

REPORT OF THE COMMITTEE ON BIRD PROTECTION, 1964

WE open our 1964 report by calling attention to a publication which, from the viewpoint of this Committee, is highly significant. The basic facts that bird populations are ever fluctuating and that man, through his influence on the environment, has become the major force affecting bird life, are thrown into sharp relief by the Illinois Natural History Survey's Bulletin (Urbana; October, 1963) entitled "A comparative study of bird populations in Illinois, 1906-1909 and 1956-1958," by Richard R. and Jean W. Graber. Comparing published records of the early period with their own censuses of a half-century later, the authors have evaluated the adjustment of bird populations to a changing environment. Their conclusions (p. 515) concerning man and avifauna are, we think, worthy of quotation here:

. . . for the past several decades man has been unwittingly manipulating bird populations on a wholesale scale. His domination has reached a critical and fearful level. Some obligation must go with this domination. Man has reached the stage when he must consider, in his manipulation of the environment, more than just his own primary needs. If there is to be a varied and interesting fauna for future generations to know, then management of the land must extend beyond human needs to the basic requirements of the fauna. Our lack of knowledge is the overriding deterrent to this type of management, but not the only one, and education of the public will have to follow the much-needed research.

COOPERATIVE ACTIVITIES

Your Committee has functioned between annual meetings as well as in the annual report-preparation period. Preparing to revise existing regulations governing the importation of exotic birds and other animals, the U. S. Fish and Wildlife Service asked the Committee for advice regarding safeguards which, in its opinion, should be taken. In response, we urged the establishment of stringent controls in order to keep out potentially harmful species. Should doubt exist of the need for such controls, we call attention to the continuing increase in the number of exotic species that are breeding in Florida. The commonly caged Shell Parakeet or "Budgie" is reportedly well established in and around St. Petersburg. In southeastern Florida, at least three exotic species of passerine birds are established and increasing. The Spotted-breasted Oriole (*Icterus pectoralis*) now nests along the east coast of southern Florida from Homestead to Palm Beach. The Red-whiskered Bulbul (*Pycnonotus jocosus*) and the Blue-gray Tanager (*Thraupis virens?*), more recent imports, occupy limited ranges in the Miami area, but both have begun to disperse from the original focus of establishment. We are not aware that any of the new exotics has yet become a pest, nor that any native bird has been dis-

placed. One cannot be certain, however, that the species now established will remain innocuous in either respect. It is also virtually assured that, without tighter control on the importation and sale of birds, additional exotics will become established.

Two requests for aid in bird protection problems were addressed to the Committee during the year. One came from conservationists in Japan who were alarmed by an attempt of their government to persuade the U. S. Air Force to transfer a major bombing range to Mikura Jima. This island is the site of a fine shearwater colony and supports a number of endemic birds and plants. Although the Committee could not act officially, it cooperated in efforts to convince the U. S. Department of Defense that the move should not be made. These efforts apparently were successful. Another request, this time for "expert testimony" at a public hearing on a road-construction project that threatened the safety of the California Condor (see p. 490) was declined with regret.

FEDERAL ACTIVITIES

Several pieces of U. S. legislation are so important to all people interested in birds that they should be mentioned. The Ozark Riverways Bill, the Wilderness Bill, and the Land and Water Conservation Bill were enacted. The latter can be an important aid to all forms of wildlife, including birds, as it makes adequate provision for land acquisition, both at the state and federal levels. The Tule-Klamath Act set up these important areas as permanent wildlife refuges. This is a major step in the permanent protection, not only of waterfowl, but of the great variety of other birds that either breed in these marshes or stop here during migration. Comments on legislation concerning pesticides will be made later in this report.

Another significant development in the federal field was the appropriation of funds for a new Wildlife Research Center near Jamestown, North Dakota. A joint administration-laboratory building is under construction with other structures to follow. Some of the staff has been recruited and, at the time this report was drafted, eleven biologists were engaged in waterfowl research. The laboratory's program eventually will include studies of environmental influence, disease, reproduction and physiology, and other basic subjects and will be carefully correlated with research at the Patuxent and Denver laboratories. Initially, however, the Jamestown station will work on pothole ecology of the Northern Plains, which is so important to waterfowl.

