Oberholser, H. C. Swan Lake, Minnesota, a breeding ground for waterfowl

A-O [Oberholser]
Swan Lake
1918

1918)

HARVARD UNIVERSITY.

LIBRARY

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY

65.970

GIFT OF

Author

December 30, 1925.

No. 13.

LIBRARY March, 1918

Swan Lake, Nicollet County, Minnesota as a Breeding Ground for Waterfowl

By Harry C. Oberholser, Assistant Biologist, Biological Survey,
U. S. Department of Agriculture

A thorough examination of Swan Lake, Nicollet County, Minnesota, was made by the writer, July 25 to 27, 1917, inclusive, for the purpose of obtaining data regarding its status as a breeding ground for waterfowl. The present report contains the result of these investigations.

Swan Lake is located in the eastern part of the great duck-breeding area of the United States, and is of sufficient size to be of much importance as a resort for game, not only during the breeding season but during the autumn as well. About one-fifth of the surface of the lake is open water, which is apparently in no place more than 12 or 15 feet deep. The water of the lake is clear and pure, non-alkaline, and in no part of the lake at all stagnant.

Vegetation

Four-fifths of the surface of the lake are covered with vegetation of various kinds, chiefly

bulrushes and reeds. Plants of many other kinds, including shore plants, marsh plants, submerged plants, and floating plants, are numerous. This vegetation furnishes abundant cover and plenty of suitable breeding places for wildfowl.

Duck Food

Few lakes anywhere are as well provided with food for ducks and other waterfowl as is Swan Lake, both during the spring and summer, as well as in the autumn shooting season. At least 50 different kinds of plants that are valuable as food for ducks and other water-birds grow in this lake. The general character of this vegetation can be seen by reference to the accompanying botanical report. Another important food supply for water-birds is the astonishingly large quantity of small snails which live in the water of the lake. Four species are particularly abundant, as follows:

The Duck Fleet at one of the Hunting Resorts, Swan Lake, Minn.—Photo by D. Lange.

White Waterlilies, Tules and a Wooded Island in the Background—a Typical Swan Lake Scene.—Photo by Harry C. Oberholser.

Lynnaea stagnalis appressa
Galba palustris
Planorbis trivolvis
Physa heterostrophia

Birds

Water-birds breed in abundance on this lake, among them several species of ducks. The game birds most commonly found here in summer are the mallard, blue-winged teal, redhead, lesser scaup, ruddy duck, sora rail, Florida gallinule, and American coot. The shoveller, pintail, and canvas-back also occur, but less commonly. Other water-birds of more or less importance that breed abundantly or commonly on this lake are the Holboell grebe, American eared grebe, pied-billed grebe, black tern, black-crowned night heron, and killdeer. A few marsh birds that are of more or less economic interest inhabit the lake. These are the belted kingfisher, the yellow-headed blackbird, the red-winged blackbird, and the long-billed marsh wren.

Of insectivorous land birds there is a considerable list, and such birds occur chiefly on the wooded islands and about the shores of the lake. The accompanying report contains a list of all the birds noted by the writer during his three days of observation.

Conclusions

It is very evident that Swan Lake, Minnesota, is at the present time an unusually attractive resort for waterfowl of all kinds. This is due to its favorable location, to its relatively shallow, fresh, clear water and the consequent abundant growth of water vegetation suitable for cover, nesting sites, and food. In fact it possesses in comparative abundance nearly all of the best duck food plants in the United States, and in this respect is almost ideal. Thus this lake is a valuable asset to the State as an aid in the conservation of the game supply, and its margins are attractive to many insectivorous birds that are of great value to the farmer.

To lower the level of this lake to any considerable degree would inevitably cause the disappearance of much of its present kind of vegetation and greatly impair, if not destroy, its value as a waterfowl resort, both during the breeding

season and in the autumn. Furthermore, the lowering of the lake level would provide a large area of additional breeding ground for the red-winged and yellow-headed blackbirds, both of which nest in abundance about the lake, and if their numbers were to greatly increase they would be liable to prove a menace to agricultural crops in the vicinity.

Swan Lake is in fact at the present time one of the two or three best waterfowl lakes in Minnesota, and by reason of its location, size, and abundant food supply, is not excelled in importance as a resort for duck and other water-birds by any lake in any of the states of the Great Plains region. Therefore, to drain or much to lower the level of its water would be nothing short of a calamity to the State of Minnesota.

VEGETATION

The vegetation of Swan Lake, Nicollet County, Minnesota, was examined by F. P. Metcalf,

Nest of the American Coot—One of the Many Species of Waterfowl Nesting at Swan Lake.—Photo by Harry C. Oberholser.

Botanist, and D. C. Mabbott, Assistant Biologist, July 14 to 20, 1917. These men have furnished separate reports upon which the following summary is based:

Semi-submerged plants, including chiefly two species of bulrushes and one of reed, occupy about four-fifths of the entire area of the lake. These plants afford ideal cover for breeding birds and the seeds of bulrushes are an important food for wild ducks.

Growing in the water among the bulrushes are five species of pond-weeds (*Potamogeton*) and wild celery, all valuable duck food plants. Among the reeds are four kinds of duckweeds, plants which occupy quiet water elsewhere, particularly in the lee of points and islands. The open water of the lake is occupied chiefly by wild celery, the various pondweeds, coontail and algae, with white and yellow waterlilies about the margins. The vegetation of the lake margins includes such important duck food plants as wapato, bur-reed, and wild rice.

It is apparent that Swan Lake possesses an abundance of a large number of important wild-duck foods. The large size of Swan Lake and the abundance of food and cover plants make it a most valuable feeding and breeding place for wildfowl.

**List of Birds Observed by Harry C. Oberholser
at Swan Lake, Minnesota, July 25-27, 1917.**

Game Birds

Mallard (*Anas platyrhynchos*)
Blue-winged Teal (*Querquedula discors*)
Redhead (*Marila americana*)
Lesser Scaup Duck (*Marila affinis*)

Red-headed Woodpecker (*Melanerpes erythrocephalus*)
Flicker (*Colaptes auratus auratus*)
Nighthawk (*Chordeiles virginianus virginianus*)
Ruby-throated Hummingbird (*Archilochus colubris*)
Kingbird (*Tyrannus tyrannus tyrannus*)
Phoebe (*Sayornis phoebe*)
Wood Pewee (*Myiochanes virens*)
Least Flycatcher (*Empidonax minimus*)
Prairie Horned Lark (*Otocoris alpestris praticola*)
Blue Jay (*Cyanocitta cristata cristata*)
American Crow (*Corvus brachyrhynchus brachyrhynchus*)
Bobolink (*Dolichonyx oryzivorus*)
Cowbird (*Molothrus ater ater*)
Yellow-headed Blackbird (*Xanthocephalus Zanthocephalus*)
Red-winged Blackbird (*Agelaius phoeniceus arcotolegus*)
Orchard Oriole (*Icterus spurius*)
Baltimore Oriole (*Icterus galbula*)
Bronzed Grackle (*Quiscalus quiscula aeneus*)
American Goldfinch (*Astragalinus tristis tristis*)
English Sparrow (*Passer domesticus hostilis*)

Duck Boat Channel Through the Sedges at Swan Lake.—Photo by Harry C. Oberholser.

Ruddy Duck (*Erismatura jamaicensis*)
Sora Rail (*Porzana carolina*)
Florida Gallinule (*Gallinula chloropus cachinnans*)
American Coot (*Fulica americana americana*)

Other Water-Birds

Holboell Grebe (*Colymbus holboellii*)
American Eared Grebe (*Colymbus nigricollis californicus*)
Pied-billed Grebe (*Podilymbus podiceps*)
Loon (*Gavia immer*)
Franklin Gull (*Larus franklinii*)
Forster Tern (*Sterna forsteri*)
Black Tern (*Chilidonias niger surinamensis*)
Least Bittern (*Ixobrychus exilis*)
Great Blue Heron (*Ardea herodias herodias*)
Black-crowned Night Heron (*Nycticorax nycticorax naevius*)
Spotted Sandpiper (*Actitis macularia*)
Killdeer (*Oxyechus vociferus vociferus*)

Land Birds

Mourning Dove (*Zenaidura macroura carolinensis*)
Yellow-billed Cuckoo (*Coccyzus americanus americanus*)

Vesper Sparrow (*Spizella passerina passerina*)
Chipping Sparrow (*Spizella passerina passerina*)
Song Sparrow (*Melospiza melodia*)
Scarlet Tanager (*Piranga erythromelas*)
Purple Martin (*Progne subis subis*)
Barn Swallow (*Hirundo erythrogastris*)
Tree Swallow (*Iridoprocne bicolor*)
Cedar Waxwing (*Bombycilla cedrorum*)
Migrant Shrike (*Lanius ludovicianus migrans*)
Red-eyed Vireo (*Vireosylva olivacea*)
Warbling Vireo (*Vireosylva gilva gilva*)
Yellow-throated Vireo (*Lanius flavifrons*)
Yellow Warbler (*Dendroica aestiva aestiva*)
Maryland Yellow-throat (*Geothlypis trichas brachidactyla*)
Brown Thrasher (*Toxostoma rufum rufum*)
Long-billed Marsh Wren (*Telmatodytes palustris iliacus*)
Black-capped Chickadee (*Penthestes atricapillus atricapillus*)
House Wren (*Troglodytes aedon parkmanii*)
White-breasted Nuthatch (*Sitta carolinensis cookei*)
Willow Thrush (*Hylocichla fuscescens salicicola*)

American Robin (*Planesticus migratorius migratorius*)

Editor's Note—It has not been customary to consider anything but the possible increase in acreage of tillable land in connection with drainage projects in this state, and probably also in other states. In view of the great economic value of waterfowl and other birds which depend upon watered or submerged lands for their breeding places as well as upon other considerations usually lost sight of in the eagerness to add acres to farms it is gratifying to know that the United States Biological Survey is about to enter upon a systematic survey of Minnesota, such as has just about been completed in Nebraska and North Dakota. This will cover the whole state in a manner similar to the survey of Swan Lake, Nicollet county, made last year at the request of this department. As a project was on foot to drain this lake it seemed proper that every phase of the subject be considered and weighed before such action should be taken as might be regretted. The value and possible use of lakes as breeding and feeding places for waterfowl, for the growth and cultivation of fish and fur bear-

Waiting for a Shot in a Natural Blind at Swan Lake.
Photo by D. Lange.

ing animals, their actual and possible recreational value, and other uses are generally overlooked but are none the less important from a practical and economic standpoint. It is therefore gratifying that the U. S. Department of Agriculture is planning to extend its biological survey work to Minnesota that actual and reliable data and information on all lakes may be available for use when drainage projects are under consideration.

