REPORT OF THE COMMITTEE ON CONSERVATION, 1970–71

THIS year's Conservation Committee report coincides with the continuation of the great "environmental conscientiousness" movement begun a few years ago. It is impractical here to deal with all aspects of this movement, important as they are, but some of the matters most directly affecting birds are discussed below. Our committee, largely through bulletins and releases routed to it from other officers of the Union, has been bombarded with literature from industry, pointing out in great detail their awareness of and deep concern for the quality of our environment and all that they are doing (and spending) to maintain or restore it. This is indeed encouraging, but much of it is obviously a pious attitude designed to counter public pressures; how many of their promises will actually reach fulfillment remains to be seen.

In spite of increasing restrictions, the pesticide industries continue to flourish; neotropical forests, the winter home of many of our North American birds, are still being razed to house exploding populations and to produce food and fiber for them; oil spills continue to bathe our shores; and each year more species have to be added to the endangered species list.

LEGISLATION

A confusing number of bills, at local, state, and federal levels are, or have been, in the hopper. Some have passed, some are still pending, others are still in formulation stages. Most measures designed to correct environmental ills meet strong counterattacks from agencies whose economic status might be affected.

The Environmental Defense Fund (EDF), though losing lawsuits, has succeeded in preventing or curtailing several ill-designed programs potentially destructive to wildlife. But EDF lacks the funds usually available to its opponents for conducting lawsuits. The newly founded Environmental Protection Agency (EPA) seemed to offer great hopes for averting further detioration of the environment, but is bogged down in a political morass. One problem is that pesticide regulatory responsibilities of EPA are still vested in the old USDA part of EPA; another is that Congressman Jamie Whitten, notorious author of the strongly biased, if not inane, book "That We May Live," is chairman of the House Appropriations Committee's Agricultural subcommittee which still has strong control over the purse strings for EPA (Michigan Pest. Council Newsletter, June 1971). Currently we are witnessing further annoying delays for EPA to "investigate" what we already know.

Many states have passed restrictive laws governing the use of hard pesticides only to find various loopholes in the laws or delays in their application. What is needed are restrictions in interstate shipment of pesticides, such as proposed by Senator Gaylord Nelson of Wisconsin for the past several years and now embodied in several bills in Congress. Another commendable bill introduced by Senator Nelson (S. 1794) and companion bill H. R. 8159 visualize integrated

pest control by the use of beneficial insects and badly needed alterations in farming practices.

Oil Pollution

In spite of the Torrey Canyon disaster in 1967 and investigations following subsequent incidents here and abroad, problems of oil pollution have not been solved. The British Parliament, after four oil spills *outside* British Territorial waters but affecting her coasts, has endorsed legislation giving its government power to seize or sink any oil tanker within or without its territorial waters that threatens to pollute Britain's shores (Natl. Wildlife Fed. Conserv. News, 4: 15, 1971).

In this country oil spills in Florida, the Gulf States, and along the Pacific Coast not only plague the tourist industry but seriously affect coastal birds and other marine life. A recent example on which we have considerable data (letter to Joseph Jehl from John Smail) is the one in San Francisco Bay.

San Francisco Bay oil spill.—On 18 January 1971, two tankers belonging to the Standard Oil Company of California collided in dense fog in San Francisco Bay. One of them, the 'Arizona Standard,' was holed and according to the oil company spilled 840,000 gallons of Bunker C fuel oil. Tides carried most of the oil out into the ocean where it formed a slick that affected about 55 miles of beaches extending from Point Reyes to Santa Cruz County, and stretched out about 16 miles west of the Golden Gate.

About 7,000 oiled birds were recovered and brought dead or alive to one of over 30 cleaning stations that were set up. Censuses of 4,557 birds made by the staff and volunteers of Point Reyes Bird Observatory gave the following proportions:

Loons (mostly Red-throated)	4.1%
Grebes (other than Western)	2.5%
Western Grebes	55.7%
Cormorants	0.9%
Scoters (White-winged and Surf in equal proportion—very few Common)	22.5%
Other ducks	2.8%
American Coots	0.6%
Gulls	0.7%
Common Murre	9.8%
Miscellaneous	0.4%

Of the birds treated, some 200 were still alive in late May and over 50 had been released. The cleaning agent used for nearly all birds was a light mineral oil, a method hitherto untried in actual oil spills.

