

better to have given emphasis to the common species if the descriptions are intended for the beginner. How can the beginner be expected to pick out the species he finds from more than three hundred descriptions averaging less than five lines in length? On the other hand, if the work is intended for persons already familiar with birds, all these sketchy descriptions may as well be replaced with material of more interest and value.

Judged on a basis of its usefulness as a record of occurrence of birds in the area treated the bulletin shows some evidence of a too ready reliance on subspecific records furnished by other workers. There is little indication that doubtful races or species have been included because identifications have been verified. Some species are included, apparently, without reason. For example, the magpie is listed with the comment that it "may extend its range into this state in the near future." The fish crow has the usual paragraphs of description and range, with record for Arkansas, but with a footnote explaining that the latter is "apparently an error." Scarcely a single species has been given adequate treatment as to its manner of occurrence in the state. This need then remains to be filled by some future worker who is capable of compiling the records of past workers and who is willing to carry on a few seasons of field work.

An outline map of the state would have added much to the usefulness of this bulletin.—JEAN M. LINSDALE.

THE BIRDS OF OKLAHOMA, by MARGARET MORSE NICE. Publ. Univ. Okla., Biol. Survey, vol. 3, no. 1, Norman, April 15, 1931, pp. 1-224, 12 figs.

To present a history of Oklahoma birds from 1820 to the present time is the aim of this number in the Biological Survey Publications of the University of Oklahoma. This aim has been carried out so well that not only does all the material included contribute to this history, but every possible source of information seems to have been drawn upon by the writer. It is hard to think of a bulletin on Oklahoma birds that would be more useful to the person who may want to know the status of any bird species in that state.

First, there is a sketch of the bird life as the white man found it and as it has been modified because of the settlement of the State. The physical features of

the State are sketched briefly. Much of the interest of bird study in the central states is due to the fact that in them the eastern and western floras meet, which circumstance affects so importantly the distribution of bird species. The breeding birds of the area are analyzed both as to geographic relations and numbers per unit of area. The wealth of winter birds is analyzed on the basis of Christmas censuses. There is a short section on migration in Oklahoma with mention of the rather surprising circumstance that large numbers of species are not to be seen during the migrations.

In the chapter on protection of birds it is pointed out that "birds do not belong merely to one class of people who take it upon themselves to kill everything that has aroused their prejudices. All citizens have an equal share in them, those who rejoice in the splendor of the living bird fully as much as those who wish to destroy."

A list of all persons who have done field work on birds in Oklahoma, with their itineraries, and a condensed statement of activity for each, shows the sources that have been drawn upon for the accounts of species.

Present and future students of birds in Oklahoma are fortunate that Mrs. Nice has been able to publish a revised edition, of the *Birds of Oklahoma*, which includes the results of all her work in that State.—JEAN M. LINSDALE.

MUNRO AND CLEMENS ON SPAWN-EATING BIRDS.—In a report* on investigations conducted at Departure Bay, British Columbia, 1928 to 1930 inclusive, the authors give notes on the occurrence and abundance, and in most cases on the food, of about twenty-five species of waterfowl. In regard to wild ducks each individual of which stood accused of destroying millions of herring eggs per day, it is shown that the maximum consumption by the largest duck probably is not as much as 20,000 eggs per day. If every duck on the Bay destroyed herring eggs at that rate, the total consumption of herring would represent a valuation (the authors compute, assuming one adult herring to survive from each 10,000 eggs) of from \$600 to \$1120. This is far less than the ducks

*Munro, J. A., and W. A. Clemens, *Waterfowl in relation to the spawning of herring in British Columbia*, Biol. Board Canada, 46 pp., 7 figs., 1931.

themselves would be worth upon a meat valuation alone. The writers' conclusion that "for the loss of herring there is a reasonable compensation in the production of ducks" is a most logical one. It is pointed out furthermore that the birds could be fairly easily frightened away from the area; an official authorized to shoot for the purpose is suggested.

So far as gulls are concerned, it appears that they feed mostly on herring spawn that is cast upon the beach, that being in quantity more than is consumed by all natural enemies together. The destruction of spawn by birds "does not appear to be abnormal or excessive and if there has been a reduction in numbers of herring, it is a relatively recent condition and attributable primarily to man's interference with natural conditions."

This is the inevitable conclusion in all such cases; man is the arch destroyer. With characteristic hypocrisy, however, he always seeks to place the blame on minor destructive agents. Even if the blame could properly be shifted and the extermination of natural enemies permitted and accomplished, that would not be the end of the story. If some temporary gain were thus achieved, man, in his greed, would soon bring about just as great depletion as before. In other words the condemned natural enemies called vermin or worse by one side, and held by the other to be beautiful and interesting representatives of animate nature, would be wasted without any permanent gain. Preservation of these species, however, would be of permanent value to all to whom the term conservation is more than a by-word. Conservationists must stand against greed-inspired assaults on wild life from the first, lest in the end it be too late.—W. L. MCATEE.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

JUNE.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held on Thursday, June 25, 1931, at 8:00 p. m. in Room 2003, Life Sciences Building, University of California, Berkeley, with about thirty-five members and guests present. In the absence of the regular officers, Mr. C. B. Lastreto occupied the chair. Minutes of the Southern Division for May were read.

Proposals of new names for membership

were: James Randal Davis, 1915 Marin Ave., Berkeley, proposed by Charles A. Pease; Dr. Lewis Walter Taylor, Poultry Division, University of California, Berkeley, by J. Grinnell; Walter Raymond Salt, Rosebud, Alberta, by T. T. McCabe. A letter from Governor Rolph's secretary was read announcing that the Governor had signed the bill making the California Quail the State Bird. Mr. Grinnell announced the repeal of the Amador County bounty law. He added that this desirable repeal had been brought about through the efforts of Mr. Henry Warrington of Jackson.

The first speaker of the evening was Mr. T. T. McCabe who told of the courting and nesting activities of the Brandt Cormorants at Point Reyes and at the mouth of Tomales Bay. These colonies were visited by Mr. McCabe several times during the spring months and their ways compared with those of European Cormorants as studied by Selous.

Mr. E. L. Sumner, Jr., described the studies he had made of the Pacific Horned Owls nesting on the Los Baños Duck Refuge, near Los Baños, Merced County, where he watched the birds on different occasions between February 23 and June 8. Mr. Sumner's observations covered habits of adults and young, calls, and kinds of food brought to the nest. At the time of his last visit one youngster still roosted with the adults, even though sixty-one days old and twenty-one days out of the nest.

Mr. McCabe then told of a visit made in May to several nesting colonies of Tricolored Blackbirds where sixty or seventy thousand birds were found in one rookery and 2150 nestlings were banded during a twenty-four hour stay. Other colonies were described also. A question asked Donald McLean regarding the food of these birds brought out the fact that just as fast as the rice is sown it is flooded to prevent the birds from taking the grains. A narrow strip of ground in front of the advancing water, covered with rice grains and with mole crickets striving to escape the flood, forms an ideal foraging site for the blackbirds.

Mr. Lastreto described the vast flocks of certain birds he had noted roosting in parks in Colombia and even greater numbers of swallows seen and heard as they took wing from similar roosts in Panama. The evening closed with a discussion of the notes of owls, participated in by Mr.