Biennial report of the State Conservation Commission of Wisconsin for the fiscal years ending June 30, 1931 and June 30, 1932. 1932

Wisconsin. State Conservation Committee (1928-1956)
Madison, Wisconsin: [s.n.], 1932

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BIENNIAL REPORT

13th

OF THE

STATE CONSERVATION COMMISSION

OF

WISCONSIN

FOR THE

Fiscal Years Ending June 30, 1931 and June 30, 1932

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STATE CONSERVATION COMMISSION

COMMISSIONERS

HASKELL NOYES, *Chairman*, Milwaukee

E. M. DAHLBERG, *Secretary*, Ladysmith

L. M. HOBBINS, Madison

R. B. GOODMAN, Marinette

RALPH M. IMMELL, Madison

JAMES CORCORAN, Webster

STATE CONSERVATION DEPARTMENT

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Conservation Director

MATT PATTERSON
Deputy Director

DIVISION HEADS

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Supt. of Game

B. O. WEBSTER,
Supt. of Fisheries

F. G. WILSON,
Supt. Co-op. Forestry

H. W. MACKENZIE,
Supt. of Law Enforcement

D. H. KIPP,
Supt. of Public Relations

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LETTER OF TRANSMITTAL

HONORABLE A. G. SCHMEDEMAN,

Governor of Wisconsin

Sir: We herewith submit the biennial report of the State Conservation Commission of Wisconsin. This report is divided into three parts.

Part I sets forth the responsibilities imposed upon the conservation commission by the legislature, the conditions and emergencies arising in the discharge of these responsibilities, and the policies adopted to promote the objectives of the conservation laws.

Part II presents the organization, administration, and field activities of the conservation department.

Part III presents statistical data, maps, and a detailed statement of receipts and disbursements.

Respectfully submitted,

STATE CONSERVATION COMMISSION,

HASKELL NOYES, *Chairman*,
E. M. DAHLBERG, *Secretary*,
R. B. GOODMAN,
L. M. HOBBINS,
R. M. IMMELL,
JAMES CORCORAN.

Part I—Section 1

ADMINISTRATION

Conservation means the permanent use by man of all natural resources.

The conservation commission is charged with the administration of Wisconsin's conservation laws, which include the utilization, protection, and development of all wild life—fish, game, and forest—and specifically the management of state forest lands and parks.

This report of the policies of the conservation commission and the activities of the conservation department for the biennium presents the wide diversity of these functions and their social and economic values.

Brief history of conservation administration

The first official interest in the conservation program in Wisconsin is reflected by the creation of a committee to investigate forestry conditions under Chapter 36, Laws of 1867, passed on March 23, and in the report of that committee published later the same year. Among other things, this committee was appointed to investigate the results of denudation of forest areas and of consequent influence on climate, rainfall, erosion, etc. It is interesting reading to see the arguments used today expressed in the report published in 1867.

This first committee probably reflects the influence of Carl Schurz, then a resident of Wisconsin and an intensely interested conservationist. The chairman of the committee was Increase A. Lapham of Waukesha, also an ardent lover of the out-of-doors. The report itself was a masterly and studious treatise on the benefits of forests and trees. It also gave extensive botanical information about trees, their care, and methods of planting.

Little was accomplished by this first committee, and no lasting program was begun. There were state timber agents appointed in 1869, but their interest was primarily to prevent the theft of timber from state lands. There was no evidence of interest in real protection or management. This state of mind, however, was not peculiar to Wisconsin, but merely indicative of the public approach to and regard for all timber resources in the several states.

The next official interest in the forestry program came in 1878, when by legislative action, a tract of 50,000 acres in what was then Lincoln county in northern Wisconsin, was set aside as a timber reserve and called "The State Park." This existed until 1897, when again by legislative act, these lands were sold to lumber companies and the state park project abandoned. Parenthetically, it may be

remarked that many of the lands once contained within this state park subsequently were repurchased after the timber was cut, and are now contained within Northern State Forest in Vilas county.

Six years after this backward step was taken, there was created in 1903, a State Department of Forestry, and legal provision was made for the purchase of lands for forest purposes. In 1905, a state forester was employed. Subsequent efforts showed, unfortunately, that such action was too much in advance of public sentiment. Consequently, the essential support was lacking when the forester began to function, and although a program was developed and maintained for several years, the adverse forestry decision of the Supreme Court in 1915, sounded the death knell for steps taken up to that time.

Beginnings were made in other conservation activities and programs progressed concurrently with the forestry program. The first date in a fisheries program really antedates the beginning of the forestry program by one year when a fish inspector was appointed by legislative act in 1866. Twelve years later there was appointed a "Commissioner to Receive Spawn," and in the following year the first state fish hatchery was established at Madison. Fish wardens began to function in 1887, and a State Fish and Game Warden was appointed in 1891. In 1895, there was appointed a fisheries commission of seven members. This commission existed until 1915, and in 1907 the commission appointed for its administrative officer a superintendent of fisheries.

Although the state made an early beginning in fish propagation, there was no early state program in the propagation and stocking of game.

The first game wardens were appointed the same year the first fish wardens were, in 1887. Four years later the two sets of officers were combined into one department under a State Fish and Game Warden. This form of fish and game law enforcement also existed until 1915.

The beginning of the present state park system may be dated from 1899, with the establishment of the Interstate Park Commission, created to purchase and develop lands along the St. Croix river in Polk county, in co-operation with a similar commission appointed by the State of Minnesota to do the similar work on the Minnesota side of the river. This commission was renewed in 1901, by which time some land had been acquired.

In 1906, by gift from the Nebagamon Lumber Company, the state acquired the 640 acres which made up the Brule State Park which has since become the nucleus of the Brule River State Forest. In 1910, purchase was begun in Door county in the area since named Peninsula State Park. Devil's Lake State Park in Sauk county, was acquired by purchase in 1911, and in 1915 Cushing Memorial State Park in Waukesha county was presented to the state.

In 1915, conservation activities of the various boards and commissions were combined into a conservation commission. This organization combined and correlated the activities of the then existing State

Board of Forestry, State Park Board, State Fisheries Commission, and State Fish and Game Warden Department. Since 1915, there have been changes in organization, but the scope of its activities has never lessened. Administration of forestry, fish, game, and law enforcement still remain the primary responsibilities of the conservation commission, and there have been added to its duties many other functions.

The first commission was composed of three commissioners and a secretary. It existed until 1923, at which time the legislature abolished it and created a single commissioner form of administration. Under the commissioner several division superintendents carried on administrative work in the several divisions. This form of administration continued until 1927.

With the beginning of the public understanding of the necessity for a conservation program, the scope of the work of the Wisconsin commission broadened greatly. With the broader scope, it was thought that a wider viewpoint and wiser judgment could be secured for establishing conservation policies. Consequently, the legislature of 1927 created the present State Conservation Commission. It is composed of six commissioners who serve without remuneration. The commissioners, three of whom must reside in the southern and three in the northern half of the state, are appointed by the governor with the advice and consent of the senate, to serve for six years. Two are appointed every odd year. It is this commission which today directs the policies of the conservation movement in Wisconsin.

The conservation program resulting from the policies established by the commission, is administered by a conservation director appointed by the commission. It is the responsibility of the conservation director to execute the policies of the commission and to direct and correlate the activities of the various divisions of the conservation department, each of which is headed by a superintendent responsible to the director.

General administrative policies

At the present time, grouped under the general heading of State Conservation Department, there are eight divisions—administration, forests and parks, forest protection, co-operative forestry, fisheries, game, law enforcement, and public relations. In addition to the activities directly indicated by the names of various divisions, there are others which have been administered jointly by one or more of the various divisions.

The conservation director is the logical connecting link between the various protecting, producing, and educational divisions of the department and the commission, the legislature, and other agencies both public and private within and without Wisconsin which concern themselves with conservation.

The finance and accounting of the entire department is done by the division of administration. During the past year under a new policy, a decided improvement has been made in the accounting system of

forestry activities. This system will be extended to all activities at the beginning of the next fiscal year beginning July 1, 1933.

Under a policy tending toward further co-ordination, most records and statistics for all divisions are compiled and kept by the division of administration, as is the complete inventory of equipment of all divisions.

Part I—Section 2

FORESTRY—FOREST PROTECTION

Introductory

A conservation program in Wisconsin, to be successful, must have as its basis a sound forestry program. Wisconsin's natural resources —game, fish, beauty—are principally biological resources. They all depend directly or indirectly upon some type of forest cover for food, cover, or protection. Basic in importance in forestry is an effective program of forest protection.

Successful forest protection depends upon a favorable public sentiment, adequately trained personnel, ample equipment, and a flexible administrative agency. Forest protection may be divided into three activities—fire prevention, fire detection, and fire suppression. Unfortunately, the history of forest protection, both in Wisconsin and elsewhere, reveals a general unwillingness to appreciate the importance of fire prevention in a forest protection program. Everywhere, until recent years, there has been exhibited an unwillingness on the part of legislative bodies to appropriate sufficient money for fire prevention activities. All systems were so organized that fire detection and suppression were stressed rather than fire prevention. In the past few years, however, this attitude has changed and fire prevention is at last coming to be recognized as extremely important.

During the five years immediately preceding the biennium the area under forest protection in Wisconsin was increased from 7,200,000 to 13,600,000 acres. Increasing an area under forest protection always brings an apparent increase in the total number of fires, which frequently reflects unfavorably upon the forest protection organization. The apparent increase in the number of fires is due to the fact that all fires in the enlarged area are reported when the area is included in a forest protection district, whereas reporting in the new area was casual and haphazard prior to the enlargement.

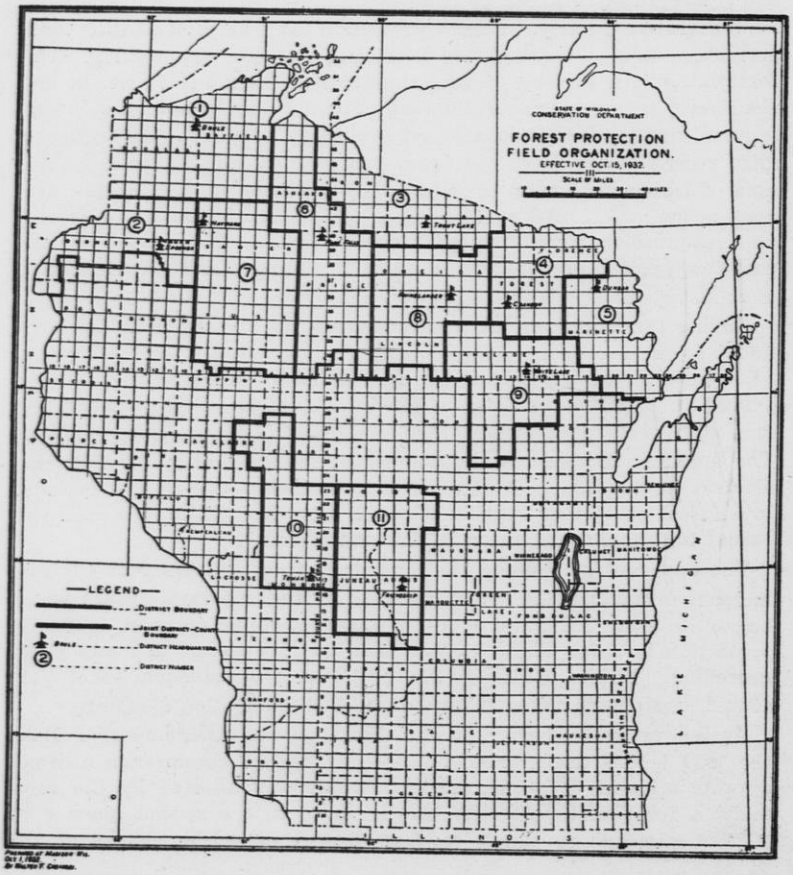
The apparent increase in the number of fires, coupled with the real increase in number and severity caused by the abnormal drouth which began in May, 1929, did more to awaken public interest in forest protection in a few short months than has been done in many years preceding. Public attention was called to the inadequacies of personnel, equipment, transportation, and communication systems.

Acting under authority of the constitutional amendment of 1925, the 1931 legislature granted to the conservation commission a direct appropriation of $600,000, most of which was allotted by the commission for forest protection work. Late in the second quarter of 1931, Commissioner Ralph M. Immell was placed in charge of the

reorganization of the forest protection activities of the department, and Commissioner Robert B. Goodman was appointed as advisor. The development of the forest protection program was accomplished through the instrumentality of the conservation director with the advice and approval of the commission.

The first step in the reorganization was a combination of forest protection districts into forest protection areas. There are 11 forest protection districts in the state, each comprising from 800,000 to 1,500,000 acres. They aggregate 13,600,000 acres. In the organization of these districts into areas, the former district rangers were left in charge of the district, and made responsible to the new officer, an area warden.

An important program of co-operation was developed. The American Legion posts in the state were appealed to to co-operate in preventing and suppressing forest fires. Sixty-six posts promised co-



operation and organized fire fighting groups in accordance with suggestions from the commissioner in charge.

