

## PRESERVATION OF BIRDS IN CALIFORNIA

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Ornithologists have a greater responsibility in conservation activities than other people have, whose interests in the outdoors are less specialized. Persons familiar with birds and the conditions at their living places should be fitted to judge the significance of changes in the landscape and other factors which might affect birds. With this advantage in the understanding of conservation problems, bird students ought to give a part of their efforts to the solution of general questions of land use and especially to the problems which involve the preservation of birds. Often the solution bringing the greatest benefit to birds is at the same time the best for other considerations.

At the outset in this discussion we must resolve to order our activities so that efforts will lead to some beneficial result. It is not enough to be active. Not all moves for bird protection have equal value. We might become greatly concerned over a target shooter who kills five birds in a year and at the same time show no interest in some landscaping project which would remove the homes of thousands of animals. To put it another way, it would be far better to become aroused over destructive agencies which affect White Pelicans or Swainson Hawks than over ones which affect only linnets or blackbirds. The paragraphs which follow may be of some use as representing an attempt to evaluate part of the important influences which affect the preservation of birds in California. They are calculated to supplement and bring up to date a report upon the same subject which was prepared eight years ago. (See *Condor*, vol. 32, 1930, pp. 105-115.) Further consideration may be given to the same species designated then as deserving special attention.

The Sage Hen has become so reduced in numbers in California in recent years that, in 1931, shooting of this bird was prohibited by legislation. But shooting had been only one of several factors important in the decrease of this bird. The harmful effects of grazing, mainly by sheep, have continued, and very little has been done to counteract them in the eastern part of the state. Whether or not the Sage Hen can regain its former range and numbers in California probably will depend upon the protection of range and water holes which it requires. In parts of Nevada not far from the California line the species remains in numbers sufficient to restock depleted areas in this state if the necessary features of the habitat are restored.

Records of the California Clapper Rail have been noticeably frequent in recent years, but that does not necessarily mean an increase in the species. It seems more likely to indicate greater accessibility to people, of the remaining bits of rail habitat. Improvements and road construction in the marshes have made it easy to find rails in a short time, but they have at the same time cut into the remaining range. The opportunity remains for some person or organization to provide a permanent refuge for this and other salt marsh inhabiting animals in the vicinity of San Francisco Bay. This would involve permanent ownership in a spot not likely to be condemned for public use. It is not certain that any such suitable area exists; if not, there appears little hope that this set of animals will continue long to live in the San Francisco Bay district.

Shore birds, ducks and geese seem to me to be considerably better off in California than they were eight years ago. I am unable to say why there should be any more shore birds, if there are. The ducks and geese may be responding to the increased amount of land set aside for refuges for them, or they may have benefited from modification of the shooting regulations. With the continued improvement and acquisition of refuges by the federal government, at Klamath Lake, Tule Lake, Clear Lake, the Spalding Ranch

in the Sacramento Valley, and at Salton Sea, by the state near Gridley, Suisun, Los Baños, and in Imperial Valley, and by the latter and other agencies as at Lake Merritt, San Leandro Bay, Berkeley Aquatic Park, and many water storage reservoirs, a large number of resting and feeding places have been provided for water birds in the shooting season. Some of these are beneficial as well for nesting purposes.

The California Condor continues to be in imminent danger of extinction. In the past year or so several persons and organizations, some of them outside the state, have given considerable thought and some action toward solving the problem of preserving this bird. This worthy activity may serve to prolong the life of this striking species, but prospects of maintaining it permanently seem less promising each year.

A certain group of raptorial birds, including the Prairie Falcon, Duck Hawk, White-tailed Kite, Red-bellied Hawk, Golden Eagle, Bald Eagle, and Osprey, all represented by small numbers in California, are subjected to three main sorts of injurious influences. Because of peculiarities in the living quarters of most of these species, only a small population can be supported in the state under the most favorable conditions. But intensive human use of land tends to remove the suitable places for some, as, for example, the Red-bellied Hawk. However, for these birds there is no doubt but that the greatest handicap is simply the fact that they are hawks, and hawks are animals to be killed, according to the most widespread notions of "conservation". The reasoning to support these notions is so simple and so convincing, even if fallacious, that few persons, among the small number who may have learned better, are willing to be on the unpopular side by hindering the practices of vermin removal. The species named above are ones least able to endure the increasing demands by shooters not only for the privilege of killing them but for officially planned and executed removal of carnivores. The third important danger to these birds is from the competitive zeal of egg collectors. There is no doubt but that all of these species could be preserved in this state, by just a little more effort in their behalf on the part of persons who are best prepared to understand the food relations of hawks to other kinds of animals.