Bird life in our remaining primeval areas is of particular interest and concern to many naturalists. Preservation of these areas, mainly national parks, with their flora and fauna will be determined in large part by

management which is based on factual information gained through research. It was significant, therefore, that last year the National Academy of Sciences recommended greatly increased attention to natural history research in the National Parks. While a new position of Chief Scientist has been established and filled, and administrative concern for research has been more apparent, active work on birds or any other facet of the natural history of these areas has not increased significantly. Modest increases in funds for research have been requested, and non-government money is being sought to support ecological studies in Everglades National Park on several aspects of the long-neglected "water problem." It is essential, for example, to define the amount and seasonal timing of fresh water flow needed to maintain essential habitats of wading birds. It is difficult to be optimistic because the hour is late, the ecological problems most complex, and competition for water is increasing rapidly.

PESTICIDE PROBLEMS

Developments in the pesticide field during the past year or two are largely outgrowths of continuing concern over the use of persistent hydrocarbons. One generally commendable phase of the new developments is an accelerated research program involving the search for safer and more specific chemicals, renewed emphasis on biological and cultural methods of control, and—less frequently—broad ecological studies to determine the causes of the present imbalance which requires the use of pesticides. Often money is available to study the need for control and how to carry it out, but not to study the fundamental question: why the need developed and how it could have been prevented.

One unfortunate aspect of otherwise commendable research is that much of it, with its financing, is in the hands of people and agencies which have consistently denied that there are any ill effects on wildlife from the "proper" use of pesticides. As the late Rachel Carson commented regarding a university research program in which six entomologists were assigned to assess effects of a control project on wildlife, apparently "the scientific team consists only of entomologists." Similarly, a university committee ostensibly set up to study the reported effects of a Dutch elm disease control program on birds, includes no ornithologists. The rather obvious function of the committee is to defend and justify the control work.

Thus, the aim of some present-day research is to defend the use of chemicals, *not* to assess their effects on wildlife or on the total environment.

New legislation, largely resulting from the impact of *Silent Spring* and recent events which support its thesis, is now under consideration at

federal, state, and local levels. At the first, a bill has been enacted to eliminate "protest registrations" of chemicals not approved by the Department of Agriculture. This same Department, however, continues to oppose two other bills (H.R. 2857, S. 1250; H.R. 4487, S. 1231) introduced by Rep. John D. Dingell and Sen. Maurine Neuberger. One of these measures would require advance consultation with the U. S. Fish and Wildlife Service before any federal agency could initiate large-scale spraying programs; the other would stipulate more accurate labelling of pesticides, including warnings as to possible hazards for wildlife and how to minimize them.

Recent investigations disclose the need for more accurate labelling. The Mississippi River fish kill, for instance, disclosed that both endrin and DDT are ingredients of some registered pesticides but are not so listed. As a member of this committee learned while testing a new chemical on quail, presence of DDT could result from accidental contamination in preparing large quantities of a pesticide mixture, or by deliberately adding an undesignated chemical to make a low-toxicity pesticide more effective.

Another important bill which is certain to meet determined opposition is H.R. 7353, introduced by Rep. John E. Fogarty of Rhode Island. It would give the Surgeon General of the U. S. Public Health Service power to set "standards of non-persistence" for synthetic organic pesticides. The intent of the bill is to eliminate the use of such toxic persistent hydrocarbons as aldrin, dieldrin, endrin, and heptachlor and, in keeping with the recommendations of the President's Science Advisory Committee, to reduce or eliminate the use of DDT in all programs except those deemed essential for control of human-disease vectors. However, in spite of the incrimination of endrin and dieldrin in massive kills of economically important fishes, the U. S. Secretary of Agriculture opposes withdrawal of these extremely toxic substances from farm use on the grounds that evidence concerning the fish kills is not conclusive.

In the states, some progress on restrictive legislation has been made. "Advisory committees," under various titles, have been set up or are being proposed. Often the composition and function of such groups are open to question, since they are invariably composed of state officials with biased or even vested interests in pesticides. In Michigan, the State Audubon Society has proposed a revision of the state advisory committee to include, in addition to the usual agricultural and health officials, several representatives of citizens' organizations. New York already has such a committee. Connecticut, following the recommendations of the President's Science Advisory Committee, approved a 50 per cent reduction in the amount of DDT to be used in woodland spraying, and ap-

proved the use of DDT in mosquito control only to prevent the spread of disease. The governors of New Jersey and New Hampshire have requested the agencies of their respective states to reduce or eliminate the use of DDT in control work. The New York State Conservation Department discontinued use of DDT in the vicinity of important game fish waters when it was found that lake trout fry in hatcheries failed to develop from eggs of Lake George trout; the yolk sac of the fry from this and several other lakes contained lethal amounts of the chemical.

