

PROBLEMS OF BIRD CONSERVATION IN CALIFORNIA

By JEAN M. LINSDALE*

Resolutions passed at the April, 1929, meeting of the Northern Division of the Cooper Ornithological Club (see *Condor*, xxxi, 1929, p. 139) furnished the stimulus for the preparation of the present report. The suggested outline of investigations which accompanied the resolutions has been followed closely both in making the detailed studies called for and in selecting the material for this presentation. In general, the inquiry has disclosed an abundance of facts which provide opportunities for worth-while work in bird conservation. At the same time it has revealed an increasing lack of concern, on the part of the Club members, about those problems which have to do with the continued welfare of our bird life.

STATUS OF NATIVE BIRD LIFE

An examination of available information bearing upon population numbers in California bird species reveals no single species which can be designated certainly as on the verge of extinction. However, several species, or groups of species, are low in numbers within the state so that they need watching and possibly help in maintaining their statuses.

Sage-hen: This bird in California is almost to or at the danger point in reduced numbers. Factors which we suspect as being especially important in hastening this decrease are as follows. Shooting of these birds in excess numbers has had serious effects in late years. Grazing of sheep up to the carrying capacity of the region occupied by the birds has been detrimental, especially since it involves disturbance at all the water holes in the territory. Finally, unfavorable weather during the nesting season, exemplified by the spring of 1929, on top of other, abnormal, factors, has helped to bring the numbers down. Here is a species that surely has been affected harmfully by improved means of transportation of hunters. However this factor is partially offset by the favorable attitude towards the birds on the part of the persons who live within their range. If the reduction continues much farther it will be too late to save this bird for California. The Cooper Club can render timely assistance to this species by starting and supporting a movement to establish a prolonged closed period for the Sage-hen.

Clapper Rails: Although various observers have indicated the nature of the agencies contributing to the depletion of numbers of these rails, it appears that reduction in area of habitat suited for occupancy is the chief factor. (See DeGroot, 1927.) A suitable course of action in this case would be to work for the maintenance of some salt marsh areas where this and other kinds of animals peculiar to those habitats might be preserved. This has been suggested at various times, but evidently the Cooper Club has not taken the matter seriously. Before many years it will likely be too late to do anything for these birds.

Shore-birds, Ducks, Geese: The status of this group of birds is possibly near a crisis as far as California is concerned. The interest shown by most Cooper Club members in these birds has been conspicuously passive. The future standing of this group in California is largely dependent upon the development of an active interest in its welfare. At the same time we must recognize that such practices as market

*Chairman of Bird Conservation Committee appointed by Northern Division President John G. Tyler in April, 1929. Other members appointed to this committee were Donald D. McLean and C. B. Lastreto. After the report was read at the December 7, 1929, meeting of the Northern Division it was adopted by unanimous vote. Two additional members, Joseph Dixon and Tracy I. Storer, were then appointed on this committee.

hunting, night hunting, over-sized bags, and live decoy hunting continue to have a large part in the reduction of this class of birds. These factors cannot be remedied easily so long as local sentiment favors transgression of existing laws. The working out of plans for the preservation of these birds should not be left to gun clubs alone and to persons interested in shooting.

Just now two opportunities are pressing for action by a few persons who care for the welfare of this class of birds. Both of them have to do with the provision of more extensive areas of habitat suited to the kinds of water birds which live all or part of the year in California.

Even though both our state and federal governments have within the past year passed laws to make available large sums of money for the establishment of wild fowl refuges, that action was only the beginning, in each case, of a long and complicated process. Much work must be accomplished before an adequate series of refuges is actually established and maintained. The situation is especially difficult in the California valleys, and these are just the places where the refuges are most needed.

It is granted that the state and federal authorities have made preliminary surveys of the likely areas in California and that so far no call for outside help has come to notice. However it seems certain that the Cooper Club membership has access to a great deal of information that would be of value to the persons who have the task of selecting the new refuges. Is it not possible for the Club to take up the problem of finding suitable lands for this purpose? We feel certain that any information leading to the selection of potential refuge land would be welcomed by either the Bureau of Biological Survey or the California Division of Fish and Game. Further, we think the chances are good that if field naturalists should turn their attention to this problem for a time it would result in a general stimulation of the establishment of refuges and that many benefits would result.

