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GAME DIVISION

PRELIMINARY REPORT ON WILDLIFE STUDIES  
at the ROSE LAKE WILDLIFE EXPERIMENT  
STATION

August 8 - September 30, inclusive

The present effort is designed to summarize briefly the preliminary work done on wildlife populations on the area up to October 1, and to outline the status of our more important game, fur-bearers, and predators. Thereafter regular, quarterly progress reports coinciding roughly with the seasons will be submitted. In addition, separate detailed reports will be included on such specialized activities as censuses, food and cover surveys, and field trips to other localities. By thus summarizing all activities regularly every four months with additional consideration of certain phases of the work, it is believed the information acquired will be in much better shape to work rapidly into a comprehensive annual report, if and when such is required.

As an introduction to the area the following material falls logically into three separate divisions: (1) Summary of activities, (2) food and cover of the area, and (3) wildlife populations.

Summary of Activities

My first objective in coming to the Rose Lake area was to inventory the pheasant population and to collect whatever information possible on other game species in the short time at hand in order that recommendations could be made as to some form of controlled cropping if such were deemed advisable. Accordingly a census of pheasants was taken with a bird dog from August 17-25. Later, as a result of a conference at the Game Division office it was decided the entire area should be closed to all hunting and trapping the first year, except for waterfowl on Rose Lake. It was believed the absence of hunting would result in less disturbance of wildlife populations which should be studied as intensively as possible

before any alterations in living conditions were brought about as a result of the proposed land use plan.

Field work on pheasant populations has been followed almost continuously since the first census was taken, the plan being to census the whole area periodically in as short a time as possible and to supplement these regular censuses with occasional check-ups of certain areas in between. The former are necessary in a comparison of numbers while the latter are useful chiefly as supplementary evidence on population shifts.

In order to mark a few animals for range studies, a small number of box traps was run intermittently thru the period. In addition several skunks and rabbits have been caught in traps set for predators around the Hunkie rearing pens. Two very young rabbits were also found underneath an oat shock during harvesting. Seven Fox squirrels from the College were released in the two patches of oak woods on the north end of the Cochran property. In all, the following mammals were ear-tagged and released in this period: 6 rabbits, 3 fox squirrels, 4 skunks, and 1 opossum. In addition two immature Red-shouldered hawks, caught in pole traps but not seriously injured, were banded and released.

Since a thorough knowledge of the food and cover resources of the area is necessary in a study of this kind, much of my time in the field has been spent in inventorying these. Seeds and fruits from a number of shrubs and a few herbaceous plants have been collected as a help in identifying crop contents from pheasants if such is done in the future. In this connection we are fortunate in having the services of Mr. A. N. Brewer who is drawing up a detailed cover map of the area. Later on, probably at the start of winter, a detailed report on the food and cover inventory will be submitted. Photographs of various cover types have been taken and eventually it is planned a stake out "camera stations" from which changes in cover conditions can be



recorded systematically by photography from season to season and from year to year.

While the greater part of my time has been taken up with the above activities, a number of odd jobs have also demanded some attention. In the past few days the amount of materials required to build 20 pheasant and 100 box traps have been calculated and ordered. When these are built, with the 50-60 of the latter now on hand, we should be able to trap the area quite thoroughly this winter.

Office work, including writing of reports, formulating of work plans, and correspondence have demanded a certain amount of time. Other than work directly concerned with the area, 5 days have been spent on field trips to other localities. Four days of this were required in taking a game bird census on the Kellogg farm and vicinity as a follow-up on the population studies carried on there during the past 3 years by the Game Division. The one day remaining was spent at the Parks Allen and Balmoral farms near Ithaca investigating the former's trapping methods and in checking on the success of the Hungarian partridge plant made on the latter farm.

#### Food and Cover

The one striking feature of this area from the standpoint of wildlife is the great amount, variety, and interspersed of cover. Over the 766 acres included within the state property nearly every type of habitat can be found, including tamarack swamps, grassy swamps, small brushy swales, timbered river bottoms, lake borders, oak-hickory woods, and dry open uplands. These strictly natural types have been further added to by such man-made types as grassy pastures, weedy fields, cornfields, grain fields, grain food patches, and orchards. In addition, a large amount of ground juniper (*Juniperus communis depressa*) introduced originally for landscape purposes has gained a foothold and spread in extensive coverts over a wide area. The value

of this to wildlife will be interesting to study. The above conditions have apparently made the area especially favorable to pheasants, skunks, fox squirrels, and to a lesser extent to rabbits, bobwhite quail, muskrats, and probably waterfowl.

Preliminary field work has shown that a large amount and variety of food and cover is available at present. While in general the fruits of such woody plants as wild grapes, and bittersweet are not as plentiful as in some years, the crop of weed seed is as large or even larger than normal. The abundant and well-distributed rainfall of the past growing season has provided a generally rank growth of both food and cover, so that these two important welfare factors are at least up to their optimum at this time.

#### Wildlife Populations

Ring-necked pheasant: As a game species this is unquestionably the most important on the area. Because of its abundance and the opportunity offered for gathering much-needed information on populations, shifts, food habits, effect of hunting pressure from surrounding areas, predation, disease and parasitism, and numerous other problems which will be outlined later, much of my time should be concentrated on this one species.