At the local or community level it is often difficult to modify questionable programs because officials tend to ignore or discredit the suggestions of laymen. Nevertheless, in many instances pressures from local groups, or even persuasive individuals, have cancelled or modified proposed spraying programs. An issue of great concern to home owners is protection of private property from unwanted spraying. At present, any city, state, or federal authority can order the spraying of private property without the consent of the owner. Many citizens, particularly organic gardeners and bird lovers, feel that this is an infringement on their rights and are working for legislation to protect their property from chemical poisons.

Special programs to control specific pests—fire ants, gypsy moths, elm bark beetles, Japanese beetles, cereal leaf beetles, jack pine budworms—have been modified materially. The fire ant program, once the target of embittered opponents, now seems to be running smoothly; the bait mirex, developed by the Fish and Wildlife Service, has largely replaced heptachlor, although the latter is still being used somewhat surreptitiously in some areas. Gypsy moth control in the eastern states has been subjected to one of the most thorough reviews ever accorded any pesticide program. A New York study showed that large scale aerial treatment of forests with DDT achieved only temporary control and was followed by an upturn in the moth population. On drainages of lake trout waters and dairy farms a less toxic and less persistent chemical (sevin) is now used for control, and experimental work is proceeding on a bacillus enemy of the insect.

Dutch elm disease programs, aimed (unsuccessfully, we think) at controlling the bark beetle vectors of the disease, continue to plague many communities. Although well documented studies in several states have conclusively demonstrated appalling destruction to wildlife and a high degree of persistence of chemicals in soil and soil organisms, many communities have gone ahead, often with badly executed and ineffective programs and with little or no study of the many complicated factors involved. More encouraging, however, is the fact that some communities are reassessing their programs; many have substituted methoxychlor for

DDT, or, more rarely, are relying mainly or entirely on sanitation—which has been recommended for many years by leading authorities on Dutch elm disease. A possible break-through to effective control of this elm-killer may be found in a systemic (bidrin) which was developed at the University of Wisconsin and used successfully on an experimental basis in some areas.*

Even more controversial is the continued Japanese beetle program in Michigan. Though the original plans for an “eradication” program were somewhat curtailed by the Federal Pest Control Review Board, the Michigan Department of Agriculture proceeded in the fall of 1963 and spring and fall of 1964 to spread dieldrin over much private property in and around Battle Creek. Irate citizens sought legal counsel and a suit is pending. Samples of the dead birds are being analyzed, but results announced thus far do not shed much light on the confused situation.

By contrast, two other Michigan programs have received accolades from conservationists. The cereal leaf beetle program in southwestern Michigan, employing malathion and sevin in limited areas, was carefully planned and executed. Unfortunately the current program can only hope to suppress the beetle, not eradicate it; the species is well established and will call for continued control in the future. Similarly, the jack-pine budworm project, which originally called for considerable spraying with DDT in the vicinity of areas dedicated to the Kirtland's Warbler, was modified after consultation of Forest Service officials with representatives of the Michigan Audubon Society and other conservation agencies. Malathion was substituted for DDT and spraying restricted to areas at least a half-mile from known nesting areas of the Warbler.

Despite progress in curtailing certain programs and in restricting use of some of the more persistent and highly toxic hydrocarbons, the total pesticide picture, with its nearly world-wide environmental contamination, is dark indeed. This is reflected in the massive kill of fishes in the lower Mississippi, declining lake trout production in New York lakes (definitely charged to DDT) and salmon losses in Maine lakes. The death of thousands of gulls and loons along Lake Michigan shores in the fall of 1963 and of an estimated 10,000 loons and grebes washed ashore along one portion of the Michigan beach in the fall of 1964, is another indication of contamination of our water resources (most of the gulls, at least, are carrying DDT).