California Condor: The number of individuals of this species existing at present appears to be not certainly known. Nor are the causes for the decrease known definitely. There is little doubt but that Cooper Club members frequently have opportunity to contribute to the welfare of this species by discouraging the killing of birds and the taking of their eggs.

Prairie Falcon, Duck Hawk, White-tailed Kite, Red-bellied Hawk, Golden Eagle, Bald Eagle, Osprey: Our evidence (obtained from published sources, from questioning local observers, and from first hand acquaintance with the areas concerned) indicates that these birds are not in immediate danger of extinction in California but that the prospects are not good for their holding out unless our present attitude toward them is changed. It seems to be almost the universal opinion that raptorial birds should be killed off, and the species listed above appear particularly likely to suffer in California because their habitats are restricted in extent and consequently their numbers are always small. Any program to protect these birds should involve an effort to preserve as much as possible of the habitats now occupied.

Then, it would be desirable to campaign for the purpose of countering the general idea of the amount of damage done by these birds. It would be fair to advocate the limitation of killing to the actual individuals which do harm.

The problem of dealing with animals which prey upon other animals near their own size is one of the most serious questions in the whole conservation movement. Great masses of fact may be selected to support almost any thesis which a person chooses to defend. And in almost every instance an opposite contention may be built up with just as imposing background of facts. One common difficulty seems

to be the tendency to attempt to make too wide an application of conclusions which result from limited observations. Here is a problem which every bird student needs to work out independently. So much convincing but at the same time fallacious literature on the subject is being broadcast that it is hard to pick out the trustworthy portion. This Club could afford to take up this general problem for discussion at one or more of its meetings. Its members might then be better prepared to formulate and promote a consistent program for the conservation of all types of birds.

Yellow-billed Magpie: A study of all published records of its occurrence, and field observations over most of the range of the yellow-billed magpie, show that, although this bird is not now in any danger from too rapid reduction, a special watch should be kept over the species to see that an unmerited sentiment against the bird is not built up and that protection of it is not removed. This is probably the only Californian bird species which could be wholly wiped out by a well planned campaign in this state, for extermination. The Cooper Club should be prepared to forestall any such campaign if one ever should be started. Remember that once this species is gone there is no chance for restocking from outside territory.

Our evidence will justify no further statements now concerning the depletion of particular species or groups of species in California. It might be possible at some later time to assemble more complete information on this subject. Meanwhile we may approach the whole subject of bird populations from a different viewpoint, that is, the getting at an understanding of the general natural history principles concerned.

Here we urge that everyone who is interested in the welfare of the bird population in California read Nicholson's "Birds in England" (reviewed in the *Condor*, xxxi, 1929, p. 135). We know of no other book which gives so fair and complete an evaluation of the factors which affect bird populations and which must be considered in bird protection work. We take for granted that every Cooper Club member has read and studied Dr. Grinnell's paper on "The Trend of Avian Populations in California" (*Science*, lvi, 1922, p. 671). Our investigation has confirmed the theme developed there so that in this presentation attention is directed chiefly to other phases of the situation.

Most of us are more or less familiar with the nature of the changes in bird life which accompany such of the activities of man as planting field crops, setting out orchards, lumbering, and heavy grazing. It has been the aim in drawing up the following paragraphs to determine and to present briefly and accurately a summary of such changes as they are taking place in California. Thus our local experiences may be interpreted roughly in terms of the whole area of the state.

With the above rough classification of some of the major types of area in the state before us and bearing in mind the kinds of changes which it indicates to have taken place, we may point out some accompanying features that affect importantly the bird life of the state. We will assume that all Cooper Club members are sufficiently acquainted with the bird species in the state and the more obvious factors in the local distribution of them to interpret these features in terms of their effects upon the bird life.

Out of the one-quarter of the state's area which might conceivably be cultivated, there has been scarcely any increase in amount actually farmed, during the last forty-five years. There has been some shifting in the areas actually in cultivation, but the total area farmed has remained at just about one-half the area avail-

able for that use. The most marked trends in farming have consisted in increasing the number of farms, cultivating more intensively, increasing production per acre, and adding more improvements (buildings, roads, lawns, trees, and the like). It has been estimated that in the closely settled irrigated communities the amount of unirrigated land varies from ten to forty percent of the gross area.