The psychological effect of having available for call, groups of men above the suspicion of incendiarism tends to reduce the number of incendiary fires in any locality because potential incendiarists are restrained by the knowledge that they would not profit.

The administrative program consists of fire prevention, fire detection, and fire suppression.

Fire prevention

Fire prevention requires the consciousness of all the people who live in or visit a forest area that forest protection is a state asset. Such a public consciousness can be attained only through education. The conservation commission has an educational policy which is intensified in forest protection districts. This is furthered by contact with all types of organized groups including schools, city clubs, women's clubs, Boy and Girl Scout groups, Junior Forest Rangers, farmers' institutes, etc.

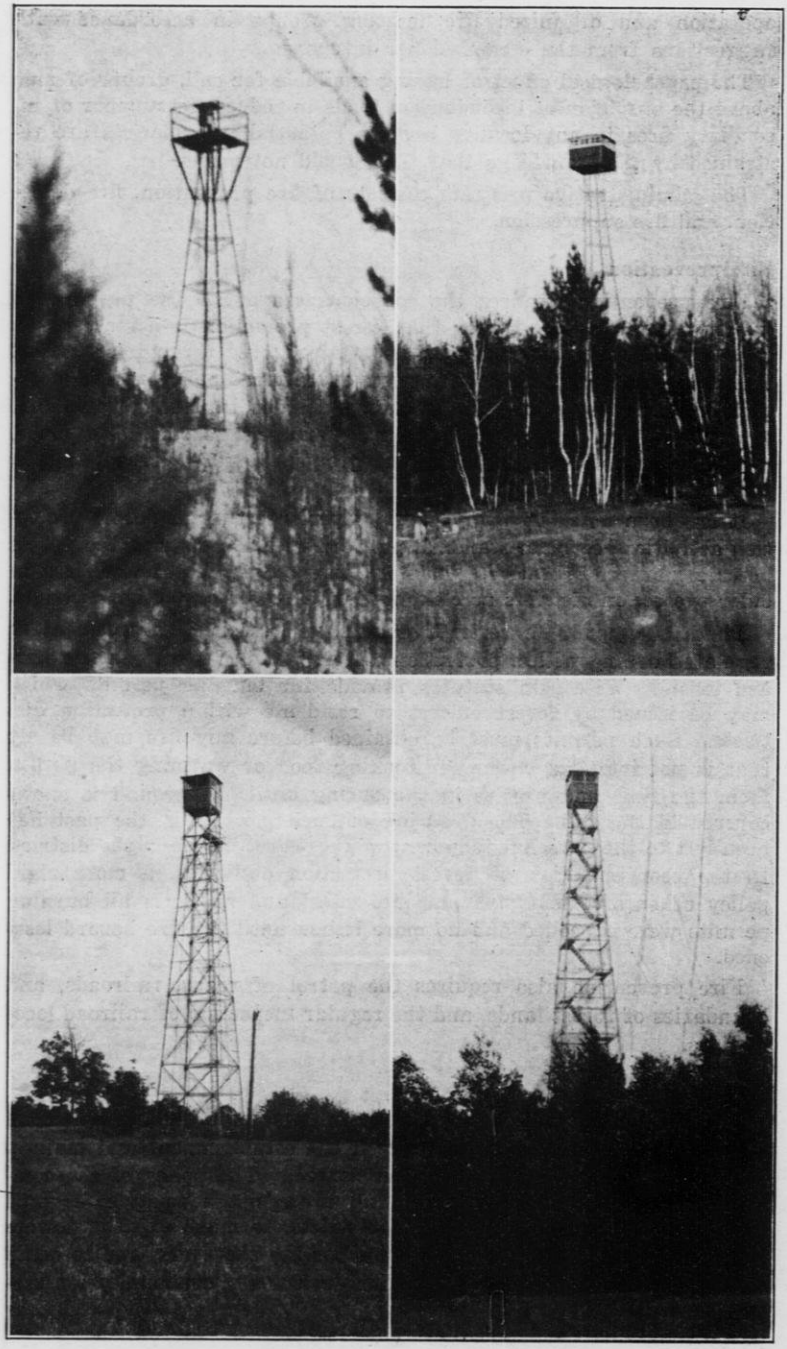
It has been noted by many years' experience that as forest protection activities become a standard practice within a district, the people become more co-operative. This is evidenced by the fewer fires in older protection districts as compared with newer protection districts.

There also must be restrictive laws and efficient enforcement to regulate burning within protection districts at times when a fire hazard exists. Wisconsin statutes provide for burning permits which may be issued by forest officers to residents within protection districts. Such permits must be obtained before any fire may be set that is not intended either for cooking food or warming the person from the time snow melts in the spring until the ground is snow-covered in the fall. The granting of such permits in the past has been left to the personal judgment of the forest officer in the district. In the reorganization of forest protection activities, a more rigid policy of enforcement was put into effect and at times all burning permits were cancelled and no more issued until the fire hazard lessened.

Fire prevention also requires the patrol of roads, railroads, and boundaries of forest lands, and the regular inspection of railroad locomotives.

Fire detection

The keystone of the whole fire detection system is the lookout tower. Adequate fire detection depends upon the establishment and maintenance of an adequate lookout tower system. The policy of the commission is to establish towers in all areas not adequately covered contained within forest protection districts, to make existing towers and new towers safe and comfortable for the observers, and to equip all towers with accurate fire detection devices and communication systems.



Early windmill type tower.
New standard ladder tower.

Old Rest lake tower.
New Rest lake stairway tower.

When the forest protection program was intensified, an engineer was detailed to make a survey of existing towers and to design a new standard tower combining the best features of old state and federal towers with several new advantages. Rapid and intensive work on the part of a special crew resulted in the adoption of a new type tower.

Communication is vitally important in a fire detection program. The policy of the commission immediately following the reorganization of forest protection work, was to perfect a communication net which connected all towers with forest protection district headquarters, and made it possible for district rangers to communicate with area fire warden headquarters at all times and with their own subordinate rangers and emergency fire wardens.

The telephone is the most reliable and convenient means of communication as far as detection work is concerned. Under the new program, in its effort to find the best, an experiment was conducted with the use of short wave radio telegraphy, but it failed to prove the radio more efficient than the telephone. Further experiments will be made with radio telephony.

Another experiment in detection and suppression work involved the use of airplanes. For a month during the fall of 1932, the department engaged the services of an experienced aviator and a six-place cabin type monoplane equipped to land and take off on water. The experiment tended to try the theory of the use of planes in fire detection, and the transportation of crews from headquarters to fires. During the period of the experiment the new method failed to prove its superiority in any instance.

It is imperative in detection and suppression work that crews be equipped to reach a fire as soon as possible after it is reported. Accurate maps are necessary if detection is to be most efficient. A complete revision and standardization of sectional maps in co-operation with the State Highway Commission and the Wisconsin Geological Natural History Survey is now well advanced. In addition, under the new policy, new accurate tower maps were prepared for the 108 lookout towers, and new maps are being prepared for the 11 districts.

A valuable field of co-operation was opened by contact with county highway organizations of all counties in forest protection districts. In several counties all road patrolmen were furnished with fire fighting tools, with instructions to immediately suppress all small fires and to report any fire which they could not control themselves. This policy of co-operation greatly expanded the field force at the disposal of the forest protection organization. In certain instances this field of co-operation was extended to include the use of county highway equipment for fighting fires.

Fire suppression

The objective of the forest protection organization in fire suppression is to confine every fire to the smallest possible area. This is

accomplished by reducing the elapsed time between the time the fire is reported and the time the crew reaches it, and by having the crew stay on the fire until it is absolutely out.

Adequate fire suppression requires the use of all roads, public and private, for the purpose of transportation to all places in forest protection districts where fires are likely to occur. Men drafted to fight fires must be above the suspicion of incendiarism and care and selection of crews is a vital factor in effective fire suppression.

Experience of the past three years has shown the inadequacy of an organization designed to cope with ordinary fire conditions when it is suddenly confronted with extraordinary ones. The policy of the commission is to furnish the fire fighting organization with ample equipment to cope with any fire situation which might arise. When the organization is so equipped to cope with the most serious fire conditions, it can all the more readily handle ordinary fire conditions.

Part I—Section 3

UNEMPLOYMENT RELIEF

Introductory

The general reluctance of legislative bodies in the past, both in Wisconsin and elsewhere, to appropriate moneys for pre-suppression activities has handicapped the work of forest protection organizations and has contributed largely to the severity of fires. In Wisconsin the need for pre-suppression work was illustrated graphically and disastrously by a bad fire in September, 1930, in central Wisconsin, which burned over 120,000 acres in 10 days. This is the largest fire from the standpoint of area covered which has ever burned in Wisconsin. This fire at its greatest extremity, measured 97 miles in circumference.

The principal reason the fire attained such a great size was that there were no through roads in the district. This made it impossible for fire fighting crews to reach the heart of the fire. At times during the fire, when the wind would change even slightly, it was frequently necessary for crews to travel as far as 30 miles to reach the new front. Had there been fire roads upon which suppression equipment could travel, and fire lanes from which backfiring could be done, this fire would not have attained the proportions of a conflagration.

Throughout Wisconsin's forest protection districts similar situations might occur. The scarcity of roads in areas of intense fire hazard intensifies the danger and increases the likelihood of big fires. Any money spent for road building and fire lane building prior to the time of the fire is more than saved by the smaller damage and lower suppression costs of small fires as against big fires.

In special session, the 1931 legislature as part of its general unemployment relief program, assigned a specific task and specific fund to the conservation commission for this purpose. Chapter 29, Section 2, Laws of the Special Session of the 1929 Legislature, reads: "Five hundred thousand dollars is allotted to the conservation commission, for the building of fire lanes and roads and other necessary fire protection work, and this appropriation shall remain available for the purposes for which it is made until used. The projects to be undertaken under authority of this section shall be determined by the conservation commission after consultation with the interim committee on the cut-over land and tax problems of northern Wisconsin created by Joint Resolution No. 28, S., of the regular session of 1931. As far as consistent with efficient and economical administration, all work hereunder shall be so conducted as to afford employment to the

maximum number of unemployed or partially employed citizens of the state."

Policy and program

As expressed in the statute, the purpose of the unemployment relief appropriation was to relieve the distress of the unemployed and to augment the facilities for forest protection. Commissioner Immell in charge of forest protection and the director, on the order of the commission, undertook the administration of this project. Reconnaissances made by the conservation department throughout the forest areas of the state prior to the appropriation, provided information showing the need for and the possibility of the construction of fire lanes, fire roads, and the removal of serious fire hazard. Conferences were held with the special legislative interim committee and with local town and county officials throughout the forest protection districts, to make sure that projects would be effective and would answer both the purposes of the appropriation. It was planned from the beginning to carry on a large number of projects simultaneously throughout the forest protection districts to make the relief feature as widely effective as possible.

The policy the commission laid down in administering the unemployment relief program was to provide employment for as many people as possible. In carrying out projects, crews were rotated every 10 or 12 days, thus spreading employment even further. The rate of pay was arrived at in co-operation with the State Industrial Commission. In choosing projects, every consideration was given to the type of work which would provide the maximum amount of labor so that a minimum amount of money should be spent for tools and the most for wages.

Responsibility

The development of such a system of fire lanes and roads, as made possible by this unemployment relief program, carries with it a serious responsibility. Fire roads and lanes developed under this appropriation must be considered single purpose improvements. They should never be considered parts of any highway system, and should be subject to closing in times of fire hazard. The tremendous increase of usable roads in forest areas increases the opportunities for game law violations which also adds an element of repsonsibility to the program. Also, if the improvements are to be of lasting benefit and not to become menaces in the future, there is an important item of upkeep to be considered.

Part I—Section 4

FORESTRY—STATE FORESTS AND REFORESTATION

State Forests

Introductory

The underlying policy governing the acquisition, development, and management of state forests in Wisconsin was suggested in the introduction of the report of the Interim Committee on Forestry and Public Lands published in Madison in March 1929. "We are convinced that the state may well engage, on a reasonable scale, in developing state owned forests, but we are likewise convinced that the best results can be obtained through private ownership, with state aid and encouragement."