Of special concern to ornithologists, as outlined in last year's report, is the continued decline and low reproductive rate in predatory birds and

* The city of Lawrence, Kansas, under pressure from local citizens led by certain persons at The University of Kansas, discontinued spraying in favor of sanitation several years ago. For the past two years a bidrin-inoculation program has been followed, with considerable apparent success.—Ed.

accumulating evidence that the decline is due to pesticides. This distressing trend has been more thoroughly studied in Great Britain where several species are nearing local extermination. All hawks and owls analyzed (at least 60 specimens of 11 different species) were found to be carrying toxic chemicals. Conditions in this country are no better: 55 of 56 eagles analyzed by the Fish and Wildlife Service were carrying DDT, and often other chemicals, as were non-hatching eggs of eagles and ospreys. Unhatched eggs of other birds analyzed at Michigan State University—Robin, House Sparrow, Starling, Barn Swallow, as well as Osprey—have almost invariably contained DDT. Additional corroboration comes from Canada, where the decline in fertility of raptors is very clearly confined to settled areas, while eagles and peregrines of the north are still thriving.

Persistence of DDT and other chemicals is one of the most perplexing problems in environmental contamination. Such chemicals accumulate in soil or water, are transferred to soil or aquatic organisms, which in turn are eaten by higher and then higher organisms such as fish-eating or predatory birds and mammals. At any stage in the food chain the chemical can be recycled and returned to the soil or water, by earthworms “rained up” and reincorporated into soil, or by oysters extracting chemicals from water and then returning them to be accumulated in fishes and ultimately birds or man. Migratory birds redistribute DDT and other toxic substances over most of the world. The amount transported by a single bird is small, but that carried by the total mobile biomass must be considerable.

The ultimate solution, as we see it, is drastic reduction if not total elimination of use of the persistent and highly toxic hydrocarbons, aldrin, dieldrin, endrin, heptachlor, and DDT, as recommended by the President’s Science Advisory Committee and proposed in Senator Fogarty’s “standards of nonpersistence” bill. Already irreparable damage has been done to our environment and time is running out.

TOO MANY BIRDS

As human pressure on living space becomes progressively more acute, problems of “living with the birds” multiply and with them demands for control. It is becoming increasingly difficult to “share our resources” with wildlife. If they come into conflict with man’s interests, only those species of immediate and easily foreseen economic benefits are tolerated. In Turkey there is an old saying that the farmer sows a handful of grain for himself, another for the birds, and another for the gods, but in America the farmer must reap the highest possible harvest or he doesn’t stay in business. Congested living and advanced technology create other prob-

lems, such as avian-born transmissible diseases and hazards of flying birds to aircraft.

A discouraging trend in most control work is to "solve" problems as they arise by the immediate destruction of the forms known or suspected of doing damage, which in some cases perpetuates the problem rather than solves it. Of necessity we usually seek a quick solution to an immediate problem—the "swat-the-fly" approach so prevalent in our society. Rather, we should study the fundamentals of the whole problem, why it developed, and how it could have been prevented. The recent trend in research to seek cultural and biological methods of preventing depredations is encouraging.

The problems.—Perhaps the most pressing of present-day problems involving birds is competition for food supplies. This involves blackbirds and other seed eaters in grain fields and stored grain, depredations by fruit-eating birds in orchards and berry patches, and more restricted but sometimes severe damage by seed-eating birds to the seed-producing and nursery industries.

Another widespread problem is that of nuisance birds in cities and suburbs. Great roosts of Starlings and other birds in settled areas arouse public indignation because of the noise, defacement of shrubbery, cars and buildings, and alteration of the chemical composition of soil by accretions of ammonium compounds under the roosts. In suburbs, birds cause lesser problems by occasionally attacking ornamental plants, consuming newly planted grass seed on lawns, damaging house siding and ornamental trees (sapsuckers), or drumming on drainpipes or metal roofs in the early morning hours (flickers).

Another cause for concern, also arising from congested living, is transmission of diseases from birds to man, directly as in the case of ornithosis or indirectly as in the case of encephalitis. Fortunately, public health officials are making long-range biologically oriented studies of this serious hazard. Bird-banding is used as a tool to study distribution and movements of potential avian carriers and to collect blood samples at different intervals in the life history to determine how long birds remain active carriers.

A fourth question, in an entirely different category, is that of collisions of birds with aircraft. We shall refer to it again (p. 486).