Further study of the situation which these facts represent forces the conclusion that for practically every species of land bird found originally living on this cultivatable land there remains a sufficient amount of land undisturbed by farming to forestall the immediate reduction of its numbers to the point where there is danger of extermination. It seems inconceivable that any one of the non-game birds which lived in these portions of the state would be forced to extinction because of limitation of habitat in the immediate future. Before this can happen some radical developments in the state's agriculture must be demanded and put into practice. Until

TABULATION OF SOME TYPES OF LAND AREA IN CALIFORNIA

	Acres
Land area of state.....	99,617,280 ¹
Cultivatable land.....	23,000,000 ²
Land in farms.....	27,565,440 ⁴
Pasture land in 1924.....	16,907,167 ⁴
Crop land in 1924.....	8,402,195 ⁴
Field crops 1928.....	4,706,000 ²
Fruit crops 1928.....	1,670,391 ²
Vegetable crops 1928.....	357,240 ¹
Potential irrigable land.....	18,000,000 ²
Area under irrigation, 1924.....	4,700,000 ⁴
Water supply available for.....	6,200,000 ⁴
Non-agricultural land.....	76,000,000
Original forested area.....	23,000,000 ¹
Present forested area.....	18,270,000 ¹
Present virgin timber.....	13,200,000 ¹
20 National forests.....	19,164,573 ¹
Grazing land in national forests.....	11,389,000 ⁴
4 National parks.....	1,188,480 ¹
Present area in state parks.....	12,845 ¹
Federal bird reservations (3).....	95,560 ⁶
41 State game refuges.....	2,533,640 ⁶
14 Wilderness areas.....	1,493,500 ⁶

¹ American Tree Association, Forestry Almanac.

² Kaufman, 1929.

³ Bailey, 1923.

⁴ Ayres and Hutchinson, 1927.

⁵ Bryant, H. C. (MS).

⁶ California Fish and Game, 15, 1929, p. 154.

these take place our attention might be directed better to more pressing situations in bird preservation.

Next, let us turn to a brief consideration of the non-agricultural areas of the state. These make up close to three-fourths of the total area. Only one-third of this portion was originally in forest. There is left more than half the actual area of the state which never can be either forest or agricultural land. While grazing activities have been and are influencing the bird populations in these areas, these effects are more general and less injurious to birds than are human activities in the agricultural and forested areas. This situation is largely due to the topography, soil, and climate being so unfavorable for the usual kinds of human activity. It is to be pointed out that a large part of the early settlement of the state took place here and that later most of its human occupants withdrew. Another important consideration is that this area contains suitable habitats for large populations, in the aggregate, of nearly all those land birds that are being crowded out of the farmed areas.

It is important for the welfare of forest-inhabiting birds in this state that more than half the acreage of the original forested area is still standing as virgin timber. However, we must remember in this connection that the greatest number of species and the largest populations for a given unit of area are usually present on those areas where the original, uniform, stable nature of the vegetation has been disturbed so that a greater variety of habitat conditions now prevails. The birds that have suffered most reduction from human disturbance of forest land are the species which live around meadows, in the stream border thickets, and around the sources of the streams. In other words grazing and summer camping are the activities most destructive to birds in the forested areas.

The effects upon bird life of grazing are too intricate to be adequately treated here. One item to be considered is how extensive the grazing has been in forest lands; more than half the national forest area in California is classed as grazing land. Fortunately, the Forest Service has realized the possible dangers in grazing (to the practice itself), has exercised careful supervision, and in some cases even has closed areas to this practice. If it could be shown that existing grazing conditions are actually hindering the persistence of bird life in any particular area, the prospects appear favorable for obtaining corrective regulations on the part of forestry officials.

Turning our attention again to the whole area of the state, one phase of the stock industry in California calls for comment. While there has been a slight decrease in the number of cattle in the state in the past ten years, there are now 55 percent more sheep than there were in 1922. If these trends should continue the situation will almost certainly require some special effort to protect samples of the habitats of some of the birds which are affected. Considerable land formerly occupied by cattle has been turned to sheep. In many instances the grazing has been so close that all the forage was used up and the sheep had to be moved. It is easy to see how the native animal life might thus be crowded out.

The greatly stimulated interest resulting in the setting aside of land for the benefit of wild life including birds has been especially active in California. It is in connection with this general movement that, it seems to us, the Cooper Club has one of its most favorable opportunities to do effective conservation work. For the benefit of those members who may not have had opportunities to follow recent activities of this nature we will review the major ones of them briefly.