It may be doubted whether widespread publicity in favor of preserving these birds would have the desired effect, because the persons desiring to remove them have the means to smother it with more extravagant "news" of an opposite character. The best hope for success in this situation seems to be in influencing the advocates of vermin killing by pointing out flaws in their traditions.

Another California bird, the Yellow-billed Magpie, is traditionally considered to be a rarity by bird students and, at the same time, a great pest by many practical outdoor people. Any person who takes the trouble to study this peculiarly Californian species will find that it is not rare, despite its small range, nor could it be considered really a pest, even though it is a corvid. Yet there is an ever present prospect that so much prejudice could be aroused as to result in as great reduction in this kind of magpie as has occurred in the case of magpies in many other countries. It is not too late to plan for the future welfare of this species—though it may be so in the cases of the Condor, the White-tailed Kite, and the Clapper Rail.

It may be profitable to turn from the consideration of particular kinds of birds to the situation as regards the whole avifauna of the state. One of the first steps is to understand the various types of land in the state, especially their characteristics that would affect animals, and their extent. We must know how birds respond to forest land, desert land, brush land, and farm land, but also we must know the locations of the types and something of the kinds of human use made of them. In general, we have some notion of how different kinds of farming, grazing, or lumbering affect birds, but to interpret local experiences in terms of the whole state requires much study.

## TABULATION OF SOME TYPES OF LAND AREA IN CALIFORNIA

	Acres
Land area of state . . . . .	99,617,280
Cultivable land . . . . .	23,000,000
Land in 150,360 farms (1935) . . . . .	30,437,995
Land drained for agriculture . . . . .	2,233,714
Potentially irrigable land . . . . .	18,000,000
Area under irrigation, 1930 . . . . .	4,746,632
Water supply available for . . . . .	6,200,000
Non-agricultural land . . . . .	76,000,000
Original forested area . . . . .	23,000,000
Present forested area . . . . .	18,270,000
Present virgin timber . . . . .	13,200,000
20 national forests . . . . .	19,164,573
Grazing land in national forests . . . . .	11,389,000
Land burned over in 1936 . . . . .	946,850
Public domain . . . . .	15,676,000
National parks and monuments . . . . .	2,887,776
State parks (70) . . . . .	292,557
Federal bird refuges . . . . .	120,000
State game refuges . . . . .	2,600,000
Wilderness areas . . . . .	1,493,500
PEOPLE IN CALIFORNIA	
Total (1930) . . . . .	5,677,251
Urban (73.3%) . . . . .	4,160,596
Rural . . . . .	1,516,655
Farm . . . . .	620,506
Number per square mile (1930) . . . . .	36.5
Per cent increase in 10 years . . . . .	65.7
Hunters' licenses (1935) . . . . .	189,125
Buyers of migratory bird hunting stamps (1935) . . . . .	33,353
Game wardens . . . . .	125
Bird students . . . . .	500±
Collectors . . . . .	200—

We often hear comments on the remarkable increase in farming in recent years in California, but actually in the past half century there has been almost no increase in the amount of land farmed. The acreage has remained at approximately one-fourth the area of the state. But great changes have taken place on this land, which involved increase in number of farms, more intensive cultivation, increased production per acre, and greater amount of improvements. This last item includes buildings, roads, lawns, trees, canals, and the like. Except for the land that has been drained for agriculture (a little more than 2 per cent of the whole state) enough ground remains that resembles the original area now farmed to provide habitats for practically all the kinds of birds originally found there. The problem of providing habitats to preserve species of birds displaced by cultivation of land in this state is not an important one, and our attention can be turned to more pressing questions.