Control methods.—Control methods for birds run the gamut of traps, lights, scaring devices, distress calls, repellents, poisons, chemical sterilants, and various cultural and biological means. Some of these devices and procedures were described in last year's report and will not be discussed, but developments during the past year should be mentioned.

One of the most promising of the new devices is a decoy trap for black-

birds and Starlings. Designed by the U. S. Fish and Wildlife Service, it has been tried out experimentally in a few places. It is a large poultry-wire enclosure containing decoy birds, food and water. The trap should prove useful for reducing concentrations of birds in grain fields, orchards, and berry fields. A similar device has been used, with considerable success, in capturing Starlings in the northwest, where the bird is a new arrival and its numbers can perhaps be kept within reasonable bounds.

Another capturing device, mentioned in last year's report, is the flood-light trap for catching large numbers of Starlings and blackbirds at roosts. Further developments in its use are described in a new bulletin (Special Scientific Report: Wildlife no. 77, Dec., 1963). Some exceedingly large catches have been made. However, at large roosts composed of millions of birds, the actual catches are only a small fraction of the total. In spite of such drawbacks as cost of trap construction, failures in certain locations, and relatively low catches compared to total population, the flood-light trap and its various modifications offer considerable promise.

Distress calls, once heralded as the solution to the Starling problem in the suburbs, declined in popularity when the birds became habituated to the sounds but now they are being restudied. In German vineyards and orchards, loudspeakers mounted on a series of 10 to 12 towers and controlled by a full-time operator have been used effectively. A sequence of different scaring devices was found to be more effective than any one used alone; i.e., distress calls followed successively by rockets, shotguns, shellcrackers, and lights. On one occasion more than a million birds were moved by such use of sounds. However, the method is costly and thus not practical on small farms.

Chemicals are still widely employed for bird control and much research is directed toward developing safer and more specific substances. In general, poisons are dangerous and difficult to use; in most European countries their use is forbidden except by licensed officials. Research on chemicals is designed to develop repellents, gametocides, and drugs with temporary stupifying effects. Alpha-chloralose, a drug, is commonly used in England and the Netherlands; the drugged birds are then destroyed or, if beneficial, released. The Phillips Petroleum Company has developed and registered a new chemical called "Avitrol." It is not licensed for public use but is sold only to government agencies and licensed pest-control operators. The company reports that birds consuming the lethal bait utter distress calls which frighten other birds from the area.

Work with gametocides continues. Many chemicals have been screened and some were very successful in laboratory tests, but there is still the problem of getting the sterilant to large numbers of the right species in the field. Presumably sterilizing agents could be used safely and effec-

tively on birds in confined spaces, but not so readily for widely distributed problem species in the open.

Various cultural and biological methods of control are under study. Buffer plantings, such as wild fruits around orchards and inexpensive grains bordering commercial grainfields, have had some success. At other times such plantings merely serve to attract more problem birds. In the Midwest, development of a corn variety with a tougher husk has helped to alleviate blackbird damage. Studies are also under way to determine where and how birds might be vulnerable to physiological disturbances.

Another approach, little utilized except in a limited sense by home owners, is the recognition that most birds are potentially useful and could be increased, perhaps at the expense of nuisance birds, by creating more favorable conditions for the former. In part, our bird problems result from poor management; we have poisoned off large numbers of insectivorous and predatory birds, or otherwise made the environment unfavorable for them, and allowed the more omnivorous and vegetarian types to thrive. Several large-scale projects have been under way in Germany to attract insectivorous birds to forests for insect control. A similar project in Washington state is designed to help in control of forest insects.

Birds and aircraft.—Ever increasing air traffic and consequent congestion of the airways, as well as the increasing number of airports and consequent loss of habitat for birds, create more problems. Often airfields are the chief open habitable areas in the vicinity of large cities.

Problems with birds at airports are serious and occasionally deadly. In 1962, 17 people died and two aircraft were lost because of birds. From January, 1961, to April, 1963, 430 strikes were recorded and 1,615 were estimated to have occurred. Damage to some of the planes was severe and costly. Many species were involved in the strikes but gulls and waterfowl predominated. In addition to the usual scaring devices and killing, the most effective remedy to date is to make airports unattractive to birds. In several cases, elimination of a dump or garbage disposal site has substantially reduced collisions during take-offs and landings. At other airfields, destruction of roosting places of birds in the vicinity has helped.