The sanctuaries provided by the extensive areas in national parks in California are continually threatened by over-zealous attempts to make them more accessible to the crowds of pleasure seekers which congregate there. We can help maintain the status of bird life in the parks by aiding the opposition to the demands to make vacation cities out of all the wilderness. Here is one situation which calls for immediate action by this Club. Several of the small mountain lakes in northeastern California provide the only nesting places for water birds of kinds that are represented in the state by only a few breeding pairs. These same lakes, by stocking with fish, providing suitable food, and extending one or two roads, can all be made attractive fishing resorts; in fact most of them have already been assigned to this fate. When the fishermen and their families arrive the birds leave and do not bring off broods of young that season. It is not too late to have some of these lakes, already within a national park, set aside for undisturbed occupation by the birds. However, the present indications are that within a very few years, one or two, every lake in this area will have been made accessible and will be frequented by campers; not by occasional small parties, but by numbers as large as the available

parking space near them will permit. And all this is taking place without a single protest from any person interested in the welfare of birds.

The survey of California (Olmsted, 1929) carried on in 1928 by the state park commissioners provides a basis for carrying out a definite program of developing a state park system. A study of the published report upon this survey shows that, however thorough an analysis of the lands in the state has been made, the approach has been almost solely from the viewpoint of the landscape architect. No evidence can be detected that any special attempt has been made to select for consideration projects which might serve especially to preserve representative habitats of the native animal life. Should not this function be considered as having an importance equal to that of preserving distant scenery? Here is an opportunity for the Cooper Club to act now to make suggestions and possibly to exert influence for insuring that this phase of the parks situation be given consideration before final selections are made. Surely the report on the park survey merits careful study by Club members. Are the areas selected for favorable discussion as satisfactory from the viewpoint of bird preservation as some others which may be eliminated because they are slightly less favorable when judged by other standards?

Of the federal bird refuges in California we single out one for consideration now. The United States Department of Agriculture announced in October, 1928, that 10,300 acres in northern California had been set aside as a wild fowl refuge. In this mimeographed announcement we read that, "the layout of the area is such, due to mud conditions along the shores, that a natural refuge has existed in the northern part of the Tule Lake area, but sportsmen have in the past found their recreation on other portions of the area. In order not to mete out undue hardship to these sportsmen, it was deemed advisable to allow a continuance of hunting privileges on an area at the southern end of the lake, and accordingly the Secretary of Agriculture on October 10 approved an order permitting hunting on 2,800 acres. . . . The inviolate refuge, therefore, comprehends 7,500 acres of land extremely valuable for resting and feeding grounds for the birds which frequent the area." In other words, the refuge comprises that portion of the lake which was already inaccessible to hunters! Our preliminary findings indicate that this case should be looked into by this Club to see if it would not be justified in asking that the whole area be made a bona fide refuge.

California is fortunate in possessing so many extensive areas in state game refuges as it does. Even though all of these refuges have as their primary object the replenishing of the supply of large animals to be hunted outside their limits, it is to be expected that also the native and non-game species of birds living there will be benefited by this setting aside of land from the intrusion of hunters. From this viewpoint, then, there is justification for bird students to take an active interest in the maintenance of these refuges. For one thing, the question of prohibition or restriction of grazing by sheep within the refuges is one that bears importantly upon the effectiveness of the refuges. The fact that it has been found desirable recently to relocate entirely two of the refuges (1F and 4F) suggests that others might bear scrutiny to determine whether they have been placed in the most suitable locations. Possibly slight changes in the boundaries of some of these areas would benefit greatly the bird life of their vicinities.

We wish to call attention to the fourteen wilderness areas that have been set aside in California by the forest service in an effort to preserve at least a remnant of the frontier from destructive human influence. Here a definite portion of our avifauna will be saved from immediate disturbance "by the congregation of great

numbers of people who bring with them all the social and mechanical devices of our present-day civilization." The effectiveness of this action in providing bird preservation may be increased by our taking sufficient interest in it to learn more about the designated areas and then to make recommendation to the proper authorities for modifications or extensions in the system as established.

LAWS RELATING TO NON-GAME BIRDS

For the most part the status in California of particular species of non-game birds is not affected by their listing in the laws. The main point is that most birds are protected.