Alaska Pipeline.—Currently the Alaskan pipeline project is stalled by legal action of a number of conservation organizations. The Interior Department's statement on the environmental impact was poorly received and is being revised. A final decision on the pipeline may still be a year away. This period of grace should be used to make a comprehensive Alaska land-use plan. The problem is complex, major decisions on federal rights, state rights, and native

land claims have to be made, and this should be done *before* the fate of the trans-Alaska pipeline is decided. One of the greatest threats of the pipeline is unregulated development along the access road planned to be built along the pipeline. We should take this last opportunity to set aside large tracts of wilderness. Specifically your committee recommends preserving the following:

(1) The Brooks Range and its southern and northern foothills including the Naval Petroleum Reserve No. 4. This latter area is the only northern coastal plain remaining outside of commercial oil leases.

(2) The upper Yukon River from the Ramparts upstream including the Yukon Flats and Porcupine River drainage. Similar action in the Yukon Territory of Canada would ensure the preservation of the best of the taiga region and an outstanding wilderness waterway.

(3) Extend the boundaries of the Mount McKinley National Park westward from the St. Elias range to the base of the Alaska Peninsula.

These three areas could be set aside without seriously affecting the commercial interests of the state. Delay on a final decision on the pipeline should also enable research to be done on its effects on the permafrost. This should help to assess some of the environmental damage of a pipeline. Industrial development in the tundra may have disastrous consequences from the extreme sensitivity of lichens to SO_2 poisoning (Schofield and Hamilton, Biol. Conserv., 2: 278–280, 1970).

Conservationists have now reached the position where they are able to halt or considerably delay projects. As delays are enormously expensive for the companies concerned, we may well be entering an era when advance consultation will be normal procedure. This will pose additional problems, for conservationists will have either to lead successfully a fight to reduce the increase of power consumption or decide which of the alternative power-generating plans poses the least environmental problems.

PESTICIDES

Although the little understood total effect of worldwide contamination of nearly all environments is perhaps the most important problem pertaining to continued use of the more dangerous pesticides, a major concern of ornithologists is the effect on raptors and fish-eating birds (see section on Endangered Species). Raptor Research News (c/o Biol. Dept., Univ. of South Dakota, Vermilion 57069) contains data on the status of raptorial birds, some of which are incorporated here. The Patuxent Research Center at Laurel, Maryland is conducting breeding and rearing experiments on some of these endangered species and further studies on calcium deficiencies in the egg shells of treated birds.

The thin eggshell phenomenon is caused apparently by DDT and its metabolites. Both field studies (Anderson et al., Canadian Field-Naturalist, 83: 89, 1969; Vermeer and Reynolds, Canadian Field-Naturalist, 84: 117, 1970) and laboratory studies (Peakall, Bull. Environ. Contamin. Toxicol., 6: 100, 1971) show that polychlorinated biphenyls (PCB's) do not cause shell thinning.

Dieldrin also has little or no effect. The mechanism of shell thinning has been found to be due to the inhibition of carbonic anhydrase (Bitman et al., Science, 168, 594, 1970; Peakall, Science, 168: 592, 1970) in the oviduct. Currently many species of predatory birds are seriously affected by eggshell thinning, and other indications suggest that trouble may also be starting with some passerine insectivores (Tree Swallow and Eastern Phoebe (pers. comm., North Amer. Nest-Record Card Program)).

To understand the regulation battle over pesticides the official meaning of the words "cancellation" and "suspension" needs clarification. Cancellation of the registration of a pesticide means that use is stopped unless the manufacturer requests that the cancellation is void pending a hearing. Suspension on the other hand means banning the pesticide in question. The use of DDT has been cancelled by the Environmental Protection Agency pending a full hearing in September. Although the use of DDT in the United States is decreasing sharply, two grave causes for concern still exist. First, system analysis shows that the buildup will continue for some years by biological magnification, even with zero input (Harrisson et al., Science, 170: 503, 1970). Second, the world usage of DDT does not show similar decrease and may in fact be increasing. Thus on a global scale the problem is far from over.

Mirex.—To demonstrate clearly that earlier lessons have not been learned, the Department of Agriculture proposed to treat 120 million acres with the persistent organochlorine Mirex in another attempt to eradicate the fire ant. Previous eradication efforts will long be remembered as the greatest fiasco of all pesticide programs. The major improvement of the new program is the lower dose of Mirex (1.7 grams/acre) compared to 0.25–2 pounds/acre of dieldrin and heptachlor in the late 1950s. Although the Environmental Defense Fund's attempt to obtain a court injunction against the spray program failed, the program has now been scaled down to 6.7 million acres in Georgia and Mississippi.