Game News From Grandy

Newsy and thoughtful communications such as the following from Mr. J. G. C. Johnson of Grandy, Minn., are always welcome and helpful. The writer's suggestion as to warning notices for protection of harmless and useful birds will be followed. Mr. Johnson writes:

"This may be of some interest to you. I was up in northern Kanabec county the last four days of the big game season last fall and while I didn't see or get a shot at deer, saw some interesting things to me. I saw and heard upwards of a hundred partridges, also six or seven 'log cocks' or pileated wood-peckers, which seemed good to me—saw no quails. In my wandering around Grandy last spring (1917) I saw or heard upwards of twenty-five partridges—separate and distinct birds. Quails seem to be extinct in this section. Up to three years ago I used to see and hear dozens of pairs of quails in every direction; think they must have winter killed. Their sweet music is gone anyway.

"If funds are available for the purpose, wouldn't it be a good proposition for the Game and Fish Commission to print for posting, some cards of warning against the killing of small birds of all kinds the latter of infinitely more value to agriculture than game birds. To the small boy and his 22 rifle everything is game that moves.

"If cards couched in strong language including the penalty attached for violation emanating from headquarters are furnished I will gladly do my duty in this section. You can't appeal to these boys morally. To me nothing seems more desolate than to go thru patches of woodland that should be full of birds and squirrels and not hear a bird chirp or see a scampering squirrel.

"The cards are a mere suggestion, but I know they would do some good."

Wardens Help Gather Spawn

Seven field spawning stations were operated this spring for gathering the eggs of the pike perch. In order to operate on the usual scale, and not curtail the output of the hatcheries on account of shortage of help and high cost of labor and supplies, several of the game wardens are doing patriotic work in helping out as they have done in the past. John Huderle was in charge of the crew at Turtle River, Cass Lake, Jess Harry at Pike River near Tower, J. W. Centerwall is putting in his second season at Whitefish Lake, J. H. Jones is at Otter Tail, J. C. Green at Red Lake, James Beatty and Paul Goodell are at Rainy Lake, where a small hatching station is being operated in co-operation with the Rainy Lake Fishermen's Association, and C. E. Saunders assisted at Pike River. Several of the other wardens assisted in other ways and will help in the distribution of the fry. From the hatchery crews Emery Iverson of Detroit is in charge of the station at Otter Tail, James Bennett of Glenwood is in charge of the Granite Falls Hatchery and T. Surber of St. Paul is in charge of the station at Bemidji. The pike egg season is always a critical and nerve racking season in the fish hatching work. The success of the whole year's work in pike work depends upon getting the eggs from the wild fish at a certain time when they are ready to spawn. The run depends upon many weather and temperature conditions which vary greatly from year to year. Every man connected with the work feels relieved when the eggs are gathered and safely in the hatching jars. The work continues to be strenuous until the fish are actually hatched and distributed to the lakes. The distribution must be made immediately after hatching owing to the large numbers handled and their cannibalistic nature.

Cisco Fishing Injurious to Trout

By Claus C. Monker, Grand Marais, Minnesota

The writer is not fishing for the sport there is in it, but for what money he can make, or what would be more proper, the living there is in it. It will be but natural then, that the commercial end of fishing be discussed in this article, and confined more particularly to the north shore of Lake Superior. In these times of high prices on foodstuffs, it may interest the reader to hear something from one who helps to catch and prepare for the market a food article of no small value to the consumer.

Lake Superior is a large body of fresh water, held to be the largest in the world, and at one time had in it what was thought to be an inexhaustible supply of fish. The writer well remembers when fish were so plentiful that with the same amount of nets used today by one fisherman, but a few years ago several men would be required to take care of the catch.

In those days only whitefish and trout were the recognized marketable fish of Lake Superior; today the whitefish is extinct so far as the north shore is concerned and trout has diminished to such an extent, that most of the fishermen who fished nothing else at the time mentioned, have quit trout fishing as a non-paying business, and in place have gone into the fishing of herring.

The federal government long since recognized the fact that fishing on Lake Superior would soon be a thing of the past, and to help prolong it, established fish hatcheries at various points on the lake.

The question may arise, does this really pay? What return do we get from this outlay? You may well raise the question. The money expended is money derived from taxation in one way or another; it is your money spent. It is a well established fact that stocking streams and lakes is a decided success. To some extent this is also true of Lake Superior and with some needed legislation prohibiting certain sizes of mesh used and closed season for fishing, it is not impossible to increase the supply of fish to a marked extent. The fishermen themselves, commence to realize that something must be done in order to perpetuate the fishing industry on this greatest of all unsalted seas. But little attention until recently has been paid to the regulation of fishing in Lake Superior by our legislators, more from lack of adequate information than from anything else, and fishermen in general were kicking merely because the fish were "playing out," unconscious of the fact that we ourselves, by unwise methods of fishing, were to a large extent the cause of the "playing out."

As is well known, Lake Superior is an international, as well as interstate, water. To obtain a uniform law governing this industry with a view of conservation, the government of Canada, in conjunction with that of our own, could likely accomplish this much-needed legislation more adequately than the bordering states, and the province of Ontario could, but under present circumstances and conditions, obstacles present themselves, making this next to impossible. Thus, we of Minnesota, did, at the last session of the legislature, make an effort to bring about

a law to regulate fishing in Lake Superior, so far as our shores were concerned, and it is to be hoped that other states will take the matter up in the same manner. It should be of vital interest to everybody, consumer and producer alike, to use this great lake not as a mine, but rather as a farm.

Time and space will not permit to go into details, only the most vital can be mentioned at this time.

Among the provisions of the bill passed by our legislation last winter, it was stipulated no smaller than two and one-half ($2\frac{1}{2}$) inch stretched mesh for trout. It was also provided that two and five-eighths ($2\frac{5}{8}$) inch stretched mesh may be used for catching ciscoes, a small deep-water fish, somewhat like herring, and that such nets could not be used in water less than sixty fathoms deep, and here is the real evil, where the ultimate destruction of trout lies.

The writer had occasion to visit our state capitol last winter when the legislature was in session, as a delegate appointed by the fishermen of the north shore, with a mission to call on the state game and fish commissioner, and to urge the passage of a bill beneficial to the industry as well as to the fishermen. It is but fair to state at this time that he was met with the utmost cordiality both by the commissioner and such members of the legislature as he had occasion to meet.

The bill was drafted and all such measures necessary to conserve fishing embodied therein, and to all appearances the much-needed regulation was accomplished. Perhaps it should be stated at this time that in the original bill drafted, ciscoe fishing was prohibited. You may well wonder, why should ciscoe fishing be prohibited? It may be argued that it is a marketable fish of considerable value, and a tasty fish. All this is true, but out of every one hundred pounds of a catch, fully twenty per cent thereof is small trout, most of them weighing less than one-half pound each. Now, I ask, what in the name of common sense is the use of the federal government going to the great expense of hatching and planting trout, when the same may be caught almost immediately after being planted. This may have the appearance of a vicious indictment against our lawmakers, but it is nothing but the plain, unvarnished truth, and can be verified by hundreds of honest fishermen along the whole shore.

The writer has been in the habit of fishing ciscoes himself, and knows the game from A to Z, and like most fishermen having knowledge of the destruction this brings to trout, has quit fishing ciscoes and shall never attempt it again, no matter how much the temptation may be.

The writer was informed shortly after his arrival home from St. Paul last winter, that certain interests at or about the head of the lakes, were making great remonstrance against the proposed measure. It was argued that if small-meshed nets were placed in deep water, say not less than sixty fathoms, no trout would be caught. The law prohibits marketing of trout of less than two pounds weight, but permits the killing and destruction of any amount of smaller

size, the understanding being that such smaller ones be thrown back into the lake, when it is known by every fisherman, that very few survive.

The aim of this article is not to criticize the action taken by the legislature, permitting this destruction of what is commonly known to be the best of all fish, but it is certainly deplorable that a few selfish men, by their intrigue, can so misinform and influence a lawmaking body of men to permit such outrageous destruction of a much-needed food.

It is to be hoped that this may be remedied. The writer feels assured that so far as the game and fish department of this state is concerned, their aims are for conservation and not destruction, and believe that our lawmakers will, at their next session, take steps to put an end to this ruinous practice. It seems strange that when the great majority of fishermen voluntarily quit fishing ciscoes because of its destruction of small trout, that laws permit a few individuals to carry on. It is just as lucrative for one as for another, to fish ciscoes, and the temptation is just as strong, but for the havoc it causes, the most of us have quit waiting for the legislature to do "its bit" to put an end to it for ever and always.

Report From the Bemidji Game Refuge

E. E. McDonald who has taken a great interest in the establishment and maintenance of the Bemidji Game Refuge furnishes a very interesting report of his experience with pheasants. Mr. McDonald has not lost a single pheasant from any cause, which indicates that the refuge is remarkably free from vermin. His report follows:

"In regard to Bemidji Game Refuge and ring-neck pheasants you sent me, I am pleased to be able to report that all of the pheasants lived and seem to have prospered well.

"I placed the grown roosters in a run about 75 feet long and 25 feet wide enclosed completely with chicken wire. We placed the mother domestic hen with her 25 little pheasants in the same run for a short while, then placed the mother hen outside but kept her confined, allowing the little pheasants to run at liberty in the immediate vicinity of the run for the older pheasants. In this way the older pheasants became familiar with the surroundings and with the domestic hen and the little chicks in a short time. I liberated one at a time of the full-grown pheasants. The liberated ones remained about, returning frequently. I kept this up until all of the old ones were liberated. I left their run

Beautiful Stand of Virgin Pine at Norway Beach, Cass Lake, Minn., on the Minnesota Scenic Highway.—Photo by Carlos Avery.

