are bad--and getting worse. This is a true description of the situation today as it relates to Hawaii's endangered wildlife. It is unfortunate so much has already been lost. Extinct wildlife cannot be brought back, but it is not too late to save what remains. Government agencies, scientific and educational institutions, private organizations, and individuals working together can preserve Hawaii's unique wildlife for this and future generations of Americans.

For further information write to: Bureau of Sport Fisheries and Wildlife, P.O. Box 3737, Portland, Oregon 97208; Bureau of Sport Fisheries and Wildlife, P.O. Box 698, Kailua, Hawaii 96734; or Dept. of Land and Natural Resources, Division of Fish and Game, 530 S. Hotel St., Honolulu, Hawaii 96813.

READERS' NOTES:

Three Birds Taken Off the Extinct List, Mickel Decides Species No Longer Face Extinction. Washington, March 16 (UPI) Ethel Matheson's contribution

Three exotic species of birds formerly believed to be extinct have been re-discovered in small numbers by bird watchers and placed on the Interior Dept.'s list of rare and endangered species.

Secretary of the Interior Walter J. Mickel announced today that these birds and the grizzly bear were no longer faced with extinction and had been removed from the list. But he also said the American peregrine falcon had been placed on the jeopardized list because of declining numbers. Pesticides were suspected as the chief reason for the decline.

The three new species rediscovered are the Molokai creeper...Maui Nuku-pu'u... and the Puerto Rican plain pigeon...Mr. Mickel said the grizzly population in Montana, Idaho, Wyoming and Colorado had remained stable, about 800 animals in recent year. New state laws and Federal national parks and wilderness area sanctuaries have served to protect the bear.

The number of rare and endangered species has climbed considerably since the department first released its list in 1966. At that time the list contained 78 species. Now it contains 89--14 mammals, 46 birds, 8 reptiles and amphibians and 21 fish.

Mammals--Indiana bat, Utah prairie dog, Delmarva Peninsula fox squirrel, Eastern timber wolf, Texas red wolf, San Joaquin kit fox, black-footed ferret, Florida panthers, Caribbean monk seal, Guadalupe fur seal, Florida manatee (sea cow), key deer, Columbian white-tailed deer, and Sonoran pronghorn.

Birds--Hawaiian dark-rumped petrel, California least tern, Hawaiian goose, Alutian Canada goose, Tule white-fronted goose, Laysan duck, Hawaiian duck, Mexican duck, California condor, Florida everglade kite, Hawaiian hawk, Southern bald eagle, American peregrine falcon, Attwater's greater prairie chicken, masked bobwhite, whooping crane, Yuma clapper rail, light-footed clapper rail, Hawaiian gallinule, Hawaiian coot, Eskimo curlew, Hawaiian stilt, Puerto Rican plain pigeon, Puerto Rican parrot, American ivory-billed woodpecker, Northern red-cockade woodpecker, Southern red-cockade woodpecker, Hawaiian crow, small Kauai thrush, Nihoa miller-bird, Kauai 'o'o'a'a, crested honeycreeper, Molokai creeper, 'akiapola'au, /Kauai nuku-pu'u, Maui nuku-pu'u, Laysan finch, Nihoa finch, 'o'u, palila, Maui parrotbill, Bachman's warbler, Kirkland's warbler, ducky seaside sparrow, and Cape Sable sparrow. *Kauai 'akiapola'au

Reptiles and amphibians--American alligator, blunt-nose leopard lizard, San Francisco garter snake, Puerto Rican boa, Santa Cruz long-toed salamander, Texas blind salamander, black toad (Inyo County toad), and Houston toad.

Fishes--Shortnose sturgeon, Longjaw cisco, Piute cutthroat trout, greenback cutthroat trout, Montana westslope cutthroat trout, Gila trout, Arizona (Apache) trout, desert dace, humpback chub, Hoopa dace, Colorado River squawfish, Cui-ui, devils hole pupfish, Comache Springs pupfish, Owens River pupfish, Pahump killifish, Big Bend gambusia, Clear Creek gambusia, Gila topminnow, Maryland darter, blue pike.

Audubon Leader's Conservation Guide, Vol. 10, No. 6, March 28, 1969: What About Our Policy on the Endangered List?

Secretary Hickel's announcement of changes in the endangered species list raises a number of questions about our protection policies....Of the grizzly, the Department says it is "not now threatened with extinction." It is true that there are considerable numbers of the animals in Alaska and Canada, but only about 800 in our western states. And very recently it was suggested that all grizzlies be cleaned out of our national parks. We may wonder if it is wise to take off the endangered list an animal that still is threatened in one area. And shouldn't the department's announcement have specified also that the grizzly would remain on the list of rare species that require continued attention?

With the growing pressures on our parks and wild areas, it is wise to be conservative about taking any animal off the endangered list. And certainly unless America begins to look at all its wild things as in need of increasing protection, the future list of extinct forms will make the one for the past two centuries look like nothing.