Although mammalian toxicity is low (LD_{50} rats 312 mg/kg, only a third of DDT), Mirex is extremely toxic to crayfish and presumably other forms of aquatic life. Ludke, Finley, and Luck (Bull. Environ. Contamin. Toxicol., 6: 89, 1971) found that exposure to 0.1 parts per billion for 48 hours caused 65 percent mortality in 4 days. The same workers showed that Mirex was readily leached from granular bait and demonstrated concentration factors of many thousands from water to crayfish.

Mercury.—In order to see the problem in some perspective a few order of magnitude figures may be helpful. The total amount of dissolved mercury in the ocean is about 10^8 tons; the annual input from rivers is 3×10^3 tons and losses from man's usage about 5×10^3 tons annually. Thus without some subtle concentrating mechanism, man usage does not significantly affect the level in the ocean. Risks to wildlife appear to be twofold: seedeaters feeding directly on seed treated with mercury, and second, animals at the top of freshwater aquatic food chains. The concentration factors from water to fish are very large (i.e. several thousand) and lethal levels have been found in Great Blue Herons from Lake St. Clair (Dustman et al., in press).

A concentrated effort should be made to prevent mercury and other toxic heavy

metals (cadmium, nickel, arsenic, lead, chromium) from being released into the environment.

Michigan mercury problems (Condensed from Michigan Pest. Council Newsletter, June 1971).—Governor Milliken's edict of a year ago barring the use of mercury-contaminated fish caught in Lake St. Clair and the northern portion of Lake Erie was ruled unconstitutional by St. Clair District Judge Wilbur Hamm. A similar decision was made last November by Macomb Circuit Judge Edward Gallagher covering the waters of Macomb and St. Clair counties. Thus it is again legal to keep and eat fish caught in the above waters. Department of Natural Resources officers continue to enforce the ban in Wayne County waters south of the 8-mile line, in the Detroit River, and portions of Lake Erie.

Meanwhile Dr. Maurice Reizen, Director of the State Department of Public Health, who recommended the original ban, promised to issue a recommendation soon on just how much mercury-tainted fish can be eaten safely. The amount would be based on calculation of the average mercury content of fish in the lakes and the known rate at which the human body excretes mercury. While expressing sympathy for the many boat livery operators, fish dealers, merchants, and other business people adversely affected by the ban, Dr. Reizen defended the ban on his belief that the mercury danger is real, and it is his department's responsibility to protect the public against any dangers involved.

A current news story now reveals that mercury appears to be widespread in Michigan soils and waters. John Hesse, an aquatic biologist with the state Water Resources Commission, found that natural geological levels of mercury in mid-Michigan average 20–40 parts per billion, but these levels can go up to 200 parts per billion. A U. S. Geological survey official concurs on the relatively high incidence of mercury in Michigan, and feels that much of the contamination of the Great Lakes results from mercury-contaminated soils that have washed into the Lakes. The effect of these high mercury levels on birds has not been studied.

BIRDS AND AIRPORTS

Jamaica Bay.—The threat to extend Kennedy International Airport into Jamaica Bay Wildlife Refuge appears to be ended by the announcement of a 23,000-acre national park at the mouth of New York Harbor. As the park is to be known as the Gateway National Recreation Area, conservationists will have to be watchful that some areas are left for wildlife.

The Everglades jetport.—Thanks in part to President Nixon's enlightened stand and pressure from various conservationists, the ambitious Everglades Jetport project seems to be stalled, perhaps permanently.

CONSERVATION OF BIRDS IN HAWAII

The U. S. Department of the Interior lists 28 endemic Hawaiian birds as "endangered"; 24 others are already known or believed to be extinct. These facts point up the magnitude of the conservation crises in the Hawaiian Islands, unmatched anywhere in the world for threat to extinction of terrestrial vertebrates.

A building boom in the lowlands menaces continued existence of endemic races of the stilt, coot, and gallinule. Néné, Koloa (duck), and Hawaiian forms of Manx Shearwater and Dark-rumped Petrel continue to be exposed in varying degrees to introduced ground predators such as rats, cats, dogs, and mongooses on coinhabited islands. Populations of 16 species or races of upland birds continue to decline from long term habitat changes brought about by continual grazing of domestic livestock, feral goats, and sheep and pigs that are managed as game animals. While ungulates are primary destroyers, they also hasten establishment of a plethora of introduced biota that alter fundamental natural relationships and cause irreversible changes.