The most disappointing feature of this situation is that in past years while birds have been *added to* the list of outlawed species, one at a time, practically no remonstrance has arisen from the members of this Club either singly or collectively. If this reception of such legislative action reflects the feelings of Cooper Club members it must be concluded that these members are actually not concerned over the maintenance of the bird life of the state.

To cite one specific example, your committee has reason to believe that if the bird enthusiasts in California displayed a small portion, say fifty percent, of the quantity of interest and activity used up in the recently conducted campaign to choose a state bird, in a concerted effort to place the white pelican on the protected list of birds, they would succeed within one year. The weakened nesting colonies of the pelican call for and deserve protection fully as much as, if not more, than any single small species of song bird in the state. There are reliable and convincing facts in plenty to serve as basis for a campaign. The opposition to this bird is, we think, not strong and the few arguments put forward against it may be refuted easily. The only reason which presents itself to explain why this bird has been allowed to remain on the list of birds which may be killed, is simply that no persons have felt sufficiently concerned over the matter to make a really worthy effort in behalf of the bird. Meanwhile the species is being certainly reduced in numbers all over North America. Why has the Cooper Club taken no action?

BIRD PROTECTION BY LAWS

Our observations lead to the conclusion that usually farmers observe the non-game bird protection laws except in the case of hawks and owls, and in cases when they see, or think they see, damage to their crops. Fruit growers, we believe, in general, when they are troubled with bird pests, need help rather than criticism. While it may be true that fruit-eating by birds may help the industry, it will not help the individual grower whose location may be such as to attract great numbers of fruit-eating birds from surrounding areas. In other words we do not think this could be considered a satisfactory method of crop-production control.

Vacationists appear to affect bird life less directly than might be supposed at first thought. Of course there has been lately a tremendous increase in the number of persons leaving the cities in summer. However this seems to be more of a taking advantage of quick and far transportation facilities than of gratifying a desire to be in the woods. Hence the crowds are observed to stay on or close to roads and in camps or resorts. As a result, judging from the testimony of persons now living off the highway, and from examination of side-roads and trails now disused and remnants of towns and farms now deserted, there has been a withdrawal of men from a large part of the area of the state along with a concentration (both for permanent and vacation uses) on smaller but at the same time for them more favorable areas.

NECESSITY FOR EDUCATIONAL WORK

The time is at hand for a revision of the traditions upon which our system of bird protection has been developed. At first the appeal for birds was made upon basis of their "economic importance". The latter was very largely assumed. It had far less basis of fact than was alleged. Your committee is prepared to defend the view that birds should not be depended upon in any instances to save cultivated crops from damage by weeds or insects. Control measures, to be successful in combating crop pests, must be planned independently of feeding activities of birds. However, it is also true that individual birds are often accused of doing damage for which they are not responsible. It must be emphasized that these statements are meant to apply only in the cases of cultivated field and truck crops and of fruits. They do not necessarily hold in forests or pastures where native vegetation may predominate.

Now, it is *not necessary* to resort to such argumentation to convince people that we need to preserve our native animals.

If we read correctly the trend of general opinion, it has become the fashion all over the country to talk and to think conservation. One of the most certain indicators that this is the present situation is the response which it has brought forth in the advertising of some of our purely commercial enterprises. Why else would such a booklet as "The Preservation of Scenic Highways" be gotten up and distributed, but to profit by this lately developed feeling on the part of people in general?

The same feeling which demands the preservation of "natural beauties" will, we think, for the same reasons, demand the preservation and protection of bird life. Why then can not we accept a hint from the commercial advertiser and, following the lead of the Pennsylvania game commissioners (G. M. Sutton, 1927, p. 9), admit that the real reason we want birds protected is for the pleasure we derive from searching them out and watching them—in other words for the satisfaction of our own interests and the interests of others of similar inclinations?

If the Cooper Club membership is willing to agree upon such a basis for a program of bird protection it might expect even greater success than if it attempts to advance the previously used arguments that birds must be preserved because of their supposed value to someone else. It is not intended to suggest that the Cooper Club carry on a campaign to show that birds are not useful in terms of dollars and cents. But we do think this organization might well leave out the economic phase of the problem in any educational work which it now undertakes. Not only would the work then represent more sincerely our own attitudes, but a great many embarrassing and perplexing problems which are continually arising might be left for solution to those organizations which are better fitted for working upon them than is our own.