A Big Trout Season

The present season promises to be one of the largest and most successful in the output of trout in the history of the state. The fish car has been kept busy distributing trout fry since February and will be kept busy at this work until the pike are ready for planting. By that time the greater numbers will be distributed as only a comparatively small number can be held during the summer. There will be some fingerlings for distribution later on in the season, but the larger numbers go out, necessarily as "fry."

open and they seemed to prefer to return there at night. The pheasant chicks remained with the mother domestic hen, when about the premises, ranging a little more every day. I have made the original run into a cover and have also constructed two quite large covers in the timber at different points, one about 40 rods and the other about 60 rods away from the original cover. I secured about 100 sheaves of wheat to be used for feed this winter. I have made arrangements with Mr. Osgood, who lives near one of the covers, to place a sheaf of wheat in each cover once

a week during the winter. Our Bemidji Game Protective Association has provided shell corn for feed in addition to the wheat and this will be given to them as the weather conditions may suggest.

Keeping the little pheasants with the mother domestic hen seems to be the proper way to manage them. They soon became very tame, many of them feeding from the hand. I have retained the mother domestic hen and with your permission and assistance will endeavor to have her hatch out another covey of pheasants next spring and care for them in the same way we did the others. I would like very much to be able to liberate next summer about 100 more of the pheasants and feel certain that by making some provision to protect them from the deep snows, and furnish them with some food, they will prosper well.

"It is a source of some satisfaction and comfort to me to realize that these pheasants have become a great attraction. They are so tame that visitors see them frequently and they frequently remain in the road compelling the automobiles to slow down. Their beautiful plumage is very attractive and tourists go considerably out of their way to see them.

"In reference to our game refuge. You are advised that with one or two exceptions the refuge has not been violated. There are quite a few partridge and we look forward to a great many more next year. The ducks this fall remained in Lake Bemidji and Lake Irvine for at least six weeks, being an interesting attraction. There were four swans that remained in the northeast portion of Lake Bemidji for nearly a month. It is truly wonderful how these birds learn so quickly that they are protected in these waters. While there were thousands of blue bills resting here there was some discussion as to opening the preserve for ten days in the latter part of the duck season, but these suggestions were promptly stopped. The fact is that with Lake Bemidji and Lake Irvine, which has a large bed of rice in it, furnishing a resting place for ducks that occasionally leave the refuge and go to outlying lakes, furnished some considerable shooting there, and it was soon realized that if the ducks in Bemidji or Lake Irvine were hunted they would depart at once and but few return.

"From the information I have at hand, it would appear there are within our refuge about 15 deer. They, like the deer in Itasca Park, realize that they are protected within the refuge. I am now completing arrangements to have the boundaries of the refuge marked with red paint in the same manner that the boundaries of the hunting limits are marked around Itasca Park. With few exceptions, we are having the earnest support of this community in making the Bemidji Game Refuge a safe and effective game breeding and resting place. Within a short time we hope to be able to make this one of the additional attractions of northern Minnesota.—Respectfully, E. E. McDONALD."

Three hundred thousand lake trout eggs of very good quality have been procured from the United States Bureau of Fisheries. They were supplied from their station at Duluth, Minn.

INCREASE FISH PROPAGATION

The unprecedented demand for fish for food on account of the war has emphasized the need for greatly increased facilities for fish propagation. At an annual cost of less than \$50,000 Minnesota hatches and distributes an average of over two hundred million fish a year (289 million in 1917). By increasing this expenditure \$25,000 a year and the establishment of more pike-perch field stations and small hatching plants the output of fish can be doubled. What better investment could the state make?

Fish propagation, if handled in a practical manner, offers unlimited possibilities for development at very small cost, and it is only by taking care of the restocking of lakes and streams that the supply of fish for the future can be assured. This increase should at least be in proportion to the increased use of fish from the lakes of the state, which has been at least doubled in the past year.

It should also be remembered that at the present time the Game and Fish department costs the general taxpayer of the state nothing. Every cent used in game and fish protection and propagation work is offset by collections of licenses, etc., which are turned into the state treasury—with a big balance to the credit of the department. The department made the state a profit over and above all its expenditures of \$28,000.00 in 1916 and \$39,000.00 in 1917.

The expenditures of the department are definitely fixed by the appropriations made by the legislature. With a profit of \$67,000.00 in two years to its credit it may be seen that the demands for increase of the work can be fully met without costing the taxpayer a cent.

No edible fish should be killed without restriction, especially in spawning time. It will be realized too late that Minnesota's spearing laws have been lenient to the point of destruction.

Closed For Four Years

Pokegama Lake, Pine county, Minn., was formerly a productive field for mussel fishing or "clamming," but the mussels have been depleted until artificial propagation is necessary to restore them. Minnesota is the only state which has a comprehensive mussel conservation law, and it is fortunate that it is possible to set aside depleted areas for propagation work, which has been done in this instance by the following order:

To whom it may concern:

Whereas, It has been shown that Pokegama Lake located in township 39, range 22 west, Pine county, Minnesota, formerly produced large number of mussels shells of excellent quality and that said lake is now practically depleted of mussels, and

Whereas, The United States Bureau of Fisheries did in 1913 plant several millions of mussel larvae in said lake, the success of which planting is apparent, and

Whereas, It is the intention of the United States Bureau of Fisheries to continue to carry on extensive mussel propagation work in said lake for the purpose of restoring the mussels, and

Whereas, The number of mussels now found in the lake are sufficient only to serve as a nucleus for such propagation work and the closing of said lake to mussels fishing for a period of years being necessary to prevent their extermination therein it is hereby ordered:

That said Pokegama Lake located in township 39, range 22 west, Pine county, Minnesota, be and the same is hereby closed to mussels fishing for a period of four years from publication hereof as provided for by Section 5 of Chapter 471, General Laws of 1917.

Dated at St. Paul, Minnesota, this 12th day of April 1918.

CARLOS AVERY,
Game and Fish Commissioner.

BULLETIN OF THE MINNESOTA STATE GAME AND FISH DEPARTMENT.**CARLOS AVERY, Commissioner**Published Quarterly at the Office of the Department at the State Capitol, St. Paul, Minn.
Single Numbers, 15 Cents; Yearly, 50 Cents.

No. 13

MARCH, 1918

Smoked carp is a delicacy, equal if not superior to any other smoked fish. If your meat or fish dealer does not have it ask him why.

The Ranier Fishermen's Association's pike hatchery is being operated by the state this season under agreement with the Game and Fish Department.

Most of the employes of the department are over military age, but before the next issue of the bulletin several will have gone into the service. Twelve sons of employes of the department are in the service, most of them volunteers.

More attention should be given to gathering wild rice seed for planting. Nearly all that is gathered by the Indians is prepared for food which destroys it for seed. There would be a ready sale for a large quantity of wild rice seed.

A good deal of time is being devoted by Game and Fish Department employes to patriotic service in Red Cross, Liberty Bond and other campaigns, and each one is making his own contribution to the cause, as liberal as possible. Everyone is doing his part.

Game protective organizations, sportmen's and fishermen's clubs, bird clubs, and all other similar organizations are requested to keep the Game and Fish department posted on the names of officers, and to send news of their clubs' activities for this publication.

Harold Jensen who has been for some time foreman of the St. Paul Hatchery has resigned to take a position with a club having a private reserve in Wisconsin and his place has been filled by the promotion of J. O. Nelson who has been at the Glenwood Hatchery for several years.

The Enabling Act putting into effect the Migratory Bird Treaty with Great Britain has not yet been passed though there is high hope that it may be come a law at the present session of congress. It has passed the senate and has been recommended to pass by the house committee of Foreign Affairs.

Wardens, fish hatchery foremen and other employes of the Game and Fish Department are expected to do their share to make the bulletin interesting and instructive. Send to the editor all material you think might be used. Write it on sheets separate from letters and reports. This means every one of you gentlemen and ladies.

Oliver Mix of the St. Paul hatchery and Emery Iverson of the Detroit hatchery are two valued employes of the department who are in the selective draft and who will soon leave the service of the state for that of Uncle Sam under the Stars and Strips. Both are splendid, patriotic young men who will bring honor to the state.

FOR SALE—Wild mallard duck eggs for hatching. Inquire of Frank D. Blair, Superintendent Game Propagation, Excelsior, Minn.

WANTED—A few copies of the last biennial report of the Minnesota Game and Fish Department. This edition has been exhausted and copies are desired to supply requests of libraries and institutions asking for them.

The Game and Fish Department now has four reels of moving pictures which can be furnished for use of clubs or under any proper auspices. The pictures show the work of the department in game and fish propagation, hatchery scenes, wild life scenes, all in Minnesota, and a very interesting picture of the operation of wild rice harvesting by Indians. Write if you can make use of the pictures.

The Minneapolis branch of the State Game Protective League held its annual meeting on February 5th. There was a very enjoyable dinner. Dr. Roberts' pictures were shown and several talks were made by E. W. Cobb, Superintendent of Fisheries, C. S. Woodhull, and others. A very interesting feature was the complete and exhaustive report of the secretary, Frank D. Blair. The old officers were re-elected.

The Game and Fish Department put on an exhibit in connection with the Fourteenth Annual Convention of the Minnesota Crop Improvement Association at Luverne, February 13 to 15, 1918, similar to the one shown at Fairmont the previous year. The live fish show was not quite as large as it should have been owing to the limited water supply. Furs and mounted specimens of game, birds, and fish were shown. The exhibit was in charge of Superintendent of Fisheries, E. W. Cobb, assisted by John Huderle.

The Ramsey County Game Protective Association held the best meeting in its history on March 15th at the Merchants Hotel. State Insurance Commissioner John B. Sanborn was re-elected president; Preston Beal, first vice president; R. A. Lanpher, Jr., second vice president; Joseph Brickner, secretary; Harold Harris, treasurer; and M. W. Thompson, Dr. E. L. Warren, G. B. Messing, H. H. Baldwin, Wm. Regan and Dr. E. F. Warner, members of the board of directors. Dr. Thomas S. Roberts showed his Minnesota bird pictures, three reels of pictures from field and stream were shown and talks were made by C. M. Odell of Minneapolis, President of the Minnesota State Game Protective League, Prof. D. Lange of St. Paul, and the Game and Fish Commissioner. A large increase in membership was secured.