To these and other previously known threats to native Hawaiian birds must be added one more, that of shoestring root rot, *Armillaria mellea*. Identified in 1971 as the principal decimating agent involved in extensive areas of dead and dying native forests on the island of Hawaii, this fungus kills trees and shrubs through decay of roots and root crowns. It has been found in eight species of Hawaiian trees and lower-story shrubs, including all those of principal value to Hawaiian birds: ohia (*Metrosideros collina*), mamane (*Sophera chrysophylla*), naio (*Myoporum sandwicense*), mamaki (*Pipturus albidus*), and koa (*Acacia koa*). Preliminary work by the U. S. Forest Service and Hawaiian Division of Forestry indicates that 75,000 of the 120,000 acres of the Hilo Forest Reserve are infected. More than 100,000 acres are believed affected statewide with suspected presence of this fungus on Kauai, Oahu, and Maui. Basidiospores of *Armillaria mellea* are wind-borne, with wild pigs suspected of spreading the rhizomorphs. No practical and effective countermeasures for Hawaiian native forests have yet been developed.

At least nine species of Hawaiian birds may already be at or beyond the point of no return. On the island of Hawaii, perhaps fewer than 24 survivors of the Hawaiian Crow (*Corvus tropicus*) exist; sightings of Ou (*Psittirostra psittacea*) have become fewer in recent years in spite of increased search effort. Nukupuu (*Hemignathus lucidus affinis*), Parrotbill (*Pseudonestor xantophrys*), and Akepa (*Loxops coccinea ochracea*) are extremely rare on the island of Maui. The Hawaiian Thrush (*Phaeornis obscurus obscurus*) and Hawaiian Creeper (*Loxops maculata flammea*) are tenuous on Molokai. Akialoa (*Hemignathus procerus*) and Nukupuu (*Hemignathus lucidus hanapepe*) seem further reduced on Kauai than when rediscovered a decade ago.

Against this discouraging background, some progress is being made. The Laysan Duck (*Anas laysanensis*), Laysan and Nihoa finches (*Psittirostra cantans*), and Nihoa Millerbird (*Acrocephalus kingi*), and their respective habitats in the Hawaiian Islands National Wildlife Refuge are protected by active Bureau of Sport Fisheries and Wildlife patrols. A cooperative program of habitat protection and improvement on U. S. military lands for Hawaiian Stilts, Gallinules, and Coots is being pursued jointly by the Bureau of Sport Fisheries and Wildlife, the Hawaii Division of Fish and Game, and U. S. military agencies. A Néné propagation and restoration program is being carried out by the Hawaii Division of Fish and Game, assisted by federal funds. Status and distribution studies of all Hawaiian birds are being carried out by two BSFW biologists operating under

the Endangered Wildlife Research Program, Patuxent Wildlife Research Center. On a longer term basis, scientists at the University of Hawaii and B. P. Bishop Museum are directing an IBP-funded research effort entitled "Island Ecosystem Stability and Evolution Subprogram." A Hawaii Natural Area Reserves Commission has been created and charged with drawing up criteria and making recommendations for areas to be included within a system of state designated natural reserves.

Despite these substantial efforts, applied conservation programs are not keeping pace with the threats. A proposal to introduce axis deer on the island of Hawaii, squashed a year or so ago by students at the University of Hawaii, still has influential proponents. Hunters continue to see that mamane forests on Mauna Kea are prostituted to support huntable populations of feral sheep rather than managed as a self-perpetuating forest important to survival of the endangered Akiapolaau (*Hemignathus wilsoni*) and Palila (*Psittirostra bailleui*). Cattle ranchers and plantation owners continue to clear and develop native forests for increased numbers of cattle. Real estate ventures, once confined largely to lowlands, are moving higher and higher in the forest zone where more natural conditions important to survival of bird populations prevail. On balance, clearly conservation programs in Hawaii are not keeping pace with deleterious effects attributable directly or indirectly to man.

RARE AND ENDANGERED SPECIES

Lest this section seem unduly pessimistic, some gains should be noted. Trumpeter Swans, recently removed from the endangered species list, continue to increase; U. S. populations, mainly on wildlife refuges, number close to 1,000 birds; Alaskan Trumpeters are more than double the U. S. figure. Some have been successfully transplanted to other appropriate habitats. The Mute Swans introduced into Michigan about 20 years ago are flourishing and have become widespread; the Traverse City wintering flock numbers several hundred birds, now constituting an expensive winter feeding program. White-tailed Kites have virtually exploded in California and are doing well in the Gulf Coast region. In California agricultural areas the eggs have high pesticide content but are not thin-shelled and are hatching well. The Everglade Kite is also believed to be increasing after near extinction a few years ago.