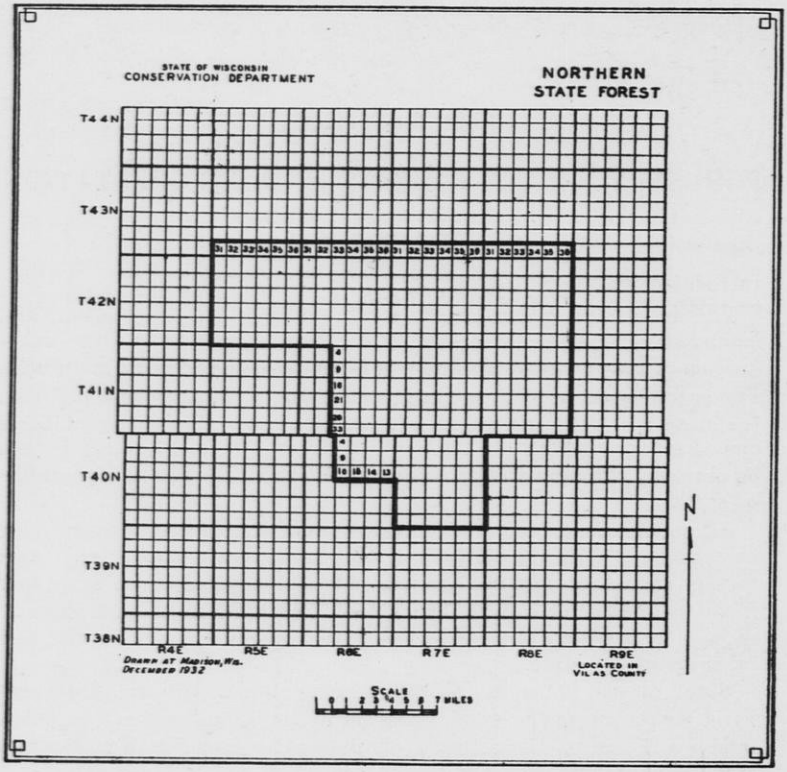
All policies regarding state forest acquisition and management must be considered with regard to their effect on private enterprise. State forests should be proving grounds where the possibilities of proper forest management can be demonstrated to encourage landowners to engage in private forestry to their own advantage and in the best interests of the state.

State owned lands in Wisconsin come under two classifications. First, those under the administration of the commissioners of public lands; and second, those that come under the jurisdiction of the conservation commission. The commissioners of public lands are a constitutional body created to act as trustee for trust fund lands, proceeds from the sale or management of which accrue to various school funds. The conservation commission has under its jurisdiction lands expressly dedicated to park or forest purposes. At the present time the state owns approximately 350,000 acres of land, of which about half is under the jurisdiction of the commissioners of public lands and the remainder under the jurisdiction of the conservation commission.

Just preceding the beginning of the biennium under consideration, the commission directed that a survey be made of the possibilities for the establishment of definite state forests. This survey was to consider particularly the location, suitability, and compactness of the various areas of state owned lands, and of the relationship of possible state forests to the areas which had either been established or had been contemplated for similar purposes by the federal government.

First state forests

A report on this investigation was made in the early part of the present biennium and resulted in the definite establishment by commission action of the first permanent state forests. This first action established four such areas: Northern State Forest in Vilas county,



Brule River State Forest in Douglas county, American Legion State Forest in Oneida county, and Flambeau River State Forest in Sawyer county.

The primary consideration in the establishment of the first state forests was to designate an area about a nucleus of state owned lands. This policy determined the location of the first four areas.

The policy for the establishment of future state forests pays particular attention to their location with regard to principal Wisconsin wood-using industries, particularly the paper and woodpulp industries. A subcommittee of the Governor's Committee on Land Use and Forestry made a thorough investigation of the present and contemplated state forestry activities with reference to the two industries mentioned above. It was the opinion of this committee report that the location of future state forests should be governed by their proximity to and transportation facilities with these primary industrial districts. This view fitted in well with the state forest policy.

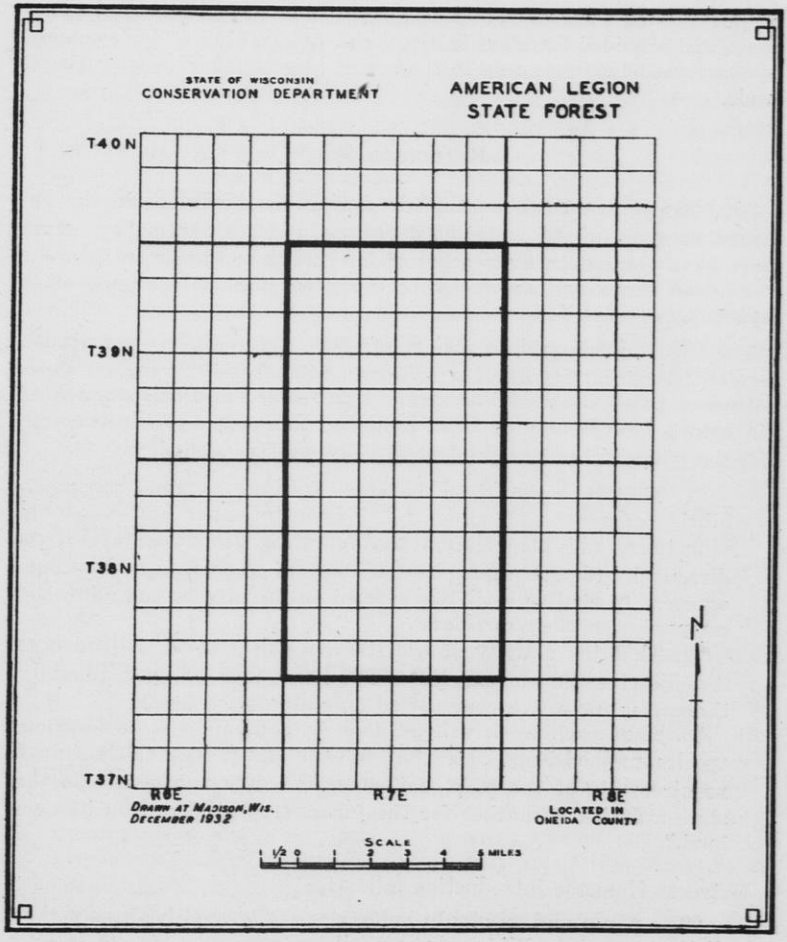
Present plans call for the ultimate state ownership of approximately one million acres in four established and three proposed units.

It is the policy of the conservation commission to develop these state

forest areas by blocking up holdings contiguous to present state owned lands wherever possible. Most of the lands contained within these areas will need planting and intensive forest protection. Only on the Flambeau River State Forest is there any appreciable amount of virgin timber. Contained within several of these areas are state owned lands coming under the jurisdiction of the commissioners of public lands. These lands should be forest managed with the lands under the jurisdiction of the conservation commission.

Co-operation with State Board of Control

During the biennium an important policy of co-operation was put into effect between the conservation commission and the State Board



of Control for the use of prison labor on state forest areas. Most forestry work cannot be done by mass production machine methods. It requires much hand labor. Because of this and a deficiency in appropriations in previous years, many worth while forestry projects have had to be postponed. Under this co-operative arrangement much work can be done at an earlier date than would otherwise be possible. In addition to the benefits to the State of Wisconsin, an opportunity is afforded to provide inmates with outdoor work of a healthful and character-building nature.

In this connection arises the necessity for a division of responsibility. The board of control has complete disciplinary control over all prisoners and the responsibility of guarding them in camps and at work. The conservation department selected the areas in which work was needed most urgently, laid out projects, furnished tools and equipment, and provided foresters to direct the undertaking. This co-operative agreement extends only to the use of convict labor on state forest lands.

Reforestation

Striking progress has been made during the biennium in the enlarged program of reforestation developed under a new policy. More trees were planted on more acres of land in state forests in the year 1932 than there had been during the preceding 20 years of state reforestation activities.

The new reforestation policy of the conservation commission resulted from the report of a subcommittee of the Governor's Committee on Land Use and Forestry. The preface and introduction of the report, issued early in 1932, indicated the nature of the research and the scope of the policy adopted. The preface stated:

> "1. That its report is to be made, keeping in mind the possibilities of wood production for Wisconsin paper and woodpulp industries, and the relation that planting activities carried on directly by the state may have by way of assistance and encouragement to similar activities carried on directly by the pulpwood companies on their own land.
>
> "2. That the activity of the state in this respect will have as its objective the planting of 10,000 acres in 1932, and annually thereafter for a five year period on state owned lands.
>
> "3. That such work will be done in a manner as to location, species, methods, costs, etc. that will contribute most to the future requirements of the pulp and paper industry and secure to the state a desirable market for the forest crop produced on its own land."

Extracts from the introduction follow:

> "The paper and woodpulp industries are located in three rather distinct areas in Wisconsin, as follows.

"1. Menomonie-Peshtigo-Fox river district, hereafter called the Northeastern district.

"2. The Wisconsin river valley district of central and north central Wisconsin, hereafter called the Central district.

"3. The Flambeau-Chippewa river district of northwestern Wisconsin, hereafter called the Northwestern district.

"Tributary to these districts are large areas of potential forest land, suitable for producing a variety of tree species well suited for pulping. The lighter soils are best suited for pine trees. The heavier soils, generally stony, are best suited for spruce and balsam. The attached sketch shows the chief areas of potential forest land in the state. . . . It should be borne in mind that there are many well developed farming communities within the principal potential forest region. There are likewise large areas of fertile lands, as well as lean or stony soils, and these fertile lands have potential farming as well as forestry possibilities, depending on economic conditions. Outside the boundary of these potential forest regions there are large areas in the aggregate of woodland, not only as a part of the going farms of the region, but areas of woodland that are essentially best suited for the growing of trees, and some of these areas, even though they may not be as extensive, are even more available to certain specific woodpulping mills than lands located within the defined primary potential forest regions of the state. These forest areas outside of the defined primary regions are generally immediately surrounded by operating farms and offer ideal possibilities between farmer forestry and industrial forestry in the growing of pulpwood timber.

"In the development of the primary potential forest regions, the less fertile soils will play a very important part in producing the wood requirements of the paper and woodpulping industries in this state in the future. The more fertile lands will also play their part in producing certain tree species that will be constantly needed in the paper and pulp mills, which the lighter soils cannot produce. These areas of good, heavy land offer attractions to these industries at the present time because they can be acquired at comparatively low prices and will be sub-marginal for agricultural purposes for many years to come . . .

"Assuming a general growth figure of three-fourths of a cord per acre per year, it would require a net productive area of approximately 1,580,000 acres in continuous wood production and under intensive forest management to supply the needs of the mills above listed. This net productive area would involve at least a gross area of again as much land if open swamp and other unproductive land is considered. While a large portion of the present pulpwood comes from outside the limits of the state, the development of the forestry program will provide constantly increasing supplies of home grown pulpwood, and the future should witness

a constantly increasing expansion of the woodpulping industry in Wisconsin."

In view of the policy suggested by the above quotation, the special committee considered all the factors necessary to translate the policy into an immediate and successful program. Among these factors were: (1) the locations available for planting; (2) the proper species to plant; (3) the available sources of seedling stock; (4) present and future nursery requirements; (5) spacing; (6) method of planting; (7) equipment; and (8) costs for field planting.

Co-operative reforestation enterprises

Planting on state forests is the principal factor in the state's reforestation program. However, to encourage extensive reforestation, the commission follows a policy under which planting stock is furnished at reasonable cost to landowners in Wisconsin for reforestation work in this state. Landowners who secure stock in this way must sign a statement agreeing that the trees will be planted for the establishment of a forest or the improvement of an existing forest, but not for ornamental or landscape purposes. Farm woodlots and farm windbreaks are considered forest planting in this connection.

Recipients of trees also furnish information as to where the trees are to be planted, and they agree not to dig, cut off, or move the trees until they are large enough to be sold for merchantable timber. They further agree to furnish reports as to the progress of the planting, to the conservation department whenever requested, and to protect the area planted from fire, trespass, and grazing.

Another co-operative phase in the reforestation program includes the furnishing of planting stock for planting on county forests. A considerably increasing number of demonstration forests, school forests, and memorial forests has meant an increasing use of state nursery stock. Trees for such purposes have been furnished without cost to educational groups for demonstration planting under the direction of foresters representing the conservation department.

Part I—Section 5

CO-OPERATIVE FORESTRY

Forest Crop Law

Introductory

Until the forest crop law was enacted, all forest property was taxed on its "wrecking value." It was assessed, not on its productive capacity, but on the value which could be secured by wrecking the forest and selling the products thus secured. As a result the forests of Wisconsin were destroyed. This was not so serious where the land was taken up for farms. But for the most part the plow has failed to follow the axe and now Wisconsin has 10 million acres of cut-over land.

Since this land is yielding no return to the owners, it is dropped through non-payment of taxes. As a result many counties are suffering from a shrinking assessment base and reduced income. Meanwhile, many wood using industries have completed their cut and discontinued milling operations for lack of raw material. It is now clear that taxing forests on their "wrecking value" results not only in the destruction of the forests, but also of the industries and communities dependent on them for raw material.

The forest crop law aims to encourage the growing of timber on Wisconsin's vast area of cut-over land, with the hope that tax delinquency would decrease and raw material for Wisconsin wood using industries would be assured. It is clearly unprofitable to raise timber when the accumulated growth of previous years is taxed year after year. Taxing a stand of timber, which constitutes the accumulated crops of many years, is equivalent to taxing a farm plus all the crops which had been grown for half a century. The forest crop law distinguishes between the land which is capital and the timber which is the crop or income, taxing the land annually and the timber only when it is cut and the income is realized. It is clear that the forest crop law is a tax reform rather than a tax relief measure. It provides no exemptions.

Because the annual land tax is fixed for a fifty year period, it provides an element of certainty in a long time investment. Properly applied over a period of years, this law is of advantage to both the owner and the community. It will stabilize and maintain town income in the forest regions.