“Gooney birds” and terns continue to be troublesome at Midway and other Pacific air stations. To date, levelling the dunes paralleling the runways to create less favorable soaring conditions seems to be the most practical means to avert damage to planes and at the same time preserve the birds. Other techniques—egg removal, nest destruction, transplanting birds to other islands, and direct disposal of thousands of birds—have not sufficed.

In conclusion, we should point out that in our control work we must not lose sight of the need to preserve some complete ecological communities with well balanced populations of plants and animals living in harmony. As one biologist has aptly expressed it: we need to cooperate with nature rather than beat her into submission.

OIL AND SEA BIRDS

For many years, conservationists have campaigned vigorously for better protection of the seas, continental shorelines and natural resources against the effects of oil which is discharged, either by accident or design, from ships. International meetings have been held and laws enacted but oil spillage continues. On January 7, 1964, a stranded freighter dumped 138,000 gallons of oil in the Gulf of Mexico a few miles from the Dry Tortugas. Oil from this spill drifted onto the Dry Tortugas (Fort Jefferson National Monument), the site of one of the country's largest nesting colonies of sooty and noddy terns. After attempts to remove the oil by scraping and burning had failed, the National Park Service contracted to cover the oiled shores with clean fill dredged from the adjacent ocean bottom. Nine days after completion of the job in mid-March, Sooty Terns landed to begin nesting. During banding operations about a month later, only 102 oiled birds were found among 3,744 adult terns handled, or 2.7 per cent. This incidence of oiling, however, is about ten times that of previous years, indicating that a real threat to the colony had existed and had been averted by quick action. Only then did it become public that the U. S. Army Corps of Engineers had issued a permit for a bunkering station near Rebecca Shoal where ships could refuel from anchored barges in international waters. (A similar station at Freeport, Grand Bahama has caused serious damage to beaches in that area.)

Conservation organizations in southern Florida made vigorous protests to the Army Corps of Engineers and to the Department of Justice against the oil spillage and the authorization of the bunkering facility, but as late as the end of 1964 the permit apparently had not been withdrawn.

OUT OF SEASON HARVESTING

The United States and Canada share a problem that largely is being avoided because nobody is sure how to face and solve it. Illegal spring harvesting of birds is a very real and long-standing problem. Since earliest times, the natives of the North have awaited eagerly the spring arrival of birds and with them an improved and more varied diet. In the past, these people have hunted adult birds, gathered eggs during the nesting season, and engaged in drives of flightless birds following nesting.

The natives still take birds out of season, but fortunately egg collecting and drives for flightless birds have decreased.

For the most part, species utilized in the spring by the northern natives are not otherwise harvested; e.g., in Alaska, the eiders, scoters, Emperor Geese, etc. Biologists believe therefore that this spring and summer harvest does not seriously damage the species involved.

Under the Federal Migratory Bird Treaty Acts, however, any and all bird hunting between March 15 and September 1 is illegal. Accordingly, even though spring bird hunting is a way of life for the northern natives, and even though such hunting is apparently harmless to the species harvested, the hunters are subject to arrest and conviction for violations of a law which is not entirely applicable to the north country. Few arrests are made, largely because of an appreciation of the above-mentioned factors, but the situation promotes "guilt complexes" on the part of both natives and law enforcement officers.

Can the problem be solved? Allowing the states and provinces to set hunting seasons and limits throughout the year, instead of just between September 1 and March 15, is an answer. But would this change necessitate a complete re-negotiation of the Federal Migratory Bird Treaty Acts? If so, it is possible that a new treaty could not be negotiated, and then the valuable aspects of the present treaties would be lost.

RAMPART DAM POWER PROJECT

Rampart Dam, a hydroelectric project proposed by the U. S. Army Corps of Engineers, would straddle the Yukon River 756 miles upriver from its mouth and harness its energies as low-cost electric power for Alaska and the Pacific Northwest. The proposed dam would be 530 feet high with a top length of 4,700 feet; construction is estimated at \$1.3 billion. When filled, some 20 or more years after construction begins, the reservoir would have a surface area of about 10,500 square miles—somewhat larger than Lake Erie. When in full operation, firm energy at site is predicted at 34.3 billion kilowatt-hours annually.