The non-agricultural land, comprising three-fourths of the whole state, has come to be the part requiring most careful consideration if the animal life is to exist in its proper relation to the land. And this is the land where birds seem to have their greatest value for people. In some ways the presence and activities of birds on cultivated land remain the concern of the land owner, but there is a greater public share in the life of the unfarmed area. Since only one-third of this great area originally was forested, there remains more than half the state which can be neither forest nor farm land. Here, despite the many injurious human practices that have hindered the existence of native animals, the natural fauna has been favored to some extent by the unfavorableness for

the usual kinds of human activity of the topography, soil, and climate. The extent of habitat offered to birds on this land is huge in the aggregate. Except for those kinds which require special amounts of water, and for the ones shot as game, there need be no great concern over the persistence of birds here.

For further study of kinds of lands available for birds and especially the relationships of those types of land and their animal inhabitants to human welfare, several recent publications contain much valuable material. Among these the Report of the National Resources Board (1935) is remarkably complete and concise in its analysis of the whole country and the influences which affect it. Another brief survey of the same problem, more easily obtained and more easily read, is the book "Deserts on the March," by Paul B. Sears, which was published in 1935. "The Western Range", published in 1936 as Senate Document 199, deals with many phases of the most important problems affecting the whole state of California, and it treats them from the authoritative viewpoint of the Forest Service. A summary of these problems from the point of view of national parks is contained in the 20th Anniversary National Park Supplement to Planning and Civic Comment (vol. 2, 1936). All these deserve study by any person who contemplates any activity in the preservation of birds.

California has long been a leading state in designating land for special purposes, many of which tend to benefit bird life. The point seems to have been reached where, although special bits of land may still be added profitably to the reserves already established, the greatest need is for suitable administration of those areas. It is desirable to consider not alone the amounts of the various kinds of land for these special uses, but their quality and diversification and especially their availability to people and to wild animals. Often multiple forms of use are feasible and even desirable if the whole state is to be benefited. Among the kinds of sanctuaries deserving notice are national parks and monuments, state parks, federal bird refuges, state game refuges, and wilderness areas.

The great acreage of national parks and monuments in the state alone might indicate an acme of appreciation for this high type of land use and there is a surprisingly staunch concern over the welfare of the parks. This is fostered by a strong, centralized control over the parks which attempts to forestall those commercially inspired schemes which tend to detract from the general values of the areas, including some of their special uses for birds. Some especially desirable bird nesters in the parks can be driven from them, and even from the state, by too eager bids for large attendance at places which need to be kept secluded. No doubt this has happened already at some of the lakes in the vicinity of Lassen Peak.

The building of California's state park system, which has occurred in the past eight years, is remarkable for the quality and extent of land acquired, but to me that program was also notable because of the absence of interest in it shown by persons especially acquainted with birds or animals. It is little wonder that scenic qualities have been given the main consideration in planning the system. Too often, in late years, state parks have been considered as of second rate importance and as places where relief money could be spent in providing cheap and accessible playgrounds for city dwellers. California's parks deserve a better classification than this, and better treatment than this rating would imply. Moreover the suitable administration of them should be the concern of every person who is interested in the welfare of the native animal life. Over-enthusiastic management easily could detract from the values of the park lands as they existed under private ownership.

A somewhat similar situation exists with respect to the newly acquired refuge lands for waterfowl, whether of federal or state ownership. These establishments can be set up

more easily than they can be administered for the greatest benefit to the animals. Since these lands belong to the public and they are supposed to supply needs of wild animals, persons with special knowledge of those animals should take sufficient interest in the areas to know their status and to contribute toward effective handling of them. Many problems require solution before the refuges can be made thoroughly effective. Unwise practices are likely to affect them adversely even with the most conscientious administrators in charge.

We are becoming accustomed to rapid and extensive changes in all of our affairs, and these extend to the affairs of the native animal life. Some of the notions so freely discussed by naturalists need to be examined rather carefully before we accept them completely. In this connection, I single out for brief mention the three topics: Collectors, vermin, and wildlife management. None of these is a new topic, but recent discussions of them appear to lead to rather extreme stands in one direction or another and to make opportunity for sharp debate.