Since the establishment of the state fisheries in October, 1917, under order of the State Safety Commission there were caught and furnished to the people of the state 184,607 pounds of fish up to April 1, 1918, that would not otherwise have been available for use. These have been shipped to all parts of the state and sold at prices very much below the prevailing prices for fish, the difference in price resulting in a saving to the people of the state of several thousand dollars. During the same time there was purchased from commercial fishermen and distributed in the Twin Cities by the Safety Commission agent 74,946 pounds of carp and buffalo fish at lower prices than were prevailing. The use of carp was materially increased in this market by this means.

A CONSERVATION PLATFORM

At the forty-seventh annual meeting of the American Fisheries Society, held at St. Paul, Minnesota, last August, a committee was appointed to formulate a statement of the fundamental principles essential to wise legislative practice relative to the proper utilization of the fisheries resources.

Following is the platform of principles reported by the committee:

Resolutions adopted at 47th annual meeting, St. Paul, Minn., August, 1917.

Whereas, Under the stress of present conditions the nation has been brought to look carefully into the character and the amount of its various food supplies; and

Whereas, In the past it has, through lack of attention, failed to appreciate in any real sense the significance of its food fishes and the opportunities afforded by its numerous and varied water bodies to produce a large and important element for the food supply of the nation; and

Whereas, We, members of the American Fisheries Society in session at the forty-seventh annual meeting, held at St. Paul, Minnesota, by virtue of our contact with the fishing industry and knowledge of its problems and opportunities, being thus aware of the dangers in the situation and cognizant of the various lines in which the nation can be benefitted at the present time, desire to record in formal manner those fundamental principles which appear to be essential to wise legislation and to effective work for the proper utilization of the fishing resources of the nation, and do accordingly express these views; and

Whereas, Under the stress of war conditions expert advice and trained supervision is even more necessary than in ordinary times; and

Whereas, Hasty or inexperienced action may easily result in the depletion of natural resources which cannot be restored within a long period of years; and

Whereas, In the staff of the United States Bureau of Fisheries, and in the trained experts of the State Bureaus, Commissions and Hatcheries, the country is possessed of a body of highly trained men devoted to the needs of the nation as a whole and qualified to speak on special problems of fisheries in the war with the knowledge and experience that will guard against the evident danger of hasty action; and

Whereas, Proposals have been made to suspend or revoke laws for the regulation of fisheries which have grown out of long experience and careful study of conditions regarding the habits, growth and multiplication of fish on the one hand, and the practical conditions of the fishing industries on the other hand; and

Whereas, The shad, striped bass, and other anadromous species have decreased in some rivers almost to the point of extinction, because of fishing devices operated in the salt and brackish waters through which they must pass to reach their natural spawning grounds in fresh water; and

Whereas, Artificial propagation of these species is impossible and natural reproduction is prevented unless a reasonable supply of such fishes is allowed to reach their natural spawning grounds in fresh waters;

Therefore, Be It Resolved, That the expression "letting down the bars" as applied to the fishery resources of the country is unfortunate; national welfare demands the greatest develop-

ment of the said fisheries, including fish culture and the artificial propagation of food fishes to the highest possible point of efficiency;

That commercialization of the so-called game fishes is not conducive to their proper conservation but would tend to destroy a limited but valuable food product—the annual catch under present restrictive laws, aided by artificial propagation, being barely sufficient to maintain a reasonable annual supply;

That the taking of non-game food fishes, under proper supervision, be encouraged in every legitimate manner consistent with the preservation of a sufficient breeding stock to insure a future normal crop, (in states where required necessary legislation to this end should be enacted);

That many waters in which the so-called game fishes predominate contain also rough fish such as carp, suckers, bowfin, gars, etc., and in such waters the removal of these non-game fishes will be beneficial to angling, and a limited amount of commercial fishing, under proper regulation, should be encouraged;

That the anadromous fishes should be permitted to ascend the rivers from the ocean in sufficient numbers to maintain a constant and normal supply, and that to this extent the commercial fishing should be subject to proper regulations; and

Be It Resolved, That a solution of this problem relating to the alarming decrease of these species rests in the Federal control of all anadromous fishes; and

Be It Further Resolved, That a copy of these resolutions be forwarded to the Bureau of Fisheries, the United States Food Administration, and the fisheries authorities of the various states.

JOHN W. TITCOMB,

Albany, New York.

H. B. WARD,

Urbana, Illinois.

CHARLES O. HAYFORD,

Hackettstown, New Jersey.

C. H. TOWNSEND,

New York, New York.

HENRY O'MALLEY,

Washington, D. C.

COMMITTEE.

Mahnomen County Organizes—An association was recently formed in Mahnomen county for the protection and preservation of game. A meeting was held at which the moving pictures of the Game and Fish Department were shown. Game Warden Wm. F. Munch of Crookston assisted in the organization of the club which will be officered by Joseph J. Urness, president and Henry Harty, secretary and treasurer. Each member signs the following pledge: "We the undersigned, having the welfare of the game and fish of the state at heart, do hereby organize the Mahnomen County Game and Fish Protective Association. We promise to obey the game and fish laws of the state and see to it that all others do the same, and to do everything in our power to help the Game and Fish Department to get evidence and enforce the laws." The entire county will be canvassed for members. There should be at least one such organization in every county—better in every community—so that public sentiment favorable to game protection might be fostered, and the value of game and fish be better understood. Law breakers become very unpopular where there is a live organization.

THE FEATHERED FRIENDS OF THE RED RIVER VALLEY

Contest for Red River Valley Schools—Spring of 1917

Winner of Grand Sweepstakes Prize: One six-months' scholarship, Crookston Business College.

(Written by Gladys McCann, R. No. 1, B. No. 67, Detroit, Minn.; age, 15; 8th grade, District No. 69, Becker county; teacher's name, Aurelia Disselkamp.)

The most common and best known birds of the Red River Valley are the robin, wren, catbird, swallow, oriole, meadowlark, blackbird, bobolink, bluejay, phoebe, towhee, fly catcher, oven-bird, woodpecker, martin, cow-bird, king-bird and crow.

Most of these birds are great singers and nearly all are worm, insect and weed seed destroyers.

Most of the singing birds are small, such as the song sparrow, wren, goldfinch and brown thrasher.

The robin is an excellent singer but is one of the larger birds. It is about eight inches long, has a red breast, brownish back, tail and wings. It is one of the early arrivers of spring, and stays till late in the fall.

It builds its nest of twigs and grass and lines it with mud and finer grasses. It is usually placed in the crotch of an oak or fruit tree. The robin lays from three to five greenish-blue eggs, which will hatch in about two weeks' time.

The young robins require their own weight in worms daily.

The oriole is closely related to the robin, but isn't quite as large and of a brighter color. Its nest is hung in a tall tree and is made of soft materials, such as bits of cotton, wool and small strings. It is made rather long, with an opening at the top just large enough for the bird to creep into. It lays three to five eggs about the size of robins' eggs and they hatch in about the same length of time.

The bluebird is another noted singer and builds its nest in a hollow tree and sometimes a vacant bird house. It lays from four to six eggs. The male bird is of a bright blue color, while female is a light brown.

The woodpecker chooses to make its nest in the trunk of a tree by drilling out a hole just large enough to get into at first and larger on the inside. It is lined with soft materials and contains from two to four eggs about the size of robins' eggs. The young are fed on worms only.

Wrens will build their nests in old shoes, boxes, old buildings, and have been known to build in pockets of garments on the clothes line. A friend of mine once taking a washing from the clothes line discovered that a wren had built a nest in the pocket of an apron and laid an egg in it during one day.

Their building material consists of small twigs and soft, fine materials for lining. They lay from five to nine brown speckled eggs.

The marsh wren is entirely different from the house wren. The house wren has a sweet voice, while marsh wren has only a chirp.

It is rarely found out of the marsh during the summer. It builds a large, bulky nest of grass, with a small hole to go into near the bottom, and lays five or six small brown eggs.

The bobolink, meadow lark and whip-poor-will build their nests on the ground. The meadow

lark usually builds in a meadow or grassy place, under a bunch of tall grass or by a stone. Their eggs are about as large as a quail's eggs.

The blackbirds gather together in large flocks when they sing. Hundreds will perch in one tree and sing.

The blackbird builds its nest in bushes, swamps and large weeds and are very cute in hiding it. The nest contains three or four small white eggs.

This bird feeds freely in fields and stockyards and attends to getting his share of the ripe fruit in the fall.

The male is rather a greenish-black color, while the female is a lighter black.

The swallow is a bird about six inches long, a glossy black color and a family of several species.

The bank swallow builds its nest in a sand bank and the building material consists of sticks and mud lined with thistle down or some soft thing.

The chimney swallow or chimney swift sometimes becomes a nuisance by carrying mud into the chimneys. Its nest consists of mud and they build in chimneys and even in stoves of vacant schoolhouses, churches and such buildings. They lay five or six small white eggs.

The barn swallow builds a large nest under the eaves of the barn. They build of mud and small pieces of moss.

Birds are of great benefit to the farmer because of the harmful worms, insects and weed seed they destroy every year.

Their chief food consists of worms, insects, weed seed and wild berries and in case this supply is limited they are apt to be of great damage to the grainfields and orchards.

During hatching and moulting season they live upon bugs and insects and feed their young on insects for the first few weeks.

The robin, especially, is a great destroyer of worms. Cutworms are destroyed in great numbers, as well as bugs and worms that attack fruit trees and small shrubs.

Caterpillars, grasshoppers, beetles and various other insects are destroyed chiefly by the bluebird. The destruction of grasshoppers in August and September is noticeable and during that time are the chief food of the bluebird and about fifty-three per cent of its diet.

Chickadees are fond of bread crumbs and will eat vegetables.

Martins are not only insect destroyers, but are very useful on a chicken farm, as they will allow no hawks around. A martin is one of the hawk's worst enemies.

Nearly all birds are favoring the farmer some way, and even the crow, the bird most hated by the farmer, earns his board by destroying grub-worms.

Birds have their enemies as well as insects have theirs. Cats, especially, cause them a great deal of disturbance. Hawks, crows and such large birds destroy nests, eggs and small birds as well as old ones. When a nest is once disturbed the old birds usually leave it entirely.

Boys sometimes employ themselves by throwing stones at birds and robbing the nests of the eggs, which is one of the most cruel deeds a boy can do.