The conservation commission is charged with administration of the forest crop law with the co-operation of the State Treasurer and the tax commission. On lands entered under the law the State Treasurer

annually pays to the towns in which the lands lie, the state's share of 10 cents per acre on certification of the town treasurer.

The tax commission determines the sums to be paid to the state when forest crop lands are withdrawn or cancelled. The tax commission also levies and collects all severance taxes on timber raised on forest crop lands.

The conservation department receives applications for the entry of forest crop lands, conducts hearings, recommends to the commission the entry of lands meeting the requirements of the law, examines all lands at least once in five years, and issues all orders of withdrawal. The conservation commission also determines and publishes the stumpage values to apply to forest products cut from forest crop lands.

Because this law departs so widely from former tax procedure, there was no experience to guide the several agencies, but experience has provided an understanding, both of the provisions of the law and procedure for its administration. Needed revisions of the law are indicated later in the report.

Entry of lands

The lands to be entered must be primarily more valuable for forestry than for other purposes, the owner must pledge the practice of forestry and either the existing forest growth or a reforestation plan must give reasonable assurance that a crop of merchantable timber will be produced.

Policy

It is the policy of the conservation commission to enter only such lands on which the soil, topography and forest cover, together with the owner's pledge of practicing forestry, indicate that there will be a return to the state and the owner sufficient to justify such entry.

County Forests

Introductory

A wave of tax delinquency is submerging the northern portions of the Lake States. Railroad logging developed in this region and large scale clear cutting operations left tremendous areas of cut-over and idle land.

When land is held for sale but brings no income with which to meet carrying charges, the owner's investment increases beyond any reasonable sale value and he finally stops paying taxes and drops the land. As tax delinquency grows, it forces further dropping of land both by concentrating the tax burden on fewer owners and by lowering the value of similar land in the vicinity, so that the incentive for carrying lands disappears.

It is now generally acknowledged that this cut-over land will not be taken up for farming. Most of it is unsuited to agriculture. In fact, farming has been tried on much of this cut-over land and has

resulted in failures. Further, much of the land lies within defunct drainage districts. The value on this land is represented by the price for which it can be purchased. One paper company recently bought 15,000 acres within trucking distance of its mills, for 25 cents an acre; and the United States Forest Service buys potential forest land in these cut-over districts at a lower price than it secures land in any other state in the Union. However, the area is so vast that purchase for state forests, federal forests, or private forest enterprises is not solving the problem. Consequently tax certificates are accumulating.

General considerations

Wisconsin is the first of the states where tax delinquent lands revert to the county, which has suffered from heavy tax delinquency involving a large acreage of cut-over land. Consequently there was no experience in other states which would serve as a guide, and Wisconsin has worked out its own solution of the problem. Three legislative sessions have provided the counties with the following powers needed to meet their new responsibilities:

1. "Excess delinquency" as an obstacle to the taking of tax deeds was disposed of by postponing payment to the towns until income was derived from the sale of the land or timber from the land and the county's liability was limited to such income.
2. Counties were authorized to create county forests and enter them under the forest crop law to secure to the town the "state's share," the state to take a 10 per cent severance tax as with all lands entered under the law.
3. During the 1931 session this was amended to provide for payment by the state to the county of an additional 10 cents per acre annually to be expended for the development of county forests, the state to approve the cutting of the timber and to receive 75 per cent as a severance tax.
4. The county zoning law was amended to authorize zoning for agriculture, forestry, and recreation. Zoning of county owned lands does not require approval of the towns in which the lands are situated.
5. Counties were authorized to exchange lands either to block county forests or to expedite zoning.

County boards in the north are now well informed on the need for taking deed promptly. Sound principles underlie the procedure now followed by most of these counties in selling, exchanging and blocking land holdings. Care is exercised in selling land to protect the towns from scattered settlement with resultant excessive costs for roads and schools. Lands not suited for agriculture are not sold to settlers. Timbered lands are not sold without assurance that they will not be stripped of timber and again permitted to become delinquent. One county has made five exchanges to relocate settlers. The larger blocks of tax deed lands are being used for the establishment of county forests and the lands are entered under the forest crop law.

Establishment and administration of county forests

To date but four counties have complied with legal procedure and qualified for the county forestry aid provided during the 1931 legislative session. There was, of course, no provision for the administration of such lands by the counties, though the conservation commission had a responsibility because the funds were paid over to the counties out of the forestry appropriations made to the conservation department.

As in considering lands for entry under the forest crop law, the conservation commission will permit for entry in county forests only such lands on which the soil, topography, and soil cover, together with the owner's pledge of practicing forestry, indicate that there will be a return to the state and the county sufficient to justify such entry.

Part I—Section 6

STATE PARKS

Introductory

Publicly owned and administered park areas serve a definite purpose in the complicated life of modern America. They provide recreation grounds for all of the people and preserve outstanding sites of historic or scenic interest.

Publicly owned parks come in various classifications. There are national parks, state parks, county parks, and city or town parks. Of these systems, city or town parks were the first to be established in America. Next came the establishment of national parks, then state parks, and more recently interest is developing in the establishment and maintenance of systems of county parks.

Wisconsin was the first of the states to express an official interest in the establishment and maintenance of state parks. In 1878, by legislative action, a tract of 50,000 acres in what was then Lincoln county was set aside as "The State Park." This existed without development of any sort until 1897, when again by legislative act the lands contained within "The State Park" were sold to lumber companies.

It was just three years after the failure of the first effort that the modern program got under way. Governor Edward Scofield appointed a committee in 1899 to investigate park possibilities in the St. Croix river region in Polk county, and acquisition of lands in this area began in 1900. The same year a park was established there in co-operation with the State of Minnesota which established a contiguous area on the opposite side of the river. The two areas are known as Interstate Park.

In 1907, sentiment for developing a state park system had crystallized to the point where the legislature of that year created the first State Park Board which employed a nationally known landscape architect to make a survey and draft a report to Governor James O. Davidson.

During the next few years two additional parks were acquired—Devil's Lake State Park in Sauk county, and Peninsula State Park in Door county.

With the growing co-operation between the various state agencies interested in conservation activities, there developed a close co-operation between the State Board of Forestry and the State Park Board. In 1913, by this co-operation, one forester and several rangers were directed by the State Board of Forestry to locate and construct roads and trails within the parks, and to prepare maps of the areas.

Two years later on July 1, 1915, the State Park Board, the State Board of Forestry, the Fisheries Commission, and the State Game Warden Department were consolidated to form the State Conservation Commission, and since that time administration of state park affairs has been under the jurisdiction of this commission.

There are three primary reasons for the establishment and maintenance of state parks. They are: (1) to preserve areas of outstanding scenic beauty of state wide significance; (2) to preserve places of historic interest of state wide significance; (3) to provide recreation grounds. The more of these reasons which can be fulfilled by a certain area, the more worthy is that area of being established a state park.

The third reason has been receiving most attention in recent years. This is partly due to the fact that most outstanding scenic wonders and spots of historic interest are already included within state parks, or for some reason cannot be so included. The tremendous increase in the amount of travel in recent years has been a vital factor in the demand for increased recreational areas for the public. It has also been a considerable influence in the determination of locations suitable for state parks. Obviously, location is not a major factor in the establishment of parks to preserve scenic wonders or places of historic interest. But in providing recreation grounds, location is frequently a determining factor. If the park is to serve the most people, it must be easily accessible to great numbers of people. Consequently, such areas should be located either closely adjacent to centers of population, or along principal travel routes.

Wisconsin today has 14 state parks, of which two are primarily of historic interest, 11 primarily of scenic interest, and one is both scenic and historic.

In recent years recreational possibilities of present and proposed state park areas have been receiving major consideration. This is particularly emphasized in a survey made by the conservation department recently of suggested state park sites. The purpose of the survey was to have a definite guide for consideration of all state park proposals in the future. The conclusion reached as a result of this survey was that future state parks be created on the following classes of land: (1) areas of distinct state wide significance because of their natural features, or because of their unique historical or scientific distinction; (2) areas of large size from five to 50,000 acres which embrace virgin forests and attractive lakes and streams; (3) areas in or near centers of population including the most rugged land and the best water frontage available for intensive development; (4) suitable roadside strips of old growth timber of suitable depth and extent.

The policy for the administration of any parks to be acquired in the future, as well as parks now included within the system, is to preserve the features which make each area distinctive, and to retain as much as possible of the natural and primitive conditions consistent

with making parks accessible and useful in a recreational or educational way.

The recreational features of state lands other than parks, deserve mention. The state forests offer distinct recreational possibilities, particularly Northern State Forest and the Flambeau River State Forest. The recreational opportunities of such areas will be one of the considerations upon which selection of future state forests will be based.

Throughout all state parks it is a policy of the conservation commission to develop educational facilities coupled with wholesome, outdoor recreation. It is the belief of the conservation commission that state parks are primarily to provide outdoor rather than indoor recreation, and that the Coney Island type of development should be minimized and eventually eliminated.

In stating a policy for the administration of state parks, a word of caution is necessary to offset unwise enthusiasm which might result in the establishment of unworthy sites as parks. Of primary importance in the establishment of any state park is that the area under consideration be of state wide significance.

Another factor to be considered is the expense of acquisition and maintenance of state parks. The present state park system is both under and incorrectly financed. Moneys for state parks at present are taken from the conservation fund which means from moneys paid in by hunters and non-resident fishermen. It is an unjust diversion of funds to spend hunting and fishing license money to maintain state parks.

The conservation commission is wholly in accord with the principle of county park systems. There are many places in the state worthy of preservation which are not of sufficient state wide significance to warrant their being made state parks. Such areas should be included in county park systems. Closely related to this method of preservation of worthy sites is the establishment by counties of local camp and picnic grounds along highways, and the beautification of roadsides. Many counties in the state have done outstanding work in this regard. They should be commended and their efforts held up as an example to other counties.

Part I—Section 7

FISHERIES

Introductory

More attention was paid at an earlier date to fisheries work in Wisconsin than to any other phase of the conservation program. As early as 1874, the first fish commission was appointed and a small appropriation made which was expended in the hatching of fish at a private hatchery in the village of Dousman. In the following year, 1875, the first state fish hatchery was built at Madison. It is because of a continually expanding program of fish propagation and planting over a period of more than 50 years that there is still good fishing in Wisconsin even though the numbers of fishermen have increased greatly.

From the beginning there has been a spirit of scientific research in Wisconsin fisheries work. There has always been an unwillingness to accept standard practices as the best merely because they were standard. A constant searching for better methods has resulted in several discoveries of outstanding importance to fish culture work both in Wisconsin and elsewhere.

One weakness in the Wisconsin program which is just as characteristic of the programs throughout the United States, is that practically all effort has been expended on the production of fish and little on the protection of their habitat. This has led to an unbalanced program and in some places the situation has become so acute that although fish propagation agencies can and do produce fish by the hundreds of millions, the streams and lakes into which the fish are put are unsuitable. A well rounded fisheries program today must include protection and development of habitat as well as propagation and distribution.

During the past several years the general policy governing the Wisconsin fisheries program has been expanding to include more and more emphasis on the protection of habitat and even the restoration of natural conditions where necessary and possible. However, this expanded program which crystallized into definite action and several specific accomplishments during the past biennium, has not neglected propagation. It should be considered an expanded policy rather than a changed one.

The current propagation policy has stressed the rearing of all fish, which can be reared, to a larger size before distribution, and it has not cut down the total production of the hatcheries. There were more fish hatched and distributed during the past biennium than there have

ever been in a similar period in the entire history of Wisconsin's fisheries activities.

The trout rearing program was stressed during the biennium. No trout were planted when smaller than fingerling size. Based on previous experience which has proved practicable, work was continued in rearing trout to an adult size before distribution. The extent of this work was limited, however, by lack of finances. Under this policy some fish were planted which were of legal size and large enough to spawn. All such plantings of adult trout were made in the fall after the close of the trout season so that they would have an opportunity to spawn once, at least, before being taken.

An interesting angle of this policy for the rearing of trout to an adult size was the intensive stocking done in many of Wisconsin's larger trout streams. This intensive planting done during each of the years of the biennium is the beginning of an experimental program to determine whether such intensive stocking carried on over a period of years will restore these once famous trout streams.

The commission continued and greatly expanded its co-operative rearing policy with sportsmen's organizations. Under this policy many sportsmen's organizations in the state have built trout rearing ponds at their own expense in accordance with state suggestions. The state furnishes the trout, and the sportsmen's organizations operate the ponds during the rearing season which extends until after the close of the trout season in the fall. The trout are then planted in suitable streams in the locality in which the sportsmen's organizations operate. This policy results not only in the rearing of a larger number of trout than the conservation finances would permit if done entirely by state activity, but also in generating good will and harmonious relations between the conservation commission and Wisconsin sportsmen.

The distribution of fish continued under the policy followed for many years. Railroads operating in Wisconsin co-operate to the fullest extent in this program by hauling fish cars free of charge anywhere within the state. Particular appreciation is due to the Chicago and North Western Railroad which loaned to the conservation department the free use of two baggage cars during the entire fish distribution season. These two cars and the one owned by the department, were in continuous use throughout the fish distribution season.