As to collectors of birds in California, I have heard many serious accusations and many vehement defenses of their activities. When we examine the list of persons that have been granted permits to collect birds in the state, we find the total is very small. If the list is studied further, it becomes obvious that only a few individuals—probably fewer than twenty-five—do any collecting at all. But there is some basis for complaint; for half a dozen expert collectors of eggs for exchange are able to affect harmfully the welfare of important bird species. It seems fair to conclude that there has been far too much collecting of eggs on account of their exchange value and far too little collecting of specimens for their value in the study of natural history. Rather than condemn all collecting or defend all collecting, it would be better to distinguish between the two kinds mentioned, to discourage the former, and to encourage the latter which can do no permanent harm to bird populations.

Birds eat portions of some planted crops in a few sections of the state. Accounts have been assembled to show that much economic loss results from the feeding habits of a few kinds of birds, but such demonstrations must depend upon too meager facts to expect them to be successful, although there is no question but that individual farmers can trace failure of one of their crops to raids by one or more kinds of birds. Even in the extreme instances, however, other factors are at work which contribute to crop failure, so that it becomes practically impossible to fix the amount attributable to birds. Complaints against birds range from justifiable ones to ones where the farmers actually shoot birds to prevent their eating fruits which it is not intended to harvest.

After the expansion of agencies for the removal of mammals it was natural to expect a demand for the control of any birds which might feed upon cultivated plants. Local agents, in response to this desire, planned extensive control campaigns of which the one conducted in 1927 in Tulare County became most widely known. There, in one season, the bird population was reduced "at least 80,545" (Wheeler, *The Exeter Sun*, vol. 26, no. 23, 1927, p. 14) during a contest conducted among boys. After this activity there was much unfavorable comment and a closer relation between county, state, and federal workers concerned with the problem.

The situation for killing birds differs from that of mammals mainly because there is a more far-reaching public interest in birds than in mammals. A campaign to poison birds intentionally, even on a much smaller scale than has been tried for mammals, probably would attract the attention of many people and it might bring such a storm of protest as to require abandonment of the whole program for the artificial control of vertebrates. A few officials have understood this situation, and they have been active

in their attempts to forestall a recurrence of the obstacles which impeded efforts to kill mammals.

Management of wildlife has become an attractive occupation to outdoor people in late years. Possibly the expansion of interest in this field has been too rapid to be stable, and the present developments may not represent the aims of the sponsors of the movement. Nevertheless it may be well to consider how we may expect planned management of wild animals and plants to solve the main problems of preserving them. When we consider the difficulties encountered with the most successfully domesticated animals and then think of application of the practices to free-ranging wild individuals and species, promise of quick success may seem remote. Game management is capable of developing soon into an attempt to farm one or a few species to the limit on the land, and thus it may be no different from farming for corn, cows, or poultry. The results then may be inimicable to wild plants and animals in general.

A study of the many factors which affect numbers of birds brings the conclusion that only one constitutes a serious threat to the bird life of the state. This involves the attitude of people toward birds. The early development of agriculture on the Great Plains was accompanied by an increase in some kinds of birds. There were attempts, in the '60's, to kill off birds. Next, Glover, Aughey, King, Forbes, and Snow examined food of birds and came to the conclusion that birds were valuable as aids to crop raising. They not only convinced themselves, but they convinced the whole United States. Much of our accepted notion as to the place of birds in agriculture is directly traceable to this group of workers. Since that time, fifty to seventy years ago, great changes have taken place in agricultural practices, and a great deal has been learned about insects and their lives. The early, widespread, and convincing arguments that birds would save cultivated crops are still too prominent in conservation discussion and thought.

Now, the attitude towards birds is rapidly swinging to one of indifference or of actual disfavor. Birds are often unwisely considered as hindrances to some kind of human activity. The result is that no effort is made to allow the operation of factors which favor the maintenance or increase of bird life, but many determined efforts are being made to "regulate" numbers of birds. This usually means reduction of some species. The notion that all values, even those intangible ones involved in recreation, are to be measured in terms of dollars has done, and promises to do, more harm to our bird life than any other single factor.

Finally, we must remember that California's avifauna is characterized by a large number of species but a relatively sparse representation of individuals. Changes that have accompanied the settlement and development of the land have been as follows: A slight decrease in the number of species; some of the uncommon species have disappeared; many species have been greatly reduced in numbers and in area; a few species, common ones already, have increased greatly in numbers. The greatest need is for a revised attitude toward birds which will tolerate and encourage them for their true values.

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