Proponents of the dam—including Alaska's Chamber of Commerce and Congressional delegation, many Alaskan politicians, and a recently organized promotional group, Yukon Power for America, Inc.—extol it as essentially a "cure-all" for Alaska's economic and developmental problems. To others, the project has the earmarks of a gigantic boondoggle. Certainly Alaska needs cheaper power, but it could be provided sooner, although less spectacularly, at other sites.

Many citizens are opposed to the proposed Rampart Dam because a future market for such large quantities of energy has not been adequately demonstrated and because of the adverse effects of the structure and im-

poundment on natural resources. Not only would the dam obstruct the spawning runs of three species of Pacific salmon, but the resulting lake would inundate the habitat of significant numbers of big game (moose, black and grizzly bears, and sometimes caribou), small game and fur animals (muskrat, mink, beaver, otter, marten, wolverine, weasel, lynx, snowshoe hare, red fox, and red squirrel), game birds (especially breeding waterfowl), and song birds.

In its report of April, 1964 ("A report on fish and wildlife resources affected by Rampart Canyon and Reservoir Project, Yukon River, Alaska"), the U. S. Fish and Wildlife Service summarized the results of its brief study. Discussing the waterfowl resource, the Service reports that "the area of the proposed impoundment is a segment of the continental waterfowl breeding grounds almost unequalled in its vast extent and continuous high productivity." The breeding ducks which would be adversely affected represent about 1.6 per cent of the total continental breeding population, and each fall the area contributes at least 1.5 million ducks to the continental population. Recoveries of banded birds show that they disperse to all of the major flyways, though most returns are from the Pacific flyway and from Canada.

In concluding its report, the Fish and Wildlife Service says: "Nowhere in the history of water development in North America have the fish and wildlife losses anticipated to result from a single project been so overwhelming . . . we strongly oppose authorization of the Rampart Canyon Dam and Reservoir project."

STATUS OF SOME NOTEWORTHY SPECIES

Traditionally, a report on the status of birds has dealt with such species as the Whooping Crane and Trumpeter Swan. This may be a time to broaden our field of vision and to reassess our outlook. What we need to be concerned about are new environmental changes and the effects that they may have on wildlife.

We have had driven home several truths that are not new. For one thing, abundance does not assure survival. We may have oversimplified the history of the Passenger Pigeon and the bison by assuming that simple enforced non-killing could have saved them. Canadians, for example, were accustomed to look on the few thousands of musk-oxen as rare and vanishing mammals that had to be watched constantly, while the barren-ground caribou with tens of thousands in a herd was an economic mammal, managed as a resource, with no thought of disappearance. It now appears that the musk-ox is perhaps the safer of the two, and always was. Furthermore, the crash in caribou was accompanied by a failure of natural recruitment and a deterioration of the range.

Now we look at birds, and wonder. The Trumpeter Swan is doing well. Last year an apparent weakening of natural recruitment in Canada geese originating in northern Ontario led to a check of the eggs for pesticides, but the 1964 crop of young has proven to be especially good. Virus infections are showing up in the great blackbird flocks. What can we really be sure of, and how much do we really know about bird populations?

We close this report with some comments on a few of the birds about which ornithologists are, or have been, concerned.

Trumpeter Swan.—The Trumpeter Swan is known to breed in south-central Alaska (Banko, W. E., *North Amer. Fauna*, no. 63, 1960), but for years the swans nesting along the great river valleys of interior Alaska were presumed to be Whistlers. In recent years, however, it has become increasingly evident that the breeding swan of the interior is the Trumpeter Swan. James G. King, U. S. Fish and Wildlife Service, and Peter E. K. Shepherd, Alaska Department of Fish and Game (King, pers. comm.), by examining swans and their nests and eggs, have identified Trumpeters during the breeding season from Fort Yukon to Lake Minchumina, and their breeding range is thought to extend westward at least to the Koyukuk River Valley. Whistling Swans migrate through interior Alaska and nonbreeding birds occasionally occur there during the summer, but the breeding Whistlers seem to prefer the coastal tundras of northern and western Alaska. Henry A. Hansen (pers. comm.), U. S. Fish and Wildlife Service, estimated the Alaskan Trumpeter Swan population in 1961 at about 1,300 birds.