During the second year of the biennium the conservation department followed a co-operative policy with the United States Bureau of Fisheries in distributing fish rescued from the Missisippi river bottoms. The federal government had money for rescue but none for distribution. The state department had distribution facilities but no money for rescue. Consequently, an effective arrangement was worked out whereby the federally rescued fish were distributed by the state.

The same policy governing the planting of state distributed fish was continued during the biennium. Fish are distributed for planting in response to applications sent in by individual citizens or sportsmen's

groups. These applications are considered with relation to the suitability of the streams or lakes into which it is intended the fish should be planted, and are filled in proportion to the number of fish available. Because of the greater interest in co-operative fish planting, the state was unable to fill all applications during either of the years of the biennium.

More care has been taken in selecting the lakes into which fish are planted this biennium than at any previous time. A recently completed lake and stream survey which is the most accurate compilation of the lakes and streams in Wisconsin is used in considering all fish applications. Fish are not distributed for planting in lakes to which they are not adapted. The result of this more scientific program will undoubtedly be noted within the next few years.

The conservation commission continued its co-operation with the Wisconsin Geological and Natural History Survey in the fish food studies being conducted in certain Wisconsin waters. It is hoped the information received from this study will prove to be of great value in the future.

Under the planting policy of the commission, stocking of fish is supervised by state men as much as possible. Of course, the extent of this supervision is limited by finances, but undoubtedly the more supervision which can be given to planting the more successful the plantings will be.

Probably the greatest fisheries accomplishments during the biennium were the activities under the expanded policy which looks toward the protection of habitat and the restoration of natural conditions. Included in these activities are the studies made in stream and lake pollution, the control of rough fish, the establishment of fish refuges, and the discovery and installation of the first successful fishway for lake species of fish.

The conservation commission is represented on, and makes its facilities available to the State Committee on Water Pollution. All state agencies having an interest in water pollution and its control are represented on this committee. This committee is working co-operatively with the cities or institutions which cause water pollution. These are the municipalities which have no, or unsatisfactory, sewage disposal plants, and certain industries which dump untreated wastes into public waters. The most important of these latter are the paper and pulp industries, cheese factories, canneries, etc. Representatives of most of these agencies are co-operating in the attempt to find methods of solving the stream pollution problem which will not be too burdensome to the municipalities and industries causing it. Considerable success has been attendant upon these studies.

Rough fish control has been continued under the existing policy. The principal species of rough fish with which the commission is concerned are carp in southern Wisconsin waters, sheepshead and lawyers in Lake Winnebago district, and suckers in northern waters. In southern Wisconsin, carp are removed by contracts with fishermen who pay the state a certain percentage of the proceeds of their catch.

The control work is carried on in Winnebago waters and in northern waters under specific allotment from the conservation fund. Control activities have been more succesful and less troublesome during the past biennium than for any period in recent years.

The commission greatly expanded the policy of establishing fish refuges. Fish refuges are of three types, those established in the small feeder creeks tributary to larger trout streams, those established in lakes, and those established in places where fish congregate in large numbers to offer inducement to violation.

One of the outstanding accomplishments of the biennium in fisheries was the establishment of the first fishway which had proved successful in enabling lake species of fish to travel from the lower side of the dam to the flowage above it. Unless it be water pollution, there is no single cause so largely responsible for the decimation of fish supplies as the interruption of stream courses by dams.

Nature tells most fish to travel upstream to spawn. In nature a very small percentage of the eggs deposited by fish ever hatch or produce young fish. When natural conditions are altered as by the construction of a dam which will prohibit fish from reaching natural spawning grounds, the effect of natural reproduction is practically nil.

Fisheries agencies throughout the country have been searching for years for a successful fishway for lake species of fish. Wisconsin has been among the leaders in this kind of work. During the biennium the years of experiment and search were rewarded.

With the co-operation of the Wisconsin Highway Commission, the Public Service Commission, and interested citizens of Vilas county, the conservation commission was able to have a successful fishway installed in the Rest lake dam on the Manitowish river. It was understood that this installation was experimental. It proved so successful that the conservation commission made a survey and recommended that fishways of this type be established in many other dams in the state.

The demand for lake fish, particularly pike, in Wisconsin has reached the point beyond the production capabilities of the existing state hatcheries. Under present circumstances it is impossible for the state to establish any additional hatcheries. Consequently, a co-operative policy has been inaugurated whereby certain towns or counties may establish hatcheries to be operated co-operatively with the conservation commission.

The 1931 legislature charged the conservation commision with the responsibility of making certain investigations in connection with the commercial fishing industry. This is particularly concerned with the use of the submarine net and its effect upon fish populations. The investigation was to concern itself primarily with Door county waters. This investigation has been made.

Part I—Section 8

GAME

Introductory

Despite the fact that Wisconsin hunters have been paying license fees for many years, the state had never carried on any game production activities prior to 1928. In this year the conservation commission, under a new policy, created a division of game to develop a program by which the hunters of the state would be recompensed with more game for the license money they pay.

In many ways the game program began under more auspicious circumstances than has any other conservation program in Wisconsin. This is true because it is an activity which met with public approval because of its evident need and because of the opportunity of securing fundamental data upon which scientific game policies could be based. The old theory that all that was necessary to insure good hunting was to protect existing species, has fallen down. It has been learned that such things as food, cover, and vitality of species cannot be legislated.

The new game policy is comprehensive. It considers not only the production, distribution, and protection of native and exotic species, but also the protection and management of habitat. It covers all phases of a well rounded game program.

Prior to the present biennium a beginning had been made in several phases of the game program. These have been expanded and many new policies have been adopted. Of primary interest among the new policies is the game survey and the hunting and trapping census reports. To obtain an estimate of the game crop, it was necessary to take an inventory by a comprehensive game survey. Under this policy a survey organization has been formed which is composed of 600 competent observers including conservation wardens, forest rangers, individual sportsmen, and sportsmen's organizations. Periodical reports on game conditions are made by these game observers.

Also of primary importance is the policy resulting from the legislative action in 1931, which required each hunter to report on an individual blank his kill for each hunting season. The value of accurate information on the extent of the game crop may be grouped generally under four major heads:

1. It provides the conservation department and commission specific, accurate data on the regulation of game seasons, together with the better regulation of natural propagation and artificial stocking.

2. It provides the conservation department accurate, specific game information with which to advise the legislature.

3. It provides general information on waterfowl for the use of the federal biological survey.

4. It permits the Wisconsin Conservation Department to inform sportsmen and the general public on the value of the annual game crop.

Of similar importance is the information received and tabulated from the reports made by licensed trappers. The significance of such information is indicated in the results of the 1931 tabulation which showed that with the lowest fur prices in a decade, nevertheless the value of fur taken by licensed trappers in Wisconsin exceeded a half million dollars.

In order to establish an efficient game distribution and refuge policy, the game division conducted a survey which resulted in the establishment of four game districts. The classification is based upon native game supplies, conditions of cover and food, agricultural and other development, and possibilities for game management. This survey and the classification will enable efficient application of scientific game theories. Each district is classified according to primary and secondary game crops, both present and potential. It is for the development of these that refuges are being established in these districts.

The commission has adopted a policy to establish a definite refuge program which distinguishes between refuges and sanctuaries. A game refuge or wild life refuge is efficient only when it is stocked with species of game which will fill up a refuge area and overflow the boundaries to adjacent hunting lands. On the other hand, wild life sanctuaries are established for the protection and propagation of certain species of wild animals, birds, trees, shrubs, plants, or flowers. Refuges are primarily for the production, and sanctuaries are primarily for the protection of game contained therein.

The game policy also includes provision for the ultimate acquisition of public hunting grounds. The popular theory that in America hunting and fishing is public and free is based on a fallacy. Inalienable property rights protect all property—public and private. The right of public hunting has never existed except by the implied or granted consent of the owner of the land. This means that although the ownership of all game is vested in the state, the state has no right to enable its citizens to go on private property in pursuit of that game.

The very immensity of the American continent postponed the time when signs—no hunting, no fishing, and no trespassing—threatened to blot out those sports which should be considered the inherent right of every American citizen.

The numbers of hunters and fishermen are increasing every year, and the available hunting and fishing places are decreasing every year. Some solution to this problem must be found. For the sportsman without means the solution is to be found in public hunting grounds. The purchase or lease of public hunting grounds is inevitable under a modern game program unless hunting is to become

a rich man's sport only. Under the Wisconsin game policy a survey has been made, and desirable sites for public hunting grounds have been indicated in the hope that Wisconsin may soon begin an acquisition program of public hunting areas closely adjacent to the center of population.

The Wisconsin licensed shooting preserve law presents another partial solution for this seemingly impossible situation. The primary purposes of the Wisconsin licensed shooting preserve law are to produce more game birds, and to make it possible for landowners to realize a financial return for taking an interest in the production of game birds. Under the policy of administration of the commission this law should accomplish its purpose and at the same time improve hunting conditions throughout the state. The licensed shooting preserve law offers a greater incentive to farmers than to any other class of landowners. The policy of the commission considers them primarily.

Under the program developed on the policy of the production of game birds, the State Conservation Department owns, controls, or operates three state game farms. The primary plant located in Door county in Peninsula State Park, owned by the state, was begun in 1928, and it is here that most of the production is carried on. The primary policy of production is to provide substitute game for sections of the state in which native game has either diminished to the point where hunting for it is impracticable, or where natural environmental conditions have been so altered that native game cannot survive. The primary emphasis in production has been placed on the ring-neck pheasant.

While the major emphasis is being put on ring-neck pheasants, other species are not neglected. There has been continual experimentation carried on with other kinds of pheasants, and other species of birds. Of particular interest in the latter are the experiments with the wild American turkey, a bird once native to Wisconsin.

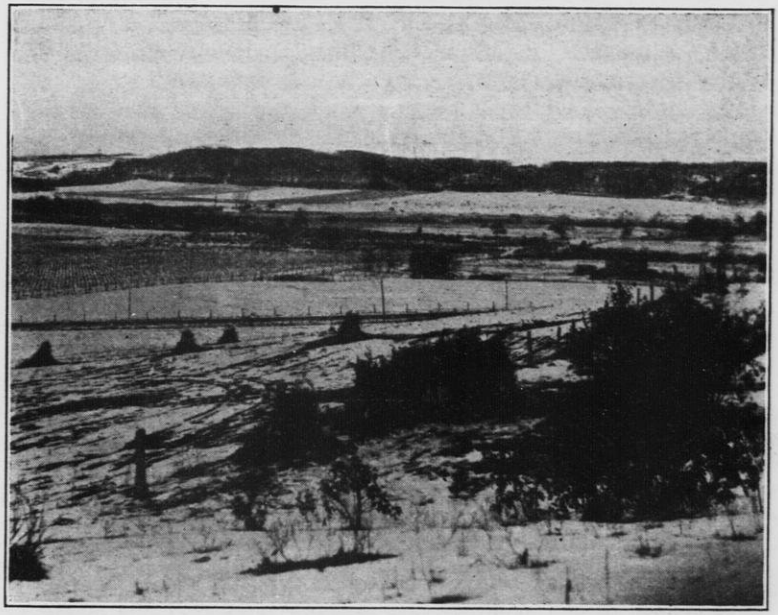
Much of the experimental propagation work has been done at the Moon Lake state game farm located in Fond du Lac county which is held under lease. Here also, experiments have been conducted in the propagation and release of waterfowl. This game farm is also the official waterfowl banding station for the state.

The general propogation policy of the conservation commission also includes an experimental project in co-operation with the State Board of Control, under which a small game farm was established at Waupun State Prison, operated with prison labor, under the direction of game experts furnished by the conservation department. Here emphasis has been placed on the production of ring-neck pheasants.

The general game program offers one of the most fruitful fields for co-operation of sportsmen, and the development of their good will. Sportsmen's organizations throughout the state have co-operated excellently in the hatching, rearing, and stocking of pheasants. Under this policy the eggs are furnished free of charge. The organizations usually distribute the eggs among farmers. After hatching, the pheas-

ants are kept more or less closely confined until they are released in the district in which the sportsman's organization operates. This has a double value from the co-operative standpoint. It not only develops the good will of the sportsmen, but helps to foster better farmer-sportsman relationships resulting from better acquaintance between the two.

Another co-operative activity is represented in the very extensive winter feeding programs of the last three years. Winter feeding of game birds is an essential activity if stocks are to be maintained in sufficient quantity to justify hunting. For the past few years the



Ideal location for winter feeding station. Note adjacent cover.

conservation department has been experimenting to determine the best methods of winter feeding. These have been determined and the department has maintained demonstration stations for the past few years, and has urged the co-operation of sportsmen and farmers in furthering the project. The department has made available to co-operators information as to the best methods of winter feeding, and has supplied a limited amount of money to assist in defraying the expenses of establishment and maintenance of the stations. The policy has proved very successful.

The general game policy has included research. This has concerned life studies of various Wisconsin species, cover restoration experiments, game management experiments, and experiments with the propagation of native species hitherto considered impossible to raise under artificial conditions.