For example, it seems that this Club might well leave to representatives of the state and federal governments the major portion of the task of devising some satisfactory means of counteracting the damaging effects of the fruit-eating activities of a few bird species.

So many agencies, in California, are at work giving out information on general nature subjects and upon birds in particular that, it seems to us, the limited resources of the Cooper Club might be put to more fruitful use than that of carrying on general education work. Our examination of the situation indicates, however, that there is an especial need for a certain type of educational work which this Club might itself best carry on.

First, we assume that our membership, compared with any other class of citizens in the state, has in its possession, or has means for acquiring, the greatest amount of, and the most trustworthy, facts concerning the bird population of the state. This includes knowledge of what species occur, what parts of the state they frequent, types of habitat frequented, and numbers and fluctuations in numbers. Further, the Club's membership contains a good number of persons whose training in biological thought fits them especially well for arriving at the general implications and principles to which these facts correctly lead. The most effective work in bird conservation, it appears to us, will result from well planned efforts to use these two resources of the Club—facts and training.

It seems hardly necessary, possibly it is not even desirable, to attempt to reach directly every citizen in the type of work we suggest. We can bring about more intensive and more widespread bird conservation if we can reach a small portion of the leaders in the state and convince them that our project is worthy. What we suggest is that the Cooper Club as an organization take advantage of every opportunity that arises to supply these leaders with reliable information and that it undertake to bring to their attention, in suitable manner, some of the more obvious principles which must be observed in preserving our native bird life.

The types of persons which it is most desirable to reach in such a campaign, as revealed in our investigation, are those leaders that have most to do with the administration of the land in the state and its resources and that have to do with legislation in the state. We suggest that concise and convincing statements be made up which give reliable information on phases of bird life which figure importantly in the problem of bird preservation. These might then be distributed at intervals to persons selected from groups such as the following:

Officers in the State Department of Conservation, especially the heads of the divisions and the deputy fish and game commissioners.

Officers of administration of state and national parks.

Heads of divisions in the State Department of Agriculture and especially all extension agents and county workers.

Owners and managers of the larger ranches and land companies.

Forest supervisors and officials of lumber companies.

Officers in sportsmen's organizations and managers of hunting clubs.

Members of legislative committees which consider proposed game laws.

FUTURE LEGISLATION

Rather than to attempt to carry on extensive and time-consuming campaigns for the purpose of influencing the trend of future legislation which might affect the bird-life of the state, our enquiry has shown that it would likely be more successful for the Cooper Club to deal with this problem in a simpler, more direct manner. In so far as we can analyze the situation the Club's chief hope for success in this type of undertaking is to delegate some one individual or small group of individuals to look out for the interests of bird-life at each legislative session. Such an individual would need to possess, at least in part, qualities such as the following:

A genuine and unselfish interest in promoting the preservation of our bird life.

Sufficient sympathy with the aims and ideals of the Club to work in harmony with its general conservation program.

Resources of such a nature that he could spend at least a part of each legislative session in Sacramento.

Experience in routine employed by our state legislature sufficient to enable him to detect the trends of treatment of bills affecting birds, before the legislature.

If there is no person on the rolls of the Club, prepared and willing, to perform such tasks, then we think an effort should be made to find one among the conservationists outside the Club and invite him to become a member. No action of the Cooper Club could have its full success in influencing legislation unless it is based upon a clear understanding of the happenings in Sacramento. The best way we can think of for obtaining this understanding is for the Club to have some volunteer representative on the ground actually to determine what is going on. With this representative's reports at hand the Club would have a basis for concentrating its efforts where and when they are most needed.

Judging from the happenings of the past few years the most important legislation affecting wild life is not always the widely advertised and well known bill but is often some inconspicuous phrase or "rider" which may be scarcely detected by citizens in general until months after the law has passed. The detection of these important points at the proper time for action is work for a representative of the type we have suggested.

Just now a course of action is open to the Club which might well supplement or even replace the one outlined for keeping in touch with wild life legislation. The Associated Sportsmen's Clubs of California founded an organization in 1925 whose first announced policy was that of "cooperation with all genuine state and national conservation organizations and agencies." In October, 1929, there were 127 member clubs. There is no question but that this group has exerted an important influence upon recently enacted wild life legislation in the state.