Birds can be protected with little or no trouble. They deserve good protection from farmers especially. One good protection is by

allowing no hunting on the farm. Another is providing them with groves and building places.

Birds should be attracted to our homes by providing them with water and building places and in the winter by feeding what few remain.

Few things are more pleasant than having the birds build around our homes, hear their songs and music throughout the summer and feel that it is through our kindness that they choose to live and make their homes near ours.

HERRING FISHING PREDOMINATES

Thanks to the provision of the law which was passed by the Minnesota legislature in 1917 regulating commercial fishing in Lake Superior which requires the making of reports to the game and fish department by the fishermen, it is now possible to collect accurate and reliable statistics relating to the fishing in these waters and to know at the end of a period of years whether the fishing is diminishing or not. It is only by having access to such information that effective legislation can be devised and adequate provision be made for the preservation of the industry. It has been known in a general way for a long time that the production of fish of several varieties has been diminishing. Fishermen have been compelled, in order to keep up a considerable volume of production, to use more and more twine from year to year.

the business, requires marking of packages by fishermen for the purpose of identification in case of spoiled fish or other improper handling, forbids placing offal in the waters of the lake, confines fishing to citizens of the United States and residents of Minnesota, and requires reports to be made.

The reports of last season's fishing which closed December 1, 1917, disclose the following facts with reference to the fishing on the north shore of Lake Superior from Duluth to Grand Portage, a distance of about 150 miles of shore line:

FROM APRIL 1 TO DECEMBER 1, 1917.

Number of licenses issued.....	273
Number of skiffs licensed.....	324
Number of boats, 1 ton or less, licensed.....	43
Number of boats, 1 to 5 tons, licensed.....	4

FISH PRODUCED

Trout	121,649 lbs.; value	\$16,856.35
Herring	3,840,400 lbs.; value	135,852.69
Ciscoes	169,670 lbs.; value	6,518.50
Ciscoets	2,872 lbs.; value	238.12
Suckers	360 lbs.; value	7.09
Whitefish	800 lbs.; value	109.94
Menomonees	455 lbs.; value	43.50

Total 4,136,206 lbs.; value \$159,626.19

It will be noticed that the production of whitefish is negligible and that the fishing of importance is confined to three varieties, herring, trout and ciscoes. The above figures are practically complete and correct as only 12 licensees

Whitefish in Process of Curing by the Chippewa Indian Method.—Photo by Carlos Avery.

This applies to herring as well as to other varieties. Last year was no exception. The herring catch was not up to standard on the north shore, although the high price made the industry more profitable than usual. It is now recognized by all fishermen of Lake Superior who have given the matter thought that close seasons in spawning time, artificial propagation, larger mesh nets, and other conservation measures are necessary to maintain the industry. The Minnesota law now provides, for a close season on herring just as soon as Wisconsin will follow suit. Michigan should fall in line when Wisconsin does.

The Minnesota law now fixes the size limit on twine for each kind of fish, provides for licensing

failed to make the reports required by law, and the figures are valuable for comparison with future reports.

It would seem that the fishing is overdone, as there is almost one fisherman for every half mile of shore all the way from Duluth to Grand Portage. The amount of twine used is not reported, but will be required to be stated in the next reports, as this is an important factor in considering regulations and the tendency of the production to increase or diminish.

At present it appears that more licenses will be called for this year than last.

Minnesota is preparing to do her share in artificial propagation by the establishment of another fish hatchery on the north shore.

THE SPORTSMAN'S POINT OF VIEW

Many Minnesota sportmen responded to an invitation of the District Inspector, Migratory Bird Law to report on conditions affecting migratory birds last fall, and their reports are interesting and valuable. There was a general agreement that ducks were on the increase but that there was little apparent increase of the wood duck. The woodcock is all but extinct in this state. A general approval of the Federal Migratory Bird law was expressed, and the law was given credit for the apparent increase in ducks, spring and winter shooting farther south having been decreased by the operation of the law. Following are a number of the reports, much condensed and abbreviated owing to lack of space to print them in full:

F. D. Noble, Broton—Birds more plentiful than for several years. Mallards plentiful and fat. Kill was smaller than usual as birds moved but little. Sundown law unpopular.

J. J. Waddell, Mankato—Ducks unusually plentiful at Swan Lake, even at the opening of the season—all local hatch. There were thousands of them, a large percentage being redheads. Plenty of celery for them. Wood duck practically extinct here—used to be thousands of them. September 15th opening interferes with our teal shooting. Half hour before sunrise shooting wanted. (This has been granted.)

Alvin Landru, Granite Falls—Federal regulations approved. Many local ducks—country filled with bluebills during flight. Few wood duck, woodcock and quail. Ditching has destroyed prospects for future shooting.

P. B. Gaass, Red Lake Falls—Greater number of ducks, more apparent than real, as they came down in a bunch. I think the number was actually just about average. No wood duck and few geese. All heartily in favor of the Federal regulations. Minnesota laws ahead of other states. Shooting season in the south should be shortened.

J. J. Maloney, Heron Lake—Not over 500 canvas, redheads, and bluebills bagged here this year owing to storm and freezeup at the time of flight. Noticeable increase in wood ducks. Our sportsmen go the law one better and don't shoot after 2 o'clock p. m.

R. W. Stanford, Willmar—More ducks on the opening day than for 10 years and northern flight larger. A few swan seen—saw one wood duck. All for the Federal regulations.

R. E. Fisher, Minneapolis—Scarcity of birds around Bemidji at opening of season. Hunters violate sundown provision of the Federal regulations. Reckless killing of game under guise of war necessity condemned.

F. E. Anderson, Red Wing—All birds showed a decided increase including woodcock and wood duck. Conditions favorable.

O. N. Hole, Alden—Birds more abundant than for several years. 3,000 killed on Bear Lake. Saw more wood duck than ever. Sunset and sunrise regulations well observed.

T. J. McElligott, Appleton—Twelve to 15 lakes near here all full of ducks. Hunters like the migratory bird law. Some wood ducks accidentally killed.

I. L. Porter, Atwater—Many birds. Our grievance is the controlling of shooting grounds by clubs, the members of which fail to observe the laws.

Dr. C. I. Oliver, Graceville—Ducks very tame in the spring owing to being unmolested—birds plentiful—laws well observed. Much attention to protection and encouragement of song birds.

Dr. C. W. Daye, Shakopee—More ducks than for 5 years. Hope for effective enforcement of Federal regulations.

F. E. Ware, Morris—More mallards and pintails this year but fewer redheads and canvasbacks on account of low water.

Dr. G. R. Melzer, Lyle—Sunset shooting does much harm and regulation is not well enough enforced. Much evidence of good effect of Weeks-McLean law.

Geo. J. Bradley, Norwood—Many ducks this year and geese more plentiful. Jacksnipe plentiful but season too short and too early. Migratory law well lived up to.

Earl Simpson, Winona—One of the best seasons in years in the Mississippi Valley. Many local ducks and continued northern flight. More food than usual. Spring shooting sentiment has died out.

H. J. Loud, Bemidji—Game refuge proving successful in increasing local game and demonstrating its efficacy as a game conservation measure. Federal protection and increase of refuges will save game from extinction. Game plentiful here this fall.

F. Anderegg, Faribault—Agrees with others as to abundance of ducks. Uncertain as to cause. Duck season should be continued open until end of December, same as farther south.

Richard B. Kent, Faribault—All agree as to increase of waterfowl and shore birds. Two or three times as many bagged as last year. Trying to improve duck feeding grounds by planting rice and celery.

Jared Burton, Wheaton—Transient hunters came and went by the dozens, all seemingly well loaded with ducks. Ducks as plentiful as usual.

N. D. March, Litchfield—No mention of increase of ducks. Feed abundant. Constant shooting with no time to rest drives the birds out of the country. Remedy, no shooting after noon.

TWO MORE GAME REFUGES

Two small game refuges have been established recently, as follows:

Anoka County Game Refuge—This refuge comprises approximately nine and a half sections of land or 6,080 acres, located between the Mississippi River and the Great Northern Railway tracks and extending from the north line of Hennepin county to the city of Anoka on the east bank of the river. The area comprises some excellent bird cover and has at times harbored many quail. It is the idea of the promoters of the refuge that the tract shall become a bird sanctuary and that the quail will be restored. This refuge was established under Section 2 of the act after a public hearing.

Second Morrison County Refuge—This is a small refuge comprising only 1,060 acres three miles west of Little Falls in township 129, range 30 west. This refuge was established under Section 1 of the law, all land owners joining the petition.

Many petitions for refuges have not been acted upon owing to the doubt as to the advisability of increasing the number to a great extent until more warden patrol can be provided.

THE PLAYGROUND OF THE NATION

Minnesota has a Ten Thousand Lakes association and we hope that every northern Minnesota booster will become a member.

The object of the association is to place before the world the unsurpassed advantages of northern Minnesota as a summer resort and outing ground, and there is no spot on earth that can compare with northern Minnesota in that respect.

Ten thousand lakes is not a mere figure of speech—it is a concrete fact, and the lakes are the prettiest in the world. The hills and valleys, great timbered stretches and the rivers and streams all combine in the greatest picture of natural beauty to be seen anywhere.

Even our own people have no real conception of the grandeur of the scenery of northern Minnesota, and now that we are building good roads and otherwise providing for the tourist it is reasonable to believe that the efforts of the association will meet with speedy response, and that soon the fame of northern Minnesota as a playground will be known the country over.

We have but to make our wonderful domain known to have it appreciated by the thousands upon thousands who are looking for exactly what we have to offer—people who would be satisfied with much less.

Vermilion, Pelican, Pokegama, Leech, Red, Winnibegoshish, Rainy and Lake of the Woods are the best known lakes of the ten thousand, because of their size, but there are thousands of lesser bodies of clear, sparkling water that are just as attractive, and are awaiting the pleasure of the people who long for the real beauty in nature.

A consistent advertising campaign will bring people to us from afar, and they will bring others with them, because there is no other locality that approaches northern Minnesota.—Hibbing Ore.

ST. CROIX BIRD CLUB

The St. Croix Bird Club has sent out 500 of the following circular letters calling attention to the economic reasons for bird protection:

Stillwater, Minn., April 22, 1918.