Part I—Section 9

LAW ENFORCEMENT

Introductory

The primary consideration of all conservation laws affecting fish and game has been based upon the doctrine that man has the right to reduce things wild by nature to his possession. In earliest times this right existed without restriction. Modern conservation laws have added modifications and restrictions to it, but the fundamental doctrine still exists.

The old Roman law specified that animals in a wild state belonged to no one in particular, and that he who first reduced them to possession became their absolute owner regardless of whether the wild animals were taken on his own land or that of another.

In modern conservation laws the ownership of things wild by nature has come to rest in the state, and the state has assumed the responsibility of regulating how, when, and by whom such wild animals, birds, and fish may be reduced to possession. In addition, it has become customary for the state to charge a fee of citizens who hunt or fish.

The history of fish and game conservation laws in America reveals little evidence of plan or system. Although regulatory codes of some sort have existed in European countries for many centuries, little organized effort was made to regulate the taking of fish and game in America until the supplies became nearly exhausted. In fact, public consciousness regarding the taking of wild animals, birds, and fish came too late to prevent the total extinction of some species.

One after another each of the states and the several territories have drawn up and adopted codes of game laws since the middle of last century. Unfortunately, these early laws were social and political in nature rather than biological as they should have been. Rather than accomplishing their avowed purpose of protecting and developing wild life resources, they might be said to have set up a system of rules by which the remaining supplies of fish and game were to be distributed among any and all who might pay a fee.

In the past, conservation law enforcement has always been negative in nature. It has concerned the regulation of the individual with little regard for the multiplicity of individuals.

In the past it has been considered that the greatest benefit which could be derived from conservation law enforcement was in the amount of game conserved or saved by the prevention of violation or the punishment of violators. However, there is a greater benefit to be realized from conservation law enforcement than this negative saving or

conserving of relatively small amounts of game from individual violators. The greater benefit is positive, not negative in nature.

Most game and fish conservation agencies are operated upon revenues received from the sale of licenses. Conservation law enforcement protects the legal privilege of the state to collect a fee for the right to reduce game (a public property) to private possession, as much as it protects fish and game. Without conservation law enforcement few funds would be received from the sale of licenses, and bag and season limits would be a farce. Considered from this positive angle, law enforcement assures the means of operating modern game and fish production, distribution, and maintenance activities.

Thus it is seen that if it is to be most successful, law enforcement, inherently negative by nature, must produce positive results. Probably the largest and most important job of conservation officers today is to arouse in local people a sense of local responsibility, and to stimulate in them the desire to co-operate. Conservation law enforcement will be successful in itself, and by being successful will assure the future of the positive programs dependent upon it, in direct proportion to the amount of co-operation received in each locality. The practice of conservation must become popular and spontaneous with local people if law enforcement is to be successful. Legal force alone cannot accomplish the desired end. Morality and right doing cannot be legislated.

Active conservation law enforcement in some measure has been practiced in Wisconsin since April 12, 1887, when the first law creating offices for four game wardens went into effect. Two days later another act provided for the appointment of three citizens of the state as fish wardens, primarily to supervise commercial fishing on the Great Lakes. Four years later the offices of fish wardens and game wardens were abolished and there was created the office of the State Fish and Game Warden, who had the authority to appoint one or more deputies in each county, supported by fees.

This form of administration continued for 24 years with new fish and game wardens appointed biennially. The scope of the department's activities increased with the passing of the years. One interesting addition to the duties of the deputy wardens, and one which was prophetic of the change to come with the years, occurred in 1898 when all deputy fish and game wardens were declared to be deputy forest fire wardens.

In 1915, this department was absorbed into the newly formed State Conservation Commission which also took over the duties of the State Board of Forestry, the State Park Board, and the Fisheries Commission. The first conservation commission was composed of three executive commissioners under whose supervision the various conservation activities were carried on.

In 1915, the title of the conservation law enforcement officer was changed from game warden to conservation warden. With the change in name is a change in meaning, symbolic of the policy of the present

conservation commission, to have each field officer a true and worthy representative of the commission.

The selection of conservation wardens in Wisconsin has been on the basis of competitive examination since 1905. In recent years the examinations have been made much more stringent and comprehensive in order to improve personnel.

Today the law enforcement policy of the conservation commission stresses the prevention of violation rather than the punishment of violators. However, in placing emphasis on the former, the latter is not neglected as the records for the years will show. Such a policy emphasizes the positive rather than the negative angle of law enforcement.

There are two types of violators with whom conservation officers come in contact. These are the casual or accidental violator, and the vicious, intentional, or commercial violator. With the first class it is felt that if violations can be prevented, more good is accomplished for conservation than if such unintentional violators were punished. For the second class, however, there is just one method and that is punishment as swift and severe as possible.

The new policy of the commission in regard to law enforcement and officers does not consider the efficiency of the men merely on the number of arrests they make. Rather, the men are judged on the efficiency with which they handle cases and seizures, on their citizenship and personal appearance, on their co-operation with other divisions, and on their care in making reports and answering inquiries.

The conservation commission realizes that its warden force is inadequate in numbers. A larger force of competent men is needed. With insufficient funds to provide more conservation wardens several methods of increasing the force without additional expense have been considered. Principal among these considerations has been the appointment of unpaid special or voluntary wardens. However, the experience in the past, both in Wisconsin and in other states, has indicated that the evils inherent in a system based upon the granting of authority without responsibility, far outweighed the merits. Once entered into, such a system is most difficult to handle.

During the biennium the commission adopted a policy which resulted in considerably enlarging the warden force without additional funds. This was accomplished by granting conservation warden authority to employes of the conservation department in other divisions. The men so appointed were forest rangers, district forest rangers, and area fire wardens. Under the policy, men receiving the authority are particularly active during times of special need such as the deer season.

Part I—Section 10

PUBLIC RELATIONS

The success of any public movement is directly proportionate to the amount of public interest, favor, and co-operation it can generate. This is particularly true with a great public program like conservation which affects such a large majority of citizens of a state.

Looked at from a long time angle, it has been exceedingly difficult to develop favorable public opinion toward conservation. Before it could be developed, it meant that a public psychology of several generations' standing had to be completely overcome. This was the psychology or frame of mind created by the cumulative effect of three centuries of settlement made easy by free self-appropriation of natural resources. Never in the history of the world had a people settled on a continent so bountifully endowed with all resources necessary for a complete existence, and never before in the history of the world has there been such exploitation and destruction of natural resources as there has been in America.

A few far-sighted pioneers foresaw the inevitable in the middle of the nineteenth century during the very height of the exploitation. These men realized that that which had been considered inexhaustible really could be exhausted. Forests, game, and fish could disappear.

But these few men were not generally heeded. They were hailed as visionary and the exploitation continued to run rampant. It was not until almost irreparable damage had been done in many sections of the United States that a conservation feeling became at all general.

As far as factual knowledge is concerned about the damage of continued destruction of natural resources, there was almost as much available 70 years ago as there is today. The experience in the East and in European countries indicated the folly of continued reaping without sowing.

An excellent example of the occasional warnings against continual destruction of natural resources is revealed by the report of a special committee of the Wisconsin legislature in 1867 which decried the destruction of forests then in almost the same terms used today. But the work of the committee accomplished little and it was not until most of Wisconsin's forests had been destroyed that public consciousness awoke.

A more recent and more striking example of the effect of public opinion may be seen in the antagonism toward a forestry program in Wisconsin within the last two decades and how it led to the cessation of forestry activities by the state in 1915. It is only very recently

that the public opinion which now favors conservation has been developed. Wise conservation measures and efficient administration, both in Wisconsin and in the nation, are now slowing up the destructive program. But a more general favorable public opinion is necessary before we can stem the tide.

Destruction still exceeds production. This situation must be changed. If natural resources are to remain a bounty to man, man must produce and protect more than he destroys.

This favorable public opinion may be expected only when there is a general understanding of conservation problems. Such understanding can come only with education. Until a very few years ago conservation education in Wisconsin was a haphazard venture. To correlate existing conservation educational activities and to inaugurate and administer new ones, the conservation commission in 1928 provided for the present division of public relations.

At the time of its creation, the idea for such a division was new in the Middle West. Although the field for work was unlimited, there was no precedent of method and new paths of endeavor had to be developed. Since the time of the establishment of this division in Wisconsin, more than a dozen similar divisions have been established in conservation departments of other states.

The objectives of the new division were threefold. First, the education of Wisconsin people in conservation matters to generate a sympathetic and co-operative public opinion; second, the dissemination of information regarding Wisconsin's recreational advantages to prospective visitors outside the state; and third, the centralization and correlation of the conservation publications by the state. The educational phase is paramount and its ramifications touch both the other primary purposes.

From the first the educational policy of the commission has been to make available to the largest number of people as much information about conservation problems in as attractive a form as possible. In the establishment of an educational program it was realized that all possible avenues of approach to the public must be utilized. Although the success of the conservation educational program lies principally in the future, it must deal today with those beyond the reach of schools. Consequently, the educational program includes newspaper and magazine publicity; weekly and monthly releases from the department; public talks; still and motion picture photography; publication of books, bulletins, and pamphlets; participation in displays at fairs, outdoor shows, and conventions; and the maintenance of an extensive information service.

The Wisconsin public and the agencies used to reach it have been extremely receptive to the conservation educational program. School systems, newspapers, news services, radio stations—all these and other educational media have co-operated.

A vital phase of the educational policy of the commission is to disseminate as widely as possible full information regarding conserva-

tion laws with the hope of preventing violation of them. This policy was extended to include the publication of names and addresses of violators on the theory that many people who might violate the law if they thought there would be no public knowledge of their actions if apprehended, would be restrained by the fear of unfavorable publicity.

Publication of information about laws breaks down one of the barriers normally existing between the public and enforcement agencies. Far too few people realize the purpose of conservation laws. They think that restrictive measures in game and fish conservation, for instance, are merely to make hunting and fishing more difficult. Publication of the reasons for conservation laws cannot help but bring about a more general understanding with the resultant more general abidance. A case in point is the buck law for deer. More general public acceptance of this law was noted during the 1932 deer season than ever before because more hunters realized the biological necessity for such a law.

In an ever increasing degree the emphasis on the conservation educational program will be centered in school. Care has been exercised and will continue to be exercised, however, not to antagonize educators by the infliction of additional courses into already over-crowded curricula. Rather, the educational policy for schools will be to make conservation educational material interesting enough and attractive enough so that it will be welcomed by teachers and students alike as correlative material to courses already existing in all Wisconsin school systems.

Wisconsin's leading single industry is recreation. It is this recreational industry which finances much of the conservation program. Because of this the conservation commission felt it necessary to have as part of the policy governing the division of public relations, the dissemination outside the state of information about the attractions of Wisconsin.

Photography and photographic exhibits offer one of the best media, both for conservation education and for advertising. The policy of the commission has been to present photographically as many of the conservation activities and scenic attractions in Wisconsin as possible. This policy included not only production by the department itself, but co-operative agreements with other agencies. The Milwaukee Public Museum particularly has been co-operative in this regard.

Probably the most effective method of advertising Wisconsin's recreational resources is through participation in outdoor shows, fairs, and exhibits. An unusual opportunity in this regard will be afforded by the Century of Progress Exposition in Chicago in 1933. The conservation commission holds itself ready to co-operate in advertising Wisconsin's recreational resources at this world's fair.

Part II—Section 1

ADMINISTRATION

Finance

As a co-ordinating agency between all protecting, producing, and educational divisions of the conservation department, the division of administration has finance as its chief concern including collection of funds, budgeting, and accounting. Among its other duties are general office management, compiling and keeping records and reports for all divisions, sale of licenses, conducting special investigations, management of rough fishing contracts, and maintaining legislative contacts.

Aside from special appropriations for forestry activities, all revenues of the conservation department are derived from the sale of licenses or from the state's share from co-operative contracts. The principal source is the sale of licenses. As specified by law, licenses for various activities are sold either by county clerks and regularly authorized agents, or direct from the office of the department at Madison. There are 25 specific licenses which are sold by the conservation department.

The conservation department receives approximately a half million dollars a year from license sales, and exclusive of specific appropriations. This constitutes the conservation fund. All conservation activities except forestry are financed from this fund. The general economic depression of the past few years has multiplied the usual difficulties incident to the sale of licenses, and administration of this source of income has become correspondingly more difficult.

During the biennium the entire task of budgeting all disbursements was given the conservation department by the legislature. Hitherto the legislature had made specific appropriations out of the conservation fund for the various activities of the department. But the legislature of 1931 allotted to the conservation commission all moneys in the conservation fund to be budgeted among the various activities by the commission itself. While this is the correct method, it did add to the work of the division.

During the past year a decided improvement has been made in the accounting system in the forestry division. Prior to July, 1932, an appropriation was made to the conservation department for forestry purposes, but this appropriation was not budgeted to the various forestry activities or districts. Consequently there was no uniform system of accounting in use in the several field headquarters. The result was that some districts would be in a position to over-supply their needs while others might be short on supplies and equipment. Further, the department might be in an embarrassing position at the end

of the fiscal year by having to curtail its activities due to the rapidly shrinking appropriation balance.