Bald Eagle.—This species is still in a precarious situation. Reports from Maine are discouraging; 30 known nests produced only 11 eaglets in 1970, 22 nests failed completely. Unhatched eggs contained about 23 ppm of DDT. The formerly stable central Florida populations may be suffering according to Alexander Sprunt IV, although the National Audubon Society has given up its surveys and specific figures are not available. Sergej Postupalsky has continued his Michigan surveys; the 1970 figures were set at 84 pairs, 62 in the Upper Peninsula and 22 in the Lower Peninsula. Some of these made no attempt to breed and single adults were present at some nest sites. The 37 (44 percent) successful pairs raised 53 eaglets, or 0.63 young per pair, well below the 0.9 to 1.1 young per pair necessary for a stable population.

Osprey.—Populations of this species are still depressed in the northeast (R. T.

Peterson, pers. comm.); six pairs in the Connecticut colony produced two young. Chesapeake Bay Ospreys are doing better but are not up to par.

Ospreys in Michigan showed a slight increase both in actual numbers and productivity, the best Osprey year since the statewide surveys began in 1965, but this "success" is still below normal (prepesticide) levels (Sergej Postupalsky, pers. comm.).

California Condor.—Data on the status of these birds are confusing. Optimistic estimates put the numbers at more than 60 birds, more pessimistic (realistic?) estimates (by Ian McMillan) at about half this figure. The Sespe Condor Sanctuary is still in jeopardy. Although its sanctuary status has been strongly reaffirmed by (former) Interior Secretary Walter J. Hickel and the flooding of 1,300 acres of Los Padres National Forest has been shelved, promoters of the flooding project are still active. One supervisor even suggested shooting the remaining condors to clear the way for the dam project.

Among other raptors some are doing well, others are not. Red-tails continue to replace Red-shouldered Hawks in many areas, to the elimination or near elimination of the latter. Marsh Hawks have declined severely in some areas but not in others. Barred Owls have all but disappeared in southern Michigan, but the Great Horned Owl continues to thrive.

Whooping Crane.—Numbers of this rare bird reached a recent high in the 1970–71 winter counts, with 57 wild birds returning to Aransas Wildlife Refuge and 19 surviving in captivity, 14 of them at Patuxent. The project of taking one egg from the nests of wild birds for artificial incubation and rearing at Patuxent seems to be succeeding, with success in the rearing project and no reproductive decline in the wild birds.

Brown Pelican.—After experiencing a disastrous breeding season in Baja California colonies in 1970, the pelicans refused to play dead and staged a partial recovery on some islands. Nesting success was good at the San Benitos colony, poor at San Martin, and fair on Los Coronados. Thin-shelled eggs were found in each colony, but flying young were also found in each colony in late May–early June. At other colonies the number of breeding pairs has dropped since 1969 (Coronados: 300-200-100; San Martin 800-0-500). Colonies in the Gulf of California were said to have had a good year with normal reproduction, and Dan Anderson and others carried out successful banding operations there. We have no new information on the status of the pelicans in the gulf coast areas or Florida.

Ivory-billed Woodpecker.—Apparently the Big Thicket (Texas) Ivory-bills have not been seen again for several years, but reports of possible birds still emanate from Florida (area and details not specified) and South Carolina (Birding, 3: 15, 1971). In South Carolina the Ivory-bills are said to have responded to a tape recording of their calls, but the birds were not seen.

Eskimo Curlew.—"There have been at least two reported sightings of this species in the past year" (Birding, 3: 15, 1971), one near Lake Charles, Louisiana, on 27 March 1970, the other at Plymouth Beach, Massachusetts on 29 August 1970 (details in above reference).

Kirtland's Warbler.—The Michigan survey team, under the leadership of

Harold Mayfield, conducted its third complete 10-year census (1951, 1961, 1971) of this rare bird on its only known breeding grounds in north central Michigan, but at this writing the results of the last census are not available. The carefully planned management program of cutting, burning, and planting continues. Apparently burning, or at least high heat, is necessary to unseal the resin bond in the jack-pine cones to release the seeds for natural regeneration. It is hoped that the program will make suitable habitat (properly spaced jack-pines 5–15 feet high) available in the years to come.

In conclusion the committee regrets that due in part to its late organization and our failure to get up-to-the minute data on many matters of major concern to conservationists, this report lacks timeliness on many current issues.

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Accepted 12 July 1971.