Report # 454

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Ruffed Grouse and Prairie Chicken Management Studies
Carried on in the Pigeon River State Forest
by the Pigeon River C.C.C. Camp

Ruffed Grouse

Censuses

In 1932 the Game Division of the Michigan Department of Conservation decided to obtain more accurate checks on the numbers of ruffed grouse in type areas throughout the state. A new census method, worked out in Minnesota, was adopted and the areas selected and marked out. Four sections in the Pigeon River State Forest comprised one of the four original census sites in the state, and the first counts were made before the opening of the hunting season that fall. In 1933 an additional area near the Pigeon River C.C.C. Camp was marked out and the first census was taken in November after the hunting season. Since that time counts on both of the Pigeon River areas have been made periodically.

The attached summary of the censuses covering the years 1932 through the summer of 1938 reveals the numbers of birds found in the different areas and also demonstrates the changes that have occurred from year to year. The figures indicate that grouse were generally more plentiful in 1932 than they have been since that time. The sharp falling off that occurred in 1933 and in 1934 was followed by two or three seasons when the birds were low in number and hunting was consequently poor. Beginning with the fall of 1936 conditions began to improve in the Pigeon River area and prospects for fair-to-good hunting in the areas are bright this fall.

Most of the grouse censuses at Pigeon River have been taken by C.C.C. enrollees under the supervision of Mr. Fisher or some other member of the Game Division. The results furnish us with satisfactory information on the changes in the numbers of the grouse and form the basis for proper regulation of the hunting season and bag limits. It is hoped that it will be possible to continue the censuses indefinitely unless some more reliable counting method is developed.

Hunters Checks

A check on all grouse hunters in the Pigeon River State Forest was made possible during the seasons of 1935 and 1936 by the use of C.C.C. men. They interviewed all the hunters in a large area and obtained a report of their success. The summary of these reports indicates that hunting was considerably better in 1936 than in 1935. Unfortunately, this check was not made in 1937 due to limited man power.

Drumming Log Survey

In order to check the accuracy of the census and determine the distribution of the breeding birds an attempt was made to locate as many drumming logs as possible on the census area. Each male partridge drums from one to several logs that lie close together in order to attract a mate and warn other males to stay away. An analysis of the drumming sites indicates that grouse usually choose moss covered logs that are within 100 yards of an opening and less than one-fourth of a mile from a swamp border.

Nest Survey

Considerable time has been devoted to hunting for grouse nests. Although a limited number of nests is found each year, some information has been obtained on the type of cover that grouse prefer, the number of eggs they lay, and the success of the nests.

Brood Studies

Throughout the summer months the distribution, habits, and size of grouse broods have been studied intensively. The reports for 1938 have not been summarized, but a comparison of the results for 1936 and 1937 indicate that broods were more plentiful last year than during the previous season. This year's reports indicate a still greater number of grouse with families and apparently the broods are running unusually large—at least that was the situation in early August.

The brood flush sheets demonstrate the fact that during June and July the young grouse spend most of their time in the swamp borders or in the upland hardwoods. In August they tend to move into the edges of the dense cedar and balsam swamps in order to escape from the heat and also from natural enemies during the moult. In September the birds begin to move out into the uplands again.

In June the chief food appears to be insects, strawberry leaves and fruit, and probably other succulent herbs and grasses. Later in the summer they feed heavily on a variety of berries, clover, and grasshoppers.

In order to follow the movements of the young birds and determine their range three female grouse were trapped on their nests last May. However, the colored feathers that were attached to their tails failed to hold and no information was obtained. A small fence of hardware cloth was placed around several nests in order to check the hatch and determine the condition of the chicks. The results suggest that the young may pick up diseases almost immediately. Next year it is the plan to mark the chicks with colored leg bands in the hope that some information can be gained on their movements.

Cover Improvements*

The food patches, planted for prairie chickens in 1936 and 1937, were used by the ruffed grouse to a limited extent. This was especially true of the buckwheat.

The swamp cuttings made during the winter of 1936-37 have begun to show some results this year. The purpose of these openings was to break up the solid coniferous stands and produce a distribution of cover types that would be favorable for the grouse. Census results showed plainly that the birds seldom, if ever, penetrated these swamps to a depth of more than 100 yards. This year birds were flushed occasionally along the cuttings deep in the swamp. A growth of hardwoods and herbs is creating a variety of food and cover that apparently is attractive to the birds.

* See projects and maps in M.E.C.W. files.

In order to increase the range and numbers of the partridge, plantings of pines and fruit and nut-bearing trees and shrubs were made in the late fall of 1937. These improvements were confined to a portion of one of the study areas where census results indicate that the grouse are seldom found during the winter and also during the summer. It is hoped that the pines will furnish protection from severe weather and natural enemies, while the food plantings will make it possible for the birds to spend the entire year in these areas. It will be a matter of a number of years before the success of these improvements can be determined.

Prairie Chickens

Food Patches

In the summer of 1935 and again in 1936 small plantings of corn, rye, buckwheat, sunflowers, and field peas were made near the Pigeon River C.C.C. Camp. The buckwheat was the only crop that completely matured and furnished much food to the prairie chickens and song birds. Deer damage was fairly heavy during both seasons. In the winter of 1935-36 the prairie chickens fed extensively on the buckwheat before heavy snow covered it up. In 1937 due to the mild weather the grain was available throughout the season and most of it was consumed. The results indicate that food patches furnish food for prairie chickens until heavy snows and severe weather drives them back into the woods to bud on popple and white birch.

Trapping and Banding

In order to determine the winter movements and distribution of prairie chickens, traps were set up by Lee Fisher in the winter of 1935-36. The stations have been operated by C.C.C. men during the last two years, with rather limited success. All told, some 30 birds have been caught and banded. A few of these were marked with white chicken feathers. To date none of these birds have been shot or picked up dead and we do not know where they nest.

Nests and Broods

Some time was spent without success in 1936, looking for prairie chicken nests. Occasionally a brood is reported near the camp and four young birds wandered into one of the traps in August, 1937. They were banded.

Sharp-tailed Grouse

Plantings

During the winter of 1937-38 twenty-one sharp-tailed grouse were shipped from the Upper Peninsula to Camp Pigeon River. They were banded, feathermarked, and released by the C.C.C. men assigned to the grouse project. The birds showed up well until May, but no recent reports have come in to Lansing. It is hoped that some of them nested and will take hold in the brush covered hills around the C.C.C. camp opening.

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