Under the new system, expenditures for each forestry district are divided into 18 activities. These are: (1) salaries—permanent; (2) salaries—temporary; (3) travel expense; (4) rent, fuel, light, and water; (5) postage; (6) telephone and telegraph; (7) express and freight; (8) gas and oil; (9) expendable supplies; (10) tools and equipment; (11) maintenance—trucks and trailers; (12) maintenance —motor pumps; (13) maintenance—telephone lines; (14) maintenance—towers; (15) maintenance—buildings; (16) maintenance — roads, trails, etc.; (17) maintenance—other improvements; (18) new construction.

Before the beginning of the fiscal year, each district ranger submits his allotment estimate for the year. This estimate is supported by a memorandum showing in detail the proposed expenditures for each activity including names of men to be employed under permanent salary, number of men and rate of pay of those to be employed under temporary salaries, and a detailed estimate of travel expense.

These allotment estimates are considered by the director, and the revised and approved amounts and schedule are returned to the district forest ranger. Upon receipt of the approved budget the district ranger sets up each activity on a card he has for that purpose containing a space for the original allotment and for any allotment increases or transfers. This also contains a record of each disbursement against each activity, always showing the unexpended balance. A card for each maintenance activity has a column for each truck, tower, telephone line, building, or whatever the maintenance activity may be, showing the detailed cost of maintaining each of these activities.

At no time is a district ranger authorized to increase the allotment for an activity or transfer from one activity to another until he first has the approval of the director. At the end of each quarter each district ranger sends a form provided for that purpose, to the Madison office showing the status of each activity; i. e., the amount of allotment, bills paid, outstanding liabilities, and balances in that particular allotment. These quarterly statements are then checked against the allotment disbursement record in the Madison office.

This new budgetary system has met with marked success. It has been copied for use in other states, and since it has proved so successful in budgeting the forestry activities of the Wisconsin Conservation Department, the same system will be installed in the park, game, and fisheries divisions at the beginning of the next fiscal year.

Special investigation

The 1931 legislature directed the commission to make an investigation on the use of certain nets for commercial fishing in Great Lakes waters, and to report to the 1933 legislature.

At the direction of the commission, the division of administration

conducted this investigation. The following letter indicates the findings:

January 20, 1933

To the Honorable, the Senate:

Pursuant to section 29.33 (13), subsections (a), (b), (c) and (d), report is herewith submitted in compliance with the directions of this section.

As directed by the legislature, the necessary co-operative investigation was made, on the basis of which this commission promulgated regulations prohibiting the use of any submarine or deep water trap nets in Door county waters. This regulation was defeated by fishermen through the reconstruction of their nets. Thereupon the commission promulgated further rules and regulations defining and describing nets, the use of which is legally authorized and licensed by the commission under section 29.33, paragraph (3) of the statutes.

Representatives of the commission have conferred with representatives of the United States Bureau of Fisheries and of the conservation departments of the several states bordering on Lake Michigan and interested in the commercial fishing industry of that lake. Unless immediate drastic remedial steps are taken through the enactment of protective legislation there is great danger of the complete destruction of the whitefish in Wisconsin waters by the use of deep water trap nets, submarine nets, long tunnel pound nets or nets of similar description.

The attorney general has recently called the attention of the commission to the inherent weaknesses in the existing laws of Wisconsin dealing with deep water trap and similar nets.

There is submitted for your consideration a bill covering the recommendations of this commission to remedy the existing unsatisfactory situation.

Very truly yours,

STATE CONSERVATION COMMISSION,
(Signed) HASKELL NOYES, *Chairman.*

The proposed bill prohibits the placing, setting, or operating in Green bay, Lake Michigan, and Lake Superior waters any submarine net, deep water trap net, long tunnel pound nets, or nets of similar design. The bill further provided that the possession of any such nets should be deemed sufficient evidence of the use thereof and that such nets were contraband.

Records and reports

All records and reports of all divisions are maintained by the division of administration. These include budgeting and accounting records of payrolls of all divisions, all forest protection and reforestation reports, state park records, law enforcement reports including arrests and seizures, and game and fisheries production and distribution records. The detail of all records and reports will be found in Part III of this report.

Unemployment relief

The operation of the special unemployment relief program during 1932, added greatly to the work of the division of administration in

which the direction of the whole program was centered. The administration of this program also added greatly to the work of compiling and keeping records as detailed reports were made of each project.

Bounties paid on wild animals

Investigation of all suspicious claims resulted in the reduction of bounty payments approximately $50,000 during the second year of the biennium. During the three years prior to the present biennium approximately $80,000 was paid out in bounties each year. This was reduced to $25,550 in the second year of the biennium.

The new bounty law also contributed to the reduction. Under the new law the payment for mature wolves was reduced from $30 to $20, and the payment for wolf cubs was increased from $4 to $10. This resulted in increased hunting and taking of cub wolves.

Legislation

The division of administration acts as a clearing house for all suggestions for new or revised legislation which come to the conservation department and commission either from within the organization or from the public. All such suggestions are grouped and codified and record is kept for the benefit of the legislators.

Part II—Section 2

FOREST PROTECTION

The calendar year 1931 will probably be regarded as the turning point in Wisconsin's forest protection history. It was during this year that the conservation department had for the first time an adequate appropriation with which to build up and equip a forest protection organization. Two factors contributed most to the development of public opinion resulting in the legislative appropriation.

The area under forest protection in the state had been nearly doubled in the five years preceding 1931. With inadequate personnel and equipment, the new districts could not be efficiently organized. The forest protection organization was caught short-handed with the advent in the fall of 1929 of one of the most severe droughts in the history of the country. The drought continued and increased in severity from the fall of 1929 until 1931. The apparent increase in the number of fires due to better reporting over a considerably expanded area, coupled with the real increase in number and severity caused by the drouth and depression, crystallized public opinion, resulting in a demand for more efficient forest protection.

In the fall of 1931, the forest protection organization was completely reorganized, decentralizing control from the Madison office. The 11 forest protection districts were grouped into four areas, retaining the district offices but subordinating them to an area warden in charge of each area. The building up of the personnel and equipment begun prior to the reorganization was continued with increased vigor.

General situation

The three years' drought reached its peak in 1931. Following the exceedingly high hazard of 1930 came a winter of light snowfall, so the dead vegetation was not matted down. The spring of 1931 was more like a continuation of the preceding fall fire season than like a new season of hazard. Fires were reported as late as November in 1930, and as early as the middle of February in 1931, an unprecedented situation in Wisconsin.

In the spring of 1931 two local residents lost their lives in a fire in an area with which they were thoroughly familiar. All previous fires in Wisconsin which have taken human lives have been fall fires.

The hazard of the prolonged drought reached peaks on April 12 and April 18. High southwest winds and extremely low relative humidity prevailed on both days. On April 12, a dust storm blotted out visibility so that towers became useless. On these two days fires crossed the Wolf and Wisconsin rivers as though no obstacles existed.

In April of 1930 there were 1,122 fires, and 603 in May, as compared with yearly totals of 430 fires in 1928 and 960 fires in 1929. From early June to the middle of September, 1931, the hazard was normal and heavy rains in September and October wiped out the usual fall risk. There was a total of 2,340 fires which burned over 640,979 acres, or 274 acres per fire. The total damage to land and forest growth was $421,500.

In 1932, subnormal precipitation in the winter and spring did much to reduce the benefits of the heavy rains of the preceding fall. The continued economic depression also contributed to the severity of the fire hazard in a marked increase in fires of incendiary origin. The fire season of 1932 began later than in 1931, and no month of 1932 was as severe as April of 1931. Only three fires were reported in March, as compared with 23 in March of 1931. In April there were 804 fires and 455 in May. The fire hazard in 1932 continued throughout the summer and fall, resulting in a total of 3,168 fires for the year. However, this increase in number was both real and apparent, as better detection methods resulted in a larger number of small fires being reported.

The results of the increase in efficiency in the forest protection organization is indicated in the smaller area burned over, smaller acreage per fire, and greatly reduced damage to land and forest growth.

In 1932, 3,168 fires burned over 119,458 acreas, an average of only 38 acres per fire, as compared with 274 acres in 1931. The fires in 1932 burned over but .91 per cent of the area under protection, as compared with 4.89 per cent in 1931. The total damage done to land and forest growth by fires in forest protection districts was $69,320, a great reduction from the $421,500 done the year before. The reduction in damage by fires is a direct result of an increase in cost of protection, which was 3.03 cents per acre in 1932, as compared with 2.09 cents per acre in 1931. The increased cost of protection is considerably less than the saving resulting from the reduced damage.

The benefits of the unemployment relief program administered by the conservation department in 1932 are also reflected in the reduced fire damage. The network of fire lanes and fire roads developing in 1932 proved their worth, as did the materially augmented personnel and equipment.

Revision of districts

Several minor revisions of districts were made during the biennium and official legal publication was made for all districts. No changes were made in District 1, but the south boundary of District 2 was changed to eliminate some agricultural lands. In District 6 the south boundary was revised to eliminate four and one-half townships of agricultural land in Taylor county. In District 7 two and one-half townships of agricultural land in Chippewa county were removed, and three townships of agricultural land in Lincoln county

were removed from District 8. In District 9 one township in northern Waupaca county was added and in District 10 one township in Eau Claire county and one in Clark county were added.

Two townships were added on the southern end of District 11, three-fourths of a township in Sauk county and one and one-fourth townships in Columbia county. On the eastern side of District 11 two and one-half townships in Portage county were added.

Payment of fire fighters

Delay in the payment of fire fighters was one of the greatest weaknesses of the organization in the fall of 1930. It resulted from the fact that the rangers were overburdened because of the extremely bad fire season and had to neglect pay rolls to fight fires. This problem was met in 1931 by employing a dispatcher in each district office. While his primary duties were to handle the fire reports coming from the towers and dispatch crews to each fire, he was also available for such work as making out pay rolls and vouchers in proper form. Other state agencies having to do with the issuance of checks co-operated in speeding payment of fire fighters. As a result, fire fighting payment was prompt, despite the serious spring fire season.

It was charged that persons were setting fires to secure employment. Actually loafiing on the job to prolong employment was the greater evil. In any event, it was realized that payment above the going wages in any community was not a wholesome situation. As a result, the rate of pay for fire fighters was set at 25 cents per hour. This is not to be interpreted as wage cutting, since fire fighting can not be considered as a means of earning a living. Such payment must be regarded as compensation for effort in protecting the resources of the community.

Field personnel

The field personnel was numerically inadequate to the task in years of high hazard, and training had been extremely limited. As much instruction as possible was crowded into a two day meeting of the district rangers which was held at Merrill on March 27 and 28, 1931.

As soon as increased funds for forest protection were assured, arrangements were made for conducting an examination for forest rangers. It was agreed that outstanding men from the eligible list could be used to fill vacancies in the position of district ranger. Two existing vacancies were filled and two of the former district rangers were replaced by men secured through this examination.

Preceding the fall fire season, temporary forest ranger appointments were made from the eligible list. Some of these men are now serving as acting district rangers, replacing those designated as area wardens. A number of them received permanent appointments before spring, working toward the personnel plan as given in the budget. To a considerable extent dispatchers and towermen were selected from the forest ranger eligible list.

A request was made to the State Chief Engineer to assign a competent structural engineer to inspect lookout towers. This inspection revealed that much improvement and replacement work would have to be done under technical supervision, and the engineer was transferred to the forest protection division.

Early in September the area system was introduced, and the state forester, the chief fire warden, and two district rangers were designated temporary area wardens. At the close of the season, four of the outstanding district rangers were appointed as area wardens.

During the fall fire season two locomotive engineers were given temporary appointments as locomotive inspectors to guard against the setting of fires by defective equipment.

Several of the temporary appointments of 1931 were made permanent in 1932 and several new rangers were added. At the close of the biennium in addition to the area wardens and 11 district rangers, there were 52 rangers and 11 dispatchers employed on a ten months' basis.

Equipment

Shortage of funds restricted the purchase of equipment prior to July 1, 1931. The chief purchase was 17,600 feet of one and one-half inch rubber lined hose, and several lengths of suction hose. This purchase was imperative to assure service from the meager pumping equipment then on hand. When the new appropriation became available, 22 new pumps were purchased. This order provided one type N and one type U pumper for each district, except in Districts 10 and 11, which received two type U pumps, since greater accessibility and the presence of more peat made models of less portability but greater capacity more desirable.