Excerpts from the address "The Role of Congress in Conservation" given to the members of the Whooping Crane Conservation Association by Senator Karl Mundt of South Dakota during the National Wildlife Week, March 16-22, 1969:

...Events of the last few years have aroused not only conservationists but the entire populace. Many of our citizens, who have long thought that ducks and other game birds were only for hunting, and lakes only for fishing, have noted the deterioration of these great natural resources and have joined the conservation cause.

Herein lies our greatest challenge. It is the duty of conservationists to supervise, coordinate and guide these new recruits. The luxury of an occasional speech--an occasional letter--an occasional paper--an occasional article--belongs to the past. Unless we devote every bit of time and energy possible to conservation, we may end up with nothing to conserve.

To those who keep saying "there ought to be a law!" and think that getting legislation through Congress and approved by the President is like falling off a log, it should be pointed out that such is not the case.

There's a lot of hard work and give and take attached to it. One example is the measure which allows compatible public recreation at national wildlife refuges and national fish hatcheries without interference or damage to primary project objectives. The idea was developed by the Bureau of Sport Fisheries and Wildlife, Members of Congress, and the Secretary of the Interior's advisory committee on fish and wildlife, which consisted of heads of national conservation organizations. The legislative process involved in consideration of the bill took about four years, and it became the "refuges and hatcheries recreation act."

Getting a bill through to establish certain refuges in the Klamath basin, Oregon-California, took over five years after the first bill was introduced. Some of the groundwork for the 1964 Act was laid as far back as 1953. The endangered species preservation act of 1966 had its beginning in an interior legislative proposal dating back to 1958.

In 1968 the role of Congress in conservation included such diverse measures as the Redwood National Park, the Wild and Scenic Rivers Act, a national trail system, and major water resource legislation including the National Water Commission Act.

...It was back in March of 1963 that I was finally successful in interesting some of my colleagues in the Senate in "The Role of Congress in Conservation of the Whooping Crane." The story is simple--the Bureau of Sport Fisheries and Wildlife

had requested \$37,000 for propagation studies with sandhill cranes at the Monte Vista National Wildlife Refuge in Colorado....The aim was to develop propagation techniques with the relatively abundant sandhill crane for use in a hoped-for-program to bolster the population of the whooping crane.

The House of Representatives, in a tight budget year, and because the only advocate of the cause was the Bureau of Sport Fisheries and Wildlife, cut out the funds....Believe it or not, not one letter was received by any member of the House or Senate committee commenting on the possible disastrous results of this cut.

The Bureau was walking the trail alone until I was able to point up to the committee members the results of their ill-considered efforts to save \$37,000, and finally the program...was allowed to move forward.

The next year it was not only conservationists who were conspicuous by their lack of interest but some of the staff of the Bureau itself. Anyone familiar with the desperate plight of the whooping crane, or other endangered species, would have been as amazed as I was when, after asking Bureau witnesses at our appropriations hearing, "Is there anything this committee should do about the whooping crane this year?" The response was: "I would say what we have in our budget should take care of what we are able to." An answer such as this...points up that the role of Congress in conservation is most important. If the Congress had taken the Bureau at its word, many of the advances made over the past years would not have been possible.

The Congress did not take the Bureau at its word. It continued support for the program....A year later, Congress accepted my funding amendment of nearly a half million dollars to expand the endangered species program. As a result, and in spite of that unfortunate response by the bureau witness that everything was all right when it wasn't, we have at the Patuxent Wildlife Center at Laurel, Maryland, the world's leading endangered wildlife species research center....

We are moving into the breeding season for the birds at Patuxent. We are moving into a new era of conservation. We move forward with full knowledge that the goal we have set for ourselves can be accomplished. And we can move forward toward the development of a conservation ethic in this Nation that will bring all citizens to recognize our stake in resource care as against short-term economic considerations that too frequently have governed many of the answers to conservation matters.

This is the crucial test. For if we fail to enlist all of the citizenry...in the great cause of conservation now—when we still have the opportunity to firmly harness the great principles of preserving our resource heritage to the galloping growth that is the population explosion—we may well have written the death notice for presently endangered wildlife species and started down an irreversible trail of destruction and devastation of many of our valued resources, including those upon which life itself is dependent....Will today's generation measure up to tomorrow's expectations, by truly experiencing its "finest hour" as the greatest conservationist-minded society in world history? That is our challenge. I think we can measure up to that challenge....Do we dare fail this crucial test?

SEPTEMBER ACTIVITIES:

- Sept. 8 - Board meeting at the Zoo entrance bldg at 7:30 p.m. Members welcome.
- Sept. 14 - Field trip to study shore birds. Bring lunch, water, and if possible your car. Transportation cost (\$1.00) to be paid to the drivers. Meet at the Library of Hawaii at 8:00 a.m. Leader: Charles G. Kaigler, telephone 988-3195.
- Sept. 15 - General meeting at the Waikeiki Aquarium Auditorium at 7:30 p.m. Speaker: Dr. Alison Kay, Dept. of Marine Zoology, Univ. of Hawaii. Topic: Would you believe it!—Some thoughts on the marine environment.

HAWAII AUDUBON SOCIETY EXECUTIVE BOARD:

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