The United States Bureau of Biological Survey estimates the loss to crops due to insects for one year over one billion dollars, or enough to pay 4 per cent interest on twenty-eight billion of our Liberty Loan, or to put it in other words the crops destroyed each year by insects would feed the entire population of Belgium. According to this bureau the total saving of crops each year by birds amount to over four hundred million dollars. Outside of the cost of insecticides used by farmers and fruit growers, over eight million dollars are spent for spraying fruit trees alone. Why this expense when a little care and humanity towards the birds will provide nature's remedy for this enormous loss to crops by insects.

Birds do a service to mankind that cannot be repaid. They destroy insects, rodents and pernicious weeds. Their capacity for food is greater in proportion than that of any other vertebrate.

A young crow will eat twice its weight in a day of anything that will be brot to it.

Reliable ornithologists have records that a robin will eat seventy cut worms per day for fifteen days.

The New Jersey Department of Agriculture estimates a loss of over one hundred million dollars per year from cut worms alone.

Scarlet tanagers have been seen to eat fifty gypsy moths a minute for eighteen minutes.

The U. S. Department of Agriculture and the National Audubon Association have placed the following birds on their *Black List*.

COOPER HAWK, SHARP SHINNED HAWK, THE GOSH HAWK, THE HORNED OWL, THE ENGLISH SPARROW.

It is true that birds do some damage to fruit but any farmer who shoots or allows any birds not on the black-list to be shot is certainly not doing his duty to his

country or justice to himself for the labor that he spends on his crops.

Can we not depend upon your help, and to do your "bit" for your country in protecting all birds as they are sure to repay you many times?

L. H. SEYMOUR.

Member, National Audubon Association, Agent, Minnesota State Game and Fish Department.

Note—In addition to the above black list the Minnesota law classes blackbirds and crows as injurious birds and gives them no protection.

AMERICAN FISHERIES SOCIETY OFFERS PRIZES

In order to create greater interest in fish cultural and other problems and to stimulate expression on this subject at the next annual meeting of the American Fisheries Society, to be held in New York State in September, 1918, the Society offers three prizes along the following lines:

1. For the best contribution on fish culture from the viewpoint of a practical fish culturist. This to be either by new and improved practical, fish cultural appliance, or a description of methods employed in the advancement of fish cultural work.

2. For the best contribution on biological investigations addressed to fish cultural problems.

3. For the best contribution addressed to the problems of the commercial fisheries.

A committee of three members of the society to be appointed by the president to pass upon the material submitted; one of them to be a practical fish culturist, one a scientist, and one a practical commercial fisherman. The conditions governing the competition are as follows:

1. Any person who is a member of the society, or who duly qualifies as a member prior to September 1, 1918, may compete for the awards.

2. Each competitor to notify the secretary of the society, Mr. John W. Titcomb, State Fish Culturist, Albany, New York, before September 1, as to the particular prize for which he intends to compete.

3. Each paper or exhibit offered in competition to be in the custody of the secretary of the society on or before September 5, 1918.

4. Each device, apparatus, process, or method for which an award is asked to be represented by a sample, a model, or an illustrated description, and each to be accompanied by a complete statement of the points for which an award is asked. The society to reserve the right to publish any papers or photographs submitted in competition prior to their publication elsewhere; provided, however, that in the event of having failed to publish within six months after the meeting the author will be at liberty to publish same when and where he may elect.

5. The committee appointed by the President to determine the competitors who are entitled to awards, and the decision of the committee to be final.

6. In order to obtain additional information when desirable the committee to call before it persons who may have entered the competition, and also other persons.

7. The committee may, at its discretion, withhold the awards in any case if, in its judgment, no sufficiently worthy contribution is presented, and it may divide an award if there are two competitors offering contributions which are deemed of equal merit.

8. The committee to make its final report to the society not later than the morning session of the third day of the meeting.

The amount and nature of the prizes will be announced later.

NOTES FROM WARDENS

Game Warden Goodell of Herman on March 6, reports 126 red fox pelts purchased by a single buyer in his town since last fall, all killed near Herman.

Game Warden James Beatty of Cook saw eight deer in on bunch crossing the International boundary one day recently.

Game Warden Gibb of Wilder reports a great mortality of muskrats in the Heron Lake district—cause unknown—possibly scarcity of food and water.

GAME BREEDERS' CONFERENCE

This department was represented at the annual meeting of the American Game Protective Association and Game Breeders' Conference in New York on March 4 and 5 by Frank D. Blair, superintendent of game propagation. The meeting was one of great importance and was addressed by some of the foremost authorities on game conservation and game breeding in the country, among them being Lee S. Crandall, Assistant Curator of Birds, New York Zoological gardens; Donald McVicar, late head game keeper Duke of Leinster's estate, Kildare, Ireland; E. W. Nelson, chief of the Bureau of Biological Survey, United States Department of Agriculture; President John B. Burnham of the Association; Commissioners Alexander of Louisiana, Adams of Massachusetts, Phillips of Rhode Island and Pratt of New York; T. Gilbert Pearson of the Audobon Society; Dr. T. W. Hornaday, Naturalist; and a number of eminent authorities on game breeding.

No remarkable progress was reported in breeding of game, but much was learned from those who had been most successful. For the short time the work has been under way in this state Minnesota's showing compares favorably with other states.

During the proceedings the work of the various game breeders and state game farms was brought out.

Dr. A. K. Fisher gave a very interesting talk entitled, "A Plea for Experiments in Breeding the Grouse Family." But very little has been done in the past two years by any of the states and our opportunities in Minnesota along these lines are better than in any other state equipped for the purpose. None of the states with game farms have as yet attempted it, mainly because they have never had the breeding stock and no one in the work who knew anything about the grouse. If we can experiment along these lines we can be of great help to the other states.

Duncan Dunn, Assistant Superintendent of New Jersey State Game Farm reported that the state turned out what quail they had in 1917 and did no breeding during the year. His paper mostly covered the number of quail seen and fed during the winter. Nothing was given about the breeding of this species.

President John B. Burnham gave a very interesting talk on the "Cause of the Scarcity of the Ruffed Grouse," which he attributed to Vermin on account of a scarcity of rabbits. In other words the rabbit disease was gone into and discussed. Reports show that the rabbits have died off every few years and records of various places run back for over a hundred years. As yet nothing is known about the disease.

Hon. George G. Phillips, Chairman Commissioners on Birds, of Rhode Island presented a paper, "The Bob White Quail Viewed From a Sporting and Economic Standpoint." It was a very interesting paper—so interesting that it made one feel that the quail should not be hunted. It created quite a discussion and brought out many important points which showed that in those states where the quail have been placed on the song bird list they have apparently not increased in any appreciable numbers. Most of those present were in favor of small bags, short seasons and more experimental work in artificial breeding as well as better control of vermin, and especial importance was given to looking after the quail during the winters.

Prof. Krum of Cornell University talked on the plans of Cornell in teaching game farming. He spoke in place of James E. Rice. A plan of the farm was given and he explained how the students would be instructed. They will start with the breeding of pheasants and in the future they will take up experimental work with native species.

The matter of wild life protection during war times was discussed. Frederic C. Walcott, a member of the national food administration is looking after the wild life protection end and it was stated that there need be no fear of a general opening up on the wild life of the country; but at the same time all of the states were warned to keep a sharp lookout for any commercial move in this respect. On account of business at Washington, Mr. Walcott was unable to be present.

Conservation Commissioner George D. Pratt of New York presented a paper on "The Conservation of Fish in Inland Waters During War Time" which was very interesting. None of the states have done as much as Minnesota in the matter of supplying fish to the people. During a discussion on fish matters Mr. Blair gave a brief outline of this work in Minnesota.

Mr. T. Gilbert Pearson discussed "The Menace to all Bird Life Involved in a Weakening of the Game Protective Laws" and "A History of an Unsuccessful Attempt to Annihilate Wild Life in the State That Winters the Nation's Birds" was given by Mr. M. L. Alexander, conservation commission of Louisiana.

Dr. Wm. T. Hornaday gave a very interesting talk on game and game conditions laying special emphasis on the importance of the game protective laws and warning against any relaxation in the laws which regulate the taking of game.

Hon. C. Gordon Hewitt, Dominion Entomologist, Canada, gave one of the best talks at the conference. It was entitled "The Protection of Wild Life in Canada in War Time."

Dr. E. W. Nelson, Chief, United States Bureau of Biological Survey gave a very interesting talk on "The Proposal to Relax Protective Laws from the Viewpoint of the Scientist," and also discussed proposed closed season on the woodcock.

The conference ended with a dinner Tuesday evening, March 5. After the dinner—Mr. Norman McClintock, of Pittsburg, Pa. showed his motion pictures. Same as shown at the convention of commissioners in St. Paul last summer.

A message from Theodore Roosevelt was flashed on the screen, congratulating the Association on its work and wishing success for the future.

Jack Minor of Canada, a very interesting fellow showed pictures of the wild geese at his place near Kingsville, Ont., and gave a talk which was by far the most effective of all in the way of making conservationists out of sportsmen.

The next bulletin of the Association will cover fully all of the matters that were presented at the conference.

NINE THOUSAND DEER KILLED

During the big game hunting season of 1917 there were 9,000 deer killed in Minnesota and about 175 moose.

The kill of deer was somewhat larger than usual, owing to there being a larger number of hunters in the forests, notwithstanding the absence of many young men in army service and the disqualification by law of aliens for hunting. Hunting conditions were peculiar and unusual. A heavy fall of snow in October nearly disappeared, leaving a noisy crust in the swamps and green timber. There were also several days of deep fog and mist during the earlier part of the season which interfered very much with hunting. Many localities usually found good hunting ground were not productive of sport this year on account of the extensive fires which ran through the north woods during last spring. The deer shifted to unburned areas and heavy toll was taken in such places.

ALIEN GUN LAW EFFECTIVE

There have been 118 successful prosecutions by the department of aliens for illegal possession of firearms between August 1, 1917, and March 1, 1918. Confiscations of firearms from aliens have occurred in many more cases. The law under which these prosecutions have been brought was passed at the last session of the legislature and has had a very salutary effect. The number of hunting licenses sold was materially reduced in the territory where the aliens are most numerous, and irresponsible marauders have been kept out of the woods to a greater extent. A certain class of alien hunters roam the woods when unrestrained at all times of the year and slaughter every living thing they find. The alien gun law has put this element out of business.