The first census taken from August 17-25 flushed 123 birds or one per 6.2 acres considering the whole area as a unit. However, there was good reason to believe the population was actually higher than that since because of the heavy cover it is unlikely that all the birds were flushed. Sex ratios were difficult to determine at that time as the sex of juveniles could not always be distinguished. Although some broods may have already broken up, those that were apparently intact numbered from 7-9. The pheasant's habit of congregating in swales and brush patches even in summer was shown by the more than 56% which were flushed



from these habitats. 58.5% of the birds were flushed on the 225 acres included within the northwest part of the former Cochran farm, or in other words more than 1/2 were found on less than 1/3 of the area. Frequent shifts from some of these locations have been shown by subsequent field work, however, and in fact there appears to be considerable moving about both inside the area and over its boundaries from day to day, so that it is extremely difficult to determine the size of the resident population. In general the northwest part of the Cochran farm and the bulk of the Church farm still appear to hold the greatest concentration of birds and it is here that most of our trapping will be done, unless of course later inventories alter these conclusions.

Cottontail rabbits: While so far as food and cover are concerned, the area should be ideal for rabbits, all reports indicate they have not been plentiful the past few years. Fred Cochran, former owner of 400 acres of the area, reports them abundant 5-8 years ago, and large numbers were killed yearly by hunting. At the end of this period the population suddenly dropped off, many were found dead, and these along with the ones killed often had raw, festering sores on the body, especially on the head and neck. From this account it appears certain that the population built up to a peak, and was then suddenly decimated by some epizootic which crept in as a result of crowding.

Mr. Cochran further states that he has seen a much larger number of animals the past two years and believes them now on the upgrade. My own observations and those of others tend to confirm this, as quite a few have been seen this summer in spite of copious cover conditions. As a game species the rabbit may be considered next in importance to the pheasant.

Fox squirrel: Probably our third important game species is the fox squirrel. The several plots of oak-hickory woods apparently harbor

Beavers: While the present beavers in the vicinity are probably descendents of animals which came in only recently, they have nevertheless become well established in two separate colonies, one on the outlet creek to Potter's lake about 1/2 mile west, and the other on Vermillion creek running thru the Taylor farm. The animals in the latter colony have recently encroached on our land, fresh aspen cuttings having been found there within the past week. While aspen has usually been considered essential to the maintenance of beaver colonies, it is interesting to note that on the former location only elm, tamarack and some basswood, along with dogwood and poison sumac have been cut, as little aspen is to be found here. On the second area~~s~~ aspen has been the chief species utilized with some blue beech (*Carpinus lineatus*) and dogwood. Both colonies have resulted in the flooding and consequent destruction of considerable timber. As a fur-bearer the beaver will, of course, be of no importance here unless an open season is declared. From the aesthetic sense, however, as an interesting part of the wildlife on the area, the species seems desirable, providing too much damage does not result from its dam-building activities.

Bobwhite quail and Hungarian partridge: Few of the former exist here, only two coveys being known thus far. A number of the latter have escaped from the rearing pens this summer and their future whereabouts will be interesting to follow.

Opossum: Apparently the opossum is not as common here as in areas farther south I have studied. Few have been observed in the general vicinity, and it was not until this summer that one was found on the area. One was live-trapped on September 3 in a mucky plot on the west side of the Cochran farm. This species is probably not important here at present either as a fur-bearer or a predator.



Raccoon: While not abundant, tracks of several raccoons have been noted in the soft mud along the edge of Vermillion Creek on the east side of the area. Probably the animals occur generally along the timbered creek bottoms in this vicinity. Although a number of hollow trees have been located, none could definitely be designated as dens.

Woodchucks: In past years woodchucks were plentiful but as in many other parts of southern Michigan, numbers have dwindled recently. This spring 14 animals were imported into the area from the Prairie farm near Chesaning, ostensibly to provide ground dens which might be the means of increasing the rabbit population. Several such dens have been found, although few of the occupants have been seen. As a means of range study it is to be regretted these animals could not be ear-tagged before being released.

Red Fox: During the past winter signs of foxes were reported on the area and one den was found recently which may have been used by a fox. More information on this species will doubtless be acquired this winter when tracking in snow is possible.

Hawks & Owls: Although no owls have been seen, hawks appear to be abundant, the principal species being, in order of their importance, marsh, Coopers' and red-shouldered hawks. At least two young Hunkies have been attacked in the range field by the former species while one Cooper's and two juvenile red-shouldered hawks have been caught in nearby pole traps. The present number of hawks has doubtless been encouraged by the presence of the Hunkies being reared on the area. While probably not highly important as a decimating factor on game populations, both hawks and owls may be of some consequence.

Mink and weasel: Minks have been fairly numerous in the past, and Mr. Cochran reports quite a few have been trapped. Weasels have occasionally been seen and may be more abundant than would be suspected.

Sandhill Crane: While in no sense a game bird, the sandhill crane is interesting as an unusual avian species which exists in few other parts of the state. Those found in this locality are chiefly confined to the two large marshes on the north and southwest ends of the area. A flock of ~~three~~ birds was flushed by the bird dog on September 21 in a tamarack bog on the north Cochran 40. In the past few days flocks numbering from 17-24 have been seen resting on the lowlands along the outlet to Potter's lake about 1/2 mile west. Evidently they are now flocking preparatory to the southern flight.

Summary: The above has summarized briefly the status of our more outstanding wildlife species as they exist at present. Non-game as well as game species have been considered since all fit into a study of the area. As a strictly game species the Ring-necked pheasant is probably our most important consideration, followed closely by the cottontail rabbit. Skunks are numerous and a variety of other fur-bearing and predatory species occur. The beavers and sandhill cranes are interesting chiefly from the unique position they occupy in our wildlife population. Other minor species should not be neglected in such a study; these are chiefly the smaller rodents, such as red squirrels, chipmunks, spermophiles, and mice; such are all important from an ecological standpoint, and could best be studied by some graduate student working part time.

D.F.Switzenberg

DFS:TW  
Oct. 7, 1938