California Condor.—Conservationists in California and elsewhere have been aroused by a proposal to extend and complete a loop road on the Sierra Madre Ridge in the Los Padres National Forest. The road, supposedly for administrative (fire protection) purposes but actually for recreation, would certainly bring heavy traffic and visitation to the immediate vicinity of the Sisquoc Condor Sanctuary. Nesting success of the California Condor, so sensitive to disturbance, would be endangered and the adults would be subject to more indiscriminate shooting than has already occurred. Another recreational project, a water impoundment, has been suggested for the vicinity; it would also attract noisy recreationists. Still another hazard to the species was mentioned in the preliminary report of 9 March 1964, of the Secretary of the Interior's Advisory Board on Wildlife Management. This report on predator and rodent control cites the finding of two dead condors in an area of Kern County, California, where 1080-treated grain had been distributed by agricultural interests to reduce the population of ground squirrels. While laboratory tests conducted by the University of California were inconclusive, it is possible that the condors had died of 1080 poisoning acquired from eating dead ground squirrels. In view of these circumstances and of destruction of condors by target shooters in and near the Sanctuary, it is evident that more effective protection is needed if the species is to survive for long. The total population is only about 40 birds.

Everglade Kite.—A decade ago most ornithologists gave up this species as lost to the United States. It is cheering to report that on 17 June 1964, a group of 15 kites (6 adult males and 9 immature females) was located on the Loxahatchee National Wildlife Refuge in Palm Beach County, Florida. At nearly the same time, an additional 2 birds were reported on the western portion of Lake Okeechobee. This number is greater than the previously estimated total for the entire country. The sex ratio is particularly favorable and as nearly normal as can be expected in

so small a population. Some 10 years ago, a high excess of males (6 males with 2 immature females) was believed to have caused several nest failures on the marshes around Lake Okeechobee.

A portion of the Wildlife Refuge was closed in order to protect the nesting and the staff reported that one nesting was successful and two young kites were seen flying on 23 July 1964. The Refuge Manager and other members of the staff showed a keen and knowledgeable concern for the welfare of the birds.

Bald Eagle.—Continent-wide nesting success of more than 400 pairs of Eagles reported to the National Audubon Society in 1963 was slightly over 41 per cent. Little material change is apparent this year and the project, somewhat modified, is being continued by the Society. Nesting again has been relatively successful in Alaska and in Central and Southern Florida; elsewhere (especially in the eastern United States) productivity continues low, adults frequently fail to nest, and the adult population is declining. Likewise the percentage of immatures in the population seems to be continuing downward. Generally, the outlook for the species is not encouraging, although in southern Florida Bald Eagles seem to be undisturbed and reproducing normally.

The results of a six-year study in south Florida will be published soon. Interestingly, the period covered included two most severe environmental stresses (a violent hurricane and extreme drought) which had little effect on the production of young Eagles. The only discernible threats to the South Florida population are disturbance from increased boating and a buildup of insecticide contamination in water discharged from the Everglades drainage into Florida Bay.

Masked Bobwhite.—The species disappeared about a half-century ago from its restricted range within the United States (southern Arizona), presumably because of habitat deterioration through overgrazing. At least three attempts were made to re-establish the species by introductions from Mexico, but none was successful. Currently, another effort is being made by the Arizona Game and Fish Department, the State University, the Arizona-Sonora Desert Museum and private citizens, James and Seymour Levy of Tucson.

Hudsonian Godwit.—For 44 years, 1907 to 1951, the Hudsonian Godwit was not recorded in Alaska, and Gabrielson and Lincoln (*Birds of Alaska*, 1959: 407) stated that "it is not probable that it will be found again in the State." Since 1951, however, a number of individuals have been reported at various localities throughout the State, with the largest number in the Anchorage-Kenai region (Williamson and Smith, *Condor*, 66: 41-50, 1964). Since 1960 groups of up to 12 birds have been recorded in the Anchorage-Kenai area in August, flocks of up to 30 birds in May, and breeding records have been established (*ibid.*). During May and June, 1964, south-central and interior Alaska experienced an unusually large shorebird migration. A flock of 15 Hudsonian Godwits was observed at Fairbanks (the second record for the region) and 6 birds were seen at Minto Lakes, 30 miles west of that city. Some 640 godwits were counted by James E. Hemming in the Anchorage area.

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