PROSECUTIONS, DECEMBER, 1917, JANUARY, FEBRUARY, 1918

Chas. Ackernecht, St. Paul, Minn.—9	
Edwin Larson, Culver, illegal hunting of deer.....	12.50
Neil Plack, Culver, hunting deer with dogs.....	12.50
Otto Gerner, St. Paul, illegal fishing.....	13.00
Clarence Lind, Long Lake, illegal fishing.....	13.00
Julius Lentsch, Crosby, illegal fishing.....	13.00
Aug. Lassar, Crosby, illegal fishing.....	13.00
Henry Pahl, Minn. River, illegal fishing.....	13.20
L. Bair, Crosby Lake, illegal fishing.....	No fine
Joe Ollid, Crosby Lake, illegal fishing.....	13.00

S. C. Bailey, Bemidji—3	
John Arendt, Bemidji, hunting without license.....	13.50
Andrew Ellis, Bemidji, hunting without license.....	13.00
H. C. Bloom, Gemmel, illegal possession of venison.....	10.00

Herman Anderson, Buffalo, Minn.—2	
Peter Aho, Lake Caroline, fishing without license.....	15.65
Wm. Kerkela, Lake Caroline, fishing without license....	15.65

H. T. Bedell, Dept. Village Marshall—1	
V. Hodell, Minneapolis, illegal fishing.....	12.00

A. P. Cardle, Brainerd, Minn.—2	
Eli Johnson, Brainerd, illegal trapping.....	Sentence suspended
Carl Carlson, Brainerd, illegal trapping.....	Sentence suspended

H. C. Eldred, St. Cloud, Minn.—4	
Joseph Meinz, St. Cloud, using artificial lights.....	15.00
Peter Wiezing, Grand Lake, using artificial lights.....	15.00
John Jabres, Elk River, destroying mink nest.....	7.50
Herman Klaffier, St. Cloud, illegal fishing.....	13.50

W. R. Chamberlain, Winona, Minn.—2	
Jack McGowan and Wm. Kidd, Lake Pepin, illegal fishing	51.00

Paul S. Goodell, Herman, Minn.—1	
J. G. Miles, Barrett, illegal fishing.....	12.00

Jesse Harry, Grand Rapids—1	
Robt. Randa, Grand Rapids, hunting on game refuge. Acquitted	

B. B. Hoffman, Excelsior—1	
Leo Staus, Chaska, illegal hunting.....	15.00

John Huderle, Hutchinson—2	
Joe Jensen, T. 55, R. 13, St. Louis County, killing and illegal possession of deer.....	Acquitted
Ferdinand Brethorse, Buffalo Lake, illegal fishing.....	12.00

J. H. Jones, Fergus Falls—3	
Geo. Severson, Fergus Falls, using illegal net.....	13.50
Chas. J. Lender, Battle Lake, using illegal net.....	11.00
Elmer Oley, Ordale, illegal possession of game birds....	12.50

J. E. Kreager, Duluth—4	
John Ayers, Duluth, killing cow moose.....	52.50
Harry Pearson, Duluth, hunting without license in 1916. Dismissed	
Fred Smocker, Tw. 54, R. 13, killing cow moose.....	52.50
Joe Bear, Duluth, killing cow moose.....	52.50

Peter J. Karpen, St. Peter—4	
John Freeman, St. Peter, illegal possession of musk rats.	12.25
P. J. Johnson, Judson, killing muskrats in close season..	13.70
Julius Domer, LeSueur, killing racoon in close season...	15.90
Ernest Saabe, Le Sueur, killing racoon in close season...	17.25

Walter Klinefelter, Stillwater—2	
Peter Montbriand, Stillwater, possession of green deer hide	25.00
L. H. Lorns, Stillwater, illegal fishing.....	10.00

Michael Loso, St. Joseph.—6	
Frank Kune, St. Joseph, illegal netting.....	27.35
Frank Staucek, St. Joseph, illegal netting.....	30 days
Al. Frost, St. Joseph, impersonating an officer.....	Pending
Mike Butala, Richmond, fishing without a license.....	12.50
Art Bennett, Richmond, trapping in close season.....	12.50
N. Wemert, Richmond, illegal possession of mink.....	27.50

Wm. F. Munch, Crookston—6	
Gust Johnson, Clearwater Lake, illegal sale of fish.....	12.00
Gust Lundberg, Clearwater Lake, illegal sale of fish....	12.00
G. Dakken, Clearwater Lake, illegal trapping.....	12.00
Henry Johnson, Clearbrook, illegal trapping.....	12.00
Milton Henderson, Clearbrook, illegal trapping.....	12.00
Arthur Efterfeidl Argyle, illegal trapping.....	10.00

Wm. Mason, Chanhassen—1	
John G. Stock, Augusta, illegal fishing.....	11.50

Frank M. O'Neil, Aitkin—11	
Arthur J. Huderle, Hector, hunting in close season....	Acquitted
Harry Schiebel, Hector, hunting in close season.....	Acquitted
H. E. McKibben, Hector, hunting in close season.....	Acquitted
W. J. Witney, Hector, hunting in close season.....	Acquitted
Victor Spute, Aitkin, hunting in close season.....	Acquitted
Mons Halseth, McGregor, spearing pike.....	10.00
Geo. O. Warner, Sandy Lake, selling fish illegally.....	10.00
Olaf Sather, Sandy Lake, selling fish illegally.....	10.00
J. E. Jacobson, Sandy Lake, selling fish illegally.....	10.00

D. I. Raase, Sandy Lake, selling fish illegally.....	10.00
Gust Baade, Sandy Lake, selling fish illegally.....	10.00

Otto L. Paulson, Winthrop—2	
Julius Lickfett, Winthrop, trapping in close season....	16.00
Emil Groeler, Winthrop, trapping in close season.....	13.00

O. J. Reynolds, Alexandria—14	
Adolph Kempplaneu, Holm City, possession of fire arms by alien.....	25.00
Emil Giese, Brandon, fishing without license.....	5.00
Edwin Webber, Brandon, fishing without license.....	5.00
Walter Kroupa, Lake Mary, illegal fishing.....	10.00
Clifford Black, Osakis, illegal fishing.....	1.00
Wm. Bryce, Maple Lake, fishing without license.....	5.00
John Jensen, Smith Lake, illegal fishing.....	5.00
Nick Kline, Lake Agnes, illegal fishing.....	1.00
Frank Schraufnagle, Lake Agnes, illegal fishing.....	1.00
Earl Clark, Smith Lake, illegal fishing.....	1.00
John Gulsen, Kingston, illegal hunting of mink.....	10.00
Arthur Gunderson, Kingston, illegal hunting of mink...	10.00
Fridolph Edman, Evansville, possession of fire arms by alien.....	25.00
Carl J. Edman, Evansville, possession of fire arms by alien	25.00

Herman Rackow, Jr., Winona—1	
Roy Janke, Sunfish Lake, seining inland waters.....	2.00

C. E. Saunders, Badger—6	
Art Lundquist, Pine Creek, killing moose in close season. Dismissed	
Ulm Quinn, Pine Creek, killing moose in close season. Dismissed	
Otto Bagstad, Pentresin, trapping in close season.....	22.60
Chas. Springsteel, Springsteel Island, illegal possession of moose.....	53.10
Otto Langum, Thief Lake, hunting in close season.....	27.50
John A Berg, Thief Lake, hunting in close season.....	27.50

M. L. Toole, Cass Lake—1	
R. W. Still, Walker, illegal possession of venison.....	10.00

August Tabor, Two Harbors—1	
W. E. Rose, Two Harbors, hunting without license... Acquitted	

O. J. Signalnis, Starbuck—3	
H. C. Pearson, Blue Mounds, hunting mink with dogs..	18.40
Alfred Erickson, Blue Mounds, hunting mink with dogs..	18.39
Elmer Erickson, Blue Mounds, hunting mink with dogs..	18.39

R. A. Vessey, Bloomington—1	
John Griffin, Black Dog Lake, illegal hunting.....	10.00

B. L. Waterman, Hubbard—1	
Warren Sebert, Lake Emma, hunting without license...	12.85

Theo. Wegman, Lake Itasca—2	
Ray Thompson, Park Rapids, killing deer illegally.....	50.00
W. H. Tiara, Fernhill, killing bear in close season.....	10.00

Geo. E. Wood, Hibbing—68	
Geo. Lestic, McKinley, selling ammunition to children..	13.51
John Kovduff, Pineville, alien, illegal hunting.....	55.70
Tony Mahanich, Bangor, alien, possession of fire arms	\$25 fine suspended, poverty

Sten Krovenich, Bangor, alien, possession of fire arms...	56.20
John Tuck, Aurora, alien, illegal hunting.....	25.00
Frank Kosick, Pineville, alien, possession of fire arms..	33.40
Frank Dowar, Bangor, alien, possession of fire arms....	33.40
Gust Hellman, Merritt Lake, illegal hunting. Sentence suspended	
Louis Rodish, Chicago Location, alien, possession of fire arms.....	54.50
Joe Plesick, Pineville, alien, possession of fire arms.....	29.50
John Shosick, Miller Mine, alien, possession of fire arms	32.40
Valentine Verkovich, Bangor, alien, possession of fire arms	29.85
Louis Papesch, Bangor, alien, possession of fire arms	Sentence suspended

Jacob Serpack, Aurora, illegal possession of moose meat.	28.50
Joe Shealds, Bangor, alien, possession of fire arms.....	19.85
Sten Prehonick, Aurora, alien, possession of fire arms...	32.40
Morris Bright, McKinley, selling amunition to minors..	15.20
A. Erickson, McKinley, alien possession of fire arms	Sentence suspended

John Bobish, Hector, alien, possession of fire arms and explosives.....	98.40
J. Trent, Adriatic, alien, possession of fire arms.....	29.85
Ignatz Snyder, Chicago Island, alien, possession of fire arms.....	78.85
Tony Volk, Chicago Island, alien, possession of fire arms	Dismissed

Frank R. Tisbe, Chicago Island, alien, possession of fire arms.....	28.50
Mike Koebevar, Bangor, alien, possession of fire arms	Fine suspended