The Cooper Club has accepted an invitation to affiliate with these clubs and an agent has been appointed to represent it at meetings. Our scrutiny of the situation reveals as favorable an opportunity as the Club could hope for to become acquainted with or to exert helpful influence upon important conservation work. However, a continued attitude of aloofness toward this enterprise on the part of Cooper Club members may result in a marked detriment to the gain that has been made already for bird protection in California. It is time now for us to become acquainted with the aims and powers of this newly formed association.

OUTING LICENSE

With respect to the feasibility of instituting some form of outing license, nothing of promise has come from our consideration. The following comments are offered for the purpose of stimulating discussion of the subject. In support of the proposition it may be argued that: Holders of such a license might take on a more sincere interest in the out-of-doors; some of the more obnoxious forms of outdoor amusement might be curtailed; greater respect for the cause of conservation might be instilled into license holders; huge funds of money would be available for conservation work. Contrarily it may be said that: There is no immediate need for the money that such a license would provide; more money is available now for conservation uses than is being expended wisely; there is no way to prevent the sportsman from contributing to this license as well as his regular hunting license; no organization is prepared to administer such an undertaking; there is no insurance that the aims instituted by the Cooper Club would continue to be the aims of a movement to establish an outing license.

In conclusion, the suggestion is offered that this organization, the Cooper Ornithological Club, first decide whether or not it desires to carry on active work in bird conservation. If an affirmative decision is reached a next step would be to make a canvass of the Club membership to determine which persons are willing

to spend time in the work. These members might then be assorted by localities and by interests and a committee made up that would be willing to work on an active and coordinated plan.

REFERENCES

In addition to the papers cited in the report, a few citations here given are to other publications. These contain material which should be consulted by each person who contemplates doing any bird conservation work in California.

American Tree Association.

1929. Forestry Almanac, 1929 edition. Baltimore, Waverly Press, Inc., pp. 1-390.

American Game Protective Association.

1928. Transactions of the fifteenth national game conference. New York, pp. 1-191. 50 cents.

Ayres, R. W., and Hutchinson, W.

1927. The national forests of California. U. S. Dept. Agr., Forest Service, Misc. Cir. no. 94, pp. 1-34.

Bailey, P.

1923. Water resources of California. A report to the legislature of 1923. State of California, Dept. Public Works, Div. Engineering and Irrigation, Bull. no. 4, pp. 1-55.

1923. Irrigation requirements of California lands. State of California, Dept. Public Works, Div. Engineering and Irrigation, Bull. no. 6, pp. 1-196.

1927. Summary report on the water resources of California and a coordinated plan for their development. A report to the legislature of 1927. State of California, Dept. Public Works, Div. Engineering and Irrigation, pp. 1-49.

California Fish and Game.

1929. New "wilderness" areas established. California Fish and Game, 15, pp. 154-155.

DeGroot, D. S.

1927. The California clapper rail, its nesting habits, enemies and habitat. Condor, xxix, pp. 259-270.

Division of Game and Bird Conservation, Bureau of Biological Survey.

1929. National wild-life reservations. U. S. Dept. Agr., Misc. Publ. no. 51, pp. 1-9.

Grinnell, J.

1922. The trend of avian population in California. Science, N.S., LVI, pp. 671-676.

Hunter, J. S.

1927. Laws relating to fish and game, 1927-1929. Published by the Fish and Game Commission, State of California, pp. 1-243.

Kaufman, E. E.

1929. California Crop Report 1928. Special publication no. 96, State of California, Department of Agriculture. Sacramento, pp. 1-68.

Miller, W. D., Van Name, W. G., and Quinn, D.

1929. A crisis in conservation. Pp. 1-16. (Copies may be obtained from Davis Quinn, 3548 Tryon Ave., Bronx, New York City.)

Nicholson, E. M.

1926. Birds in England: an account of the state of our bird-life and a criticism of bird protection. London, Chapman and Hall, Ltd., pp. 1-324, 8 ills.

Olmsted, F. L.

1929. Report of state park survey of California. Sacramento, California, State Printing Office, pp. 1-71.

Sutton, G. M.

1927. A year's program for bird protection in Pennsylvania. Board of game commissioners, Commonwealth of Pennsylvania, Bull. no. 9, pp. 1-50.

Museum of Vertebrate Zoology, Berkeley, California, December 7, 1929.