Sten Kreiber, Bangor, alien, possession of fire arms....	29.50
John Jaurik, Bangor, illegal hunting.....	29.50
Mike, Bomish, Bangor, alien, possession of fire arms...	28.50
Frank Auglitz, Mohawk, possession of moose meat.....	30.92
Otto Crouch, Hibbing, using seditious language.	\$100 fine suspended

Ben Sackovich, Leetonias, alien, possession of fire arms	10.00
Sten Macas, Leetonias, alien, possession of fire arms....	30.00

Ben Vendetta, Hibbing, alien, possession of fire arms...	28.50
Geovvica Franco, Webb, alien, possession of fire arms...	29.50
Frank Ruggio, Hibbing, alien, possession of fire arms...	47.50
Matt Naglish, Laura, making false affidavits in securing big game license...	25.00
Julius DeBoui, Int. Falls, alien, possession of fire arms	27.50
Mike Fornick, Int. Falls, alien, possession of fire arms	27.50
Jerry Rakautz, Spruce Mine, alien, possession of fire arms	28.50

Sarito Gabiva, Int. Falls, alien, possession of fire arms	27.50
Sam Moses, Int. Falls, alien, possession of fire arms...	27.50
Todor Baydeck, Int. Falls, alien, possession of fire arms...	27.50
Angello Latina, Int. Falls, alien, possession of fire arms	27.50
Peter Shekio, Int. Falls, alien, possession of fire arms...	27.50
Roselyn Vicheri, Int. Falls, alien, possession of fire arms	27.50
Paul Gusic, Eveleth, perjury...	12.50
Paul Gusic, Eveleth, alien, possession of fire arms...	28.50
Joe Gertz, Virginia, alien, possession of fire arms...	27.50
Dominick Chelfastina, Virginia, alien, possession of fire arms...	27.50
Mike Poduar, Virginia, alien, possession of fire arms...	27.50
Joe Kotchas, Virginia, alien, possession of fire arms...	27.50
Dominick Ponogatrini, Virginia, alien, possession of fire arms...	27.50
Ben Gentili, Franklin, alien, possession of fire arms...	27.50
Marina Rijerio, Virginia, alien, possession of fire arms	27.50
Louis Bollini, Virginia, alien, possession of fire arms...	27.50
John Vidmar, Franklin, alien, possession of fire arms...	27.50
Basty Pete, Franklin, alien, possession of fire arms...	27.50
John George, Virginia, alien, possession of fire arms...	27.50
Joe Martini, Franklin, alien, possession of fire arms...	27.50
Alviseo Balistino, Franklin, alien, possession of fire arms	27.50
Louis Porgritini, Virginia, alien, possession of fire arms	27.50
Matt Klubrichas, Virginia, alien, possession of fire arms...	27.50
Jos. Pasichillo, Virginia, alien, possession of fire arms...	27.50
John Muchar, Virginia, alien, possession of fire arms...	27.50
Stioca Bandalo, Virginia, alien, possession of fire arms...	27.50
Roneo Grintino, Virginia, alien, possession of fire arms...	27.50
Albert Rossi, Virginia, alien, possession of fire arms...	27.50
Joe Tassi, Virginia, alien, possession of fire arms...	27.50
Hjalmar Heikkela, Mesaba, illegal possession moose meat	16.50

Woods, Reynolds and Goodell—1

Louis J. Hanson, Hibbing, hunting deer on game refuge	27.50
---	-------

Geo. Wood and Paul Goodell—12

Irvin Hanley, Hibbing, hunting on game refuge...	13.50
Gabriel Mattson, Hibbing, illegal possession of venison..	28.50
John Long, Hibbing, illegal netting...	12.50
Abraham Norbeck, Hibbing, alien, possession of fire arms	27.50
Al. LaNeour, Hibbing, headlighting deer...	12.50
Victor Johnson, alien, fire arms in possession...	27.50
Finnish co-operative Store, selling ammunition to minors	12.50
Nick Lakulo, Hibbing, alien, possession of fire arms...	29.40
Mike LaChim, Hibbing, alien, possession of fire arms...	29.40
Henry Nutala, Hibbing, alien, possession of fire arms...	31.12
Tom Pukkula, Hibbing, illegal possession of venison...	14.40
Geo. Katsuseullo, Hibbing, selling venison...	28.50

J. W. Centerwall and J. E. Kreager—1

Clyde Jellison, Grand Rapids, hunting deer with dogs...	18.45
---	-------

Aug. Tabor and John Huderle—3

John McCafferty, Two Harbors, hunting without license	25.00
Will Eick, Duluth, killing deer in close season...	Dismissed
Peter Vanguard, Crystal Bay, illegal possession of venison	Dismissed

Jess Harry and J. W. Centerwall—2

J. K. Palmer, Grand Rapids, using dogs while hunting deer	20.00
Frank Leiperman, Grand Rapids, illegal hunting of birds	28.80

Geo. Wood, Aug. Tabor and John Huderle—1

John Roeva, Eveleth, illegal possession of venison...	27.50
---	-------

John Huderle and J. W. Centerwall—1

Chas. Stube, New Ulm, shipping and selling ducks. No indictment	
---	--

J. E. Kreager and Geo. E. Wood—4

Gust Lundgren, Ellsmere, resisting an officer.. Case dismissed	
Alfon Carlson, Virginia, illegal possession of venison...	12.50
Gust Lundgren, Ellsmere, illegal possession of venison. Acquitted	
Camille Decagney, Buyck, resisting an officer...	28.00

J. E. Kreager and August Tabor—7

John Holmberg, T. 53, R. 15, illegal possession of venison	50.00
John Sandberg, T. 53, R. 15, illegal possession of venison	50.00
A. Holmberg, T. 53, R. 15, illegal possession of venison	50.00
Herbert Sandberg, T. 53, R. 15, illegal possession of venison	50.00
John A. Ohlund, Silver Creek, illegal possession of venison	12.50
Andrew Forrsell, Silver Creek, illegal possession of venison	12.50
Emil Kari, S. 26, T. 58, R. 12, illegal possession of venison	52.50

Geo. Wood and Wm. O'Hara—3

Mike Bocoucick, Biwabik, sedition and assault...	60 days
John Stepick, Chicago Location, sedition and assault...	50.00
Pete Bociunick, Chicago Location, sedition and assault...	50.00

Geo. E. Wood and Chas. Blanchett—5

Peter Dundick, Aurora, alien, possession of fire arms...	25.00
Pete Sabo, Aurora, alien, possession of fire arms...	25.00
Sten Rosaudick, Aurora, alien, possession of fire arms...	25.00
Pete Swalick, Aurora, alien, possession of fire arms...	25.00
Lozo Maovivk, Aurora, alien, possession of fire arms...	25.00

Geo. Wood, Wm. McIntyre and Wm. O'Hara—1

John Michelatick, Biwabik, alien, possession of fire arms	25.00
---	-------

Geo. Wood and James Beatty—21

Anton Holman, Stephenson, alien, possession of fire arms	27.50
Floyd Miller, Hibbing, alien, possession of fire arms...	27.50
Kuja Maki, Stephenson, resisting an officer...	104.75
Kiija Maki, Stephenson, using seditious language...	106.15
Evert Pakkenin, Stephenson, alien, possession of fire arms	27.50
Geo. Locotious, San Jonou Hill, alien, possession of fire arms...	27.50
George Haugis, Penobscot Location, alien, possession of fire arms...	27.50
Victor Samucci, Stephenson, alien, possession of fire arms...	Fine suspended
Nick Korich, Stephenson, alien, possession of fire arms	103.50
Jos. Pless, Stephenson, alien, possession of fire arms...	52.50
Jos. Stavich, Stephenson, alien, possession of fire arms...	27.50
Evert Koopjarvi, Stephenson, alien, possession of fire arms	27.50
Alex Olui, Stephenson, alien, possession of fire arms...	27.50
Jos. Bovich, Stephenson, alien, possession of fire arms...	27.50
Mike Miller, Stephenson, alien, possession of fire arms...	27.50
Vinciuio Amati, Stephenson, alien, possession of fire arms	Fine suspended
Vinciuio Amati, Stephenson, alien, possession of fire arms	Fine suspended
Martin Valievic, Nelson, alien, possession of fire arms	52.50
Ole Stein, Big Falls, killing deer in close season...	52.50
Elmer Warner, Big Falls, killing bear in close season...	10.00
John Sibavik, Dows Mine, alien, possession of fire arms...	28.50

Geo. Wood and Robt. Fitzpatrick—4

Tony Crool, Int. Falls, alien, possession of fire arms	27.50
John Nagor, Int. Falls, alien, possession of fire arms...	27.50
Athoreses Alexou, Int. Falls, alien, possession of fire arms	27.50
Emil Hockdahl, Int. Falls, alien, possession of fire arms...	27.50

Geo. Wood, Jas. Beatty and Joe Schening—1

Marko Draskovich, Adams, alien, possession of fire arms	27.50
---	-------

SUMMARY

Total number of convictions...	214
Total number of acquittals...	9
Total number of cases dismissed...	8
Total number of cases pending...	1
Total number prosecutions, 3 months...	232
Total amount of fines imposed...	\$5,045.58
Total number of days jail sentence...	120

SEIZURES FOR DECEMBER, 1917, JANUARY AND FEBRUARY, 1918

Moose, heads...	3	Fish lines...	2
Moose, hides...	3	Fish house...	1
Moose, pounds...	525	Nets, gill...	15
Deer, carcasses...	2	Nets, hoop...	2
Deer, live...	1	Set lines...	2
Deer, pounds...	65	Rat traps...	45
Deer, hides...	4	Fish spears...	8
Rifles...	34	Gas light...	1
Shot guns...	50	Head light...	1
Revolvers...	20	Brass knuckles, pairs...	4
Birds...	6	Dynamite, boxes...	2
Mink skins...	12	Ice chisels...	5
Muskrat skins...	1,450	Pail minnows...	1
Otter skins...	1	Disk...	1
Beaver skins...	4	I. W. W. books...	2
Weasel skins...	7	I. W. W. card...	1
Fish, pounds...	5,127	Black Jack...	1
Fish poles...	3		

Photomount
Pamphlet
Binder
Gaylord Bros.
Makers
Syracuse, N. Y.
PAT. JAN 21, 1908