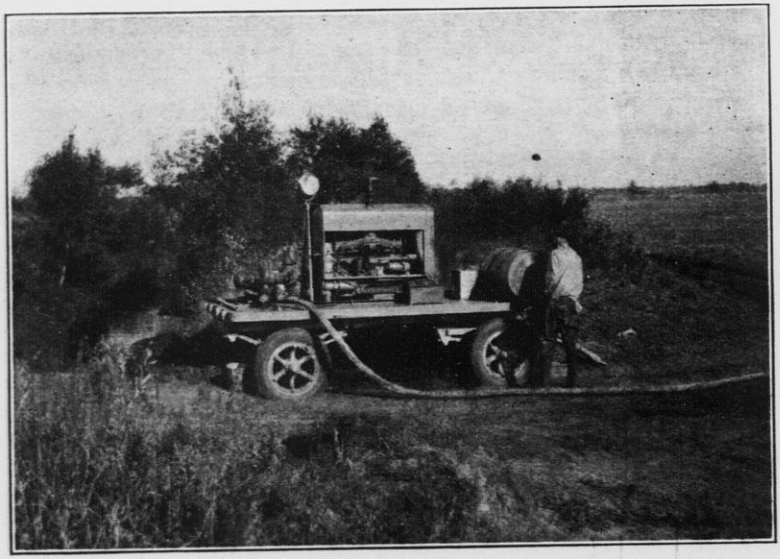
The type U pumper with its 88 gallon per minute capacity at 140 pounds pressure and the greater reliability and longer life inherent in a four-cycle motor, proved very effective.

One unit Siamese valve and two nozzles for each type N, and two Siamese valves and four nozzles for each type U pumper were provided for use with these portable pumps. The hose totaled 35,800 feet, or practically seven miles, and like the former order was of underwriter's standard fire grade and equipped with forest service or rocker lug couplings. The combination spanners, two for each pump, fit both this improved coupling and the pin lug coupling on the hose bought in previous years.

Difficulty in actually putting out peat fires and the excessive suppression costs made it clear that a volume of water was required far in excess of the capacity of portable pumps. Specifications for a unit to furnish this volume of water had been prepared with the cooperation of the agricultural engineering department of the University of Wisconsin the previous winter. The unit was assembled under its supervision, using a six cylinder Waukesha motor directly connected to a 400 gallon per minute two-stage centrifugal pump and

mounted on a four wheel highway trailer. It was equipped with generator, battery, and a large spotlight, making it possible to string out or re-lay hose at night. This makes it possible to profit by the cumulative effect of continuous pumping. The unit soon proved its value. On one large peat fire in District 11 the unit was in almost continuous operation for five days and three nights.

The pump has two outlets. It is provided with 1,500 feet of two and one-half inch hose with standard fire hose coupling, two nozzles with one and one-eighth inch orifice, and a reducing Siamese coupling. This latter fitting makes it possible to make two leads of the one and one-half inch hose from the end of the two and one-half inch hose,



New peat fire fighting unit developed in 1932.

and of course, the smaller Siamese couplings can be used on these. The pump will supply four or more of the smaller nozzles a mile distant.

Shortly after July 1, bids were taken for 11 half ton trucks each with special box body, and three one and one-half ton trucks each with stake body and six foot wide platforms since the standard seven foot platforms had proved to be too wide for use on narrow woods roads. Each district received one of the half ton trucks, and a one and one-half ton truck went to each of the three districts which were below the standard of the other districts.

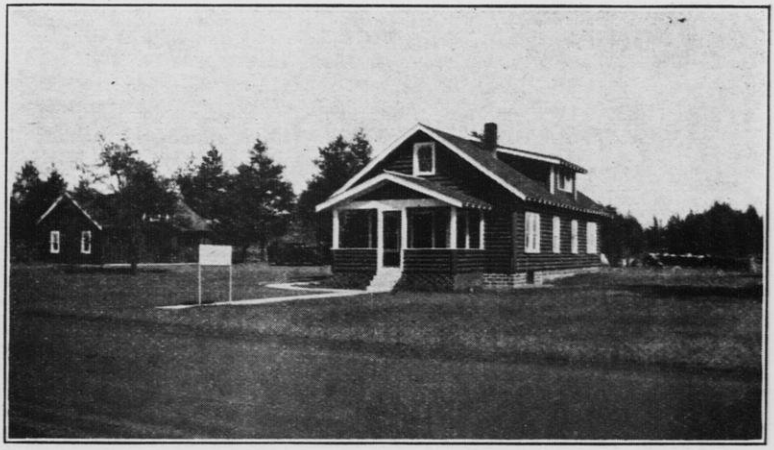
In the fall of 1931, and during 1932, considerable major equipment was purchased. This included 11 crawler type tractors, 22 half ton trucks, 24 one and one-half ton trucks, 11 plows, 12 additional Pacific Marine pumpers type N, and 15,400 feet of hose. Supplies of fire

fighting tools and minor equipment were considerably augmented during the biennium.

Complete details on forest protection equipment and tools will be found in Part III of this report.

The tower program

The forest protection organization made great progress in the tower program during 1932. Following the complete inspection in the fall of 1931, work began early in the spring on building new towers and rebuilding and strengthening towers, both on old and new locations. In all there were 15 new towers of the specially designed Wisconsin type erected on old locations replacing abandoned towers of unsatis-



New district ranger headquarters at Hayward.

factory type, 14 new towers built on new locations, three rebuilt towers erected on old locations, and 10 rebuilt towers erected on new locations. All other towers were strengthened according to need. At the end of 1932, the forest protection organization had 108 towers, an increase of 19 over the preceding biennium.

New maps

A map division was established within the conservation department to co-ordinate all map making activities, and to develop standard maps of all districts. New tower maps for each location were also prepared.

Buildings

Two new district headquarters were begun in 1932, at Black River Falls in District 10, and at Wausaukee in District 5. One new ranger station, five garages, and 10 tower cabins were built during the year.

Telephone system

There were 339 miles of state owned telephone line constructed during the biennium, bringing the total to 935.4 miles. In addition to this state owned line, 40 miles of state telephone wire was strung on other poles, bringing this type of telephone connections to 205.8 miles. At the close of 1932 the forest protection organization had available 1,141.2 miles of telephone line.

Weather records

Weather recording stations were set up at each district headquarters in co-operation with the United States Weather Bureau, which furnished a daily fire weather report which is compiled in part from information provided by the organization. Information resulting from weather records compiled at the various district headquarters will prove of increasing value.

Part II—Section 3

UNEMPLOYMENT RELIEF

Introductory

Of the $8,000,000 state unemployment relief program in 1932, $500,000 was allotted to the conservation commission to relieve the distress of the unemployed and to augment the facilities for forest protection. This money was expended by the State Conservation Department under a policy approved by the commission.

The appropriation was made by the special session of the legislature in February. Work was begun under the program the middle of the same month within three days of the time the first part of the money was made available. This program continued until the end of the year, at which time $464,221.08 had been expended, of which $396,691.98, or 85.45 per cent, was spent for wages. These wages were received by 12,790 workers who had 40,209 dependents.

These figures indicate that the primary purpose of the legislation to relieve the distress of the unemployed was followed. To make this relief feature as widely effective as possible, the policy was to choose the types of work which would provide a maximum amount of labor. No expensive equipment was purchased. All of the money which did not go for wages was spent for the purchase of hand tools and materials.

The conservation department had information at hand as to what kind of work should be done and the districts most in need of it, both from the standpoint of unemployment relief and of forest protection. It was this knowledge which made possible the early beginning of the program.

Fortunately, the greatest need in augmenting the facilities for forest protection, of making forest areas accessible to fire fighting personnel and equipment, could be answered by the type of work which would require the maximum amount of hand labor. This helped decide the type of projects upon which the money would be expended. In developing the policy, which the commission approved, the conservation department set up the type of projects which were provided for by the law. These included the construction of fire roads, the construction of fire lanes, the employment of labor necessary to construct telephone lines, ranger headquarters, substations, lookout towers and warehouses, and the employment of labor for the construction of small necessary connecting road lengths between existing roads and the new network.

Wisconsin's forest protection system is divided into 11 forest protection districts, each of which contains from 800,000 acres to 1,500,000 acres. In all there are 13,600,000 acres contained within the forest

protection districts. Each district is under the supervision of a district forest ranger. The 11 districts are grouped into four conservation areas, each headed by an area warden. It was this field organization under the direction of the department office at Madison which administered the unemployment relief program.

In the selection of projects, the conservation department was guided by the recommendations of the field men and by conferences with local officials and a legislative committee to determine the relative need of the communities for relief as well as the relative need of the forest areas for augmented protection facilities.

Throughout most of the area included within forest protection districts in Wisconsin are networks of old roads, left overs from earlier logging days. These consist of logging railroads, tote roads, and old

Bridge and fire road constructed during the unemployment relief program 1932.

sleigh haul routes. These old systems of roads were utilized to as great an extent as possible in building up the new system of forest protection roads and lanes. In many instances all that was necessary to make serviceable fire lanes and roads was to brush out old rights of way, do a little grading, remove ties, or put new planking on old bridges.

From the beginning it was not intended to have the fire roads constructed under this program become parts of any road systems. They have been considered as single purpose improvements only and are not for public use. Consequently, both the fire roads and fire lanes constructed under this program are closed to the public at times of fire hazard. Gates or chains have been put across entrances to such new fire roads or fire lanes. Short connecting road lengths, where it was advisable to utilize existing town roads, are not closed to the public. When the new fire roads have been built upon existing roads

which had been used by farmers or settlers to get to their homes, these farmers or settlers have been granted access to the roads.

Unlike unemployment relief programs in some other states, the primary purpose of the Wisconsin program was to provide local relief. Consequently, in the employment of labor preference was given to the local family wage earners and no one was employed who had not been a resident of the state for at least six months. Both the length of employment and the number of persons employed from one family was limited, and crews were rotated at 10 day intervals to obtain the widest possible distribution of relief. The co-operation of local town and county officials was of value to the department in determining the relative need of the various unemployed people.

Because preference was given to local labor, it was unnecessary, except in a very few cases, to establish camps. This also tended to make higher the percentage of the appropriation available for labor.

In establishing the wage scale several factors had to be considered. It was desirable to spread employment as far as possible and not to pay high enough wages so that it would be to the advantage of any individual to quit another job to partake in the relief program. At first a wage scale of 25 cents per hour for common labor, and 40 cents per hour for foremen was established. The eight hour, five day week was also adopted. After several weeks' experience, and after conference with the State Industrial Commission, the wage scale for common labor was increased from 25 cents to 30 cents per hour, but the original policy was adhered to in other respects.

It was the thought of the conservation department that to make the relief feature of the program as widely and immediately felt as possible, a large number of projects in a large number of counties should be set up and worked upon as quickly as possible. In all there were 416 projects set up in 30 counties.

The final report of the conservation department to the Governor and the legislature on this unemployment relief program reveals some interesting figures. Of the total amount paid for labor, $396,691.98, or 85.45 per cent of the total money expended, $348,181.06 represents wages paid to foremen, operators of trucks and equipment, and laborers. Teamsters received in wages $41,062.25, and the amount spent in camp, board, and keep was only $7,448.67. One reason the camp expenditures were not greater was the co-operation received from the Wisconsin National Guard, which loaned to the conservation department for this program, camping equipment as well as some trucks to provide transportation.

By far most of the men employed were taken from the immediate locality of the projects. Final tabulation indicates that 63.59 per cent of the total number of persons employed resided in the town in which the project was located; 19.30 per cent from nearby towns; 13.90 per cent from nearby cities located within the same county; and only 3.21 per cent of the total amount of labor was employed from counties outside those in which the projects were located.

From the beginning it was planned to give preference to local family wage earners temporarily unemployed or partially employed. It was further planned to rotate crews to spread the relief feature as widely as possible. It was suggested that labor from large cities in non-forested sections of the state be imported to participate in the program. However, the low wage scale and the short time of employment made this inadvisable and consequently it was not done.

The average period of employment was 12.9 days for the 12,790 men employed, and the average amount received per man was $31.02.

The section of the final report of the unemployment relief program lists under the heading of work accomplished, 1,020 miles of new fire roads and 342.2 miles of fire lanes. In addition to the strictly defined fire roads and fire lanes there was much fire hazard elimination work done. This included 103.5 miles of snag cutting; 81.5 miles of road slash burning; 190 miles of telephone line brushing; and 30 acres of slash on state park eliminated. In the construction work the labor was furnished for the building of 21 new lookout towers; 12 lookout tower replacements; and several tower relocations and tower repairs. The labor necessary for the construction of several forest protection substations, garages, and warehouses was also paid for from the unemployment relief program money.

Detailed statistical information of the entire unemployment relief program will be found in Part III of this report.

A consideration of the work done under this Wisconsin unemployment relief program in forest areas might bring to mind the old adage "It is an ill wind that blows no one good." Undoubtedly the widespread economic depression has brought about unemployment relief programs which have been of great benefit to forest protection. These will probably continue and may even be expanded greatly in scope, both by national and state efforts.

In the Wisconsin program it was attempted to emphasize the relief feature as much as possible, and at the same time do constructive work in augmenting facilities for forest protection. This has been accomplished to the limit of funds made available.

However, those in charge of the program in Wisconsin are not unmindful of the responsibility such a program involves both in its administration at present and in the conditions it creates. A system of fire roads and fire lanes, if they are to be of positive benefit, must be maintained in years to come. This will necessitate additional funds. Also, if this system is to be beneficial and not harmful, it must be realized that the fire lanes and fire roads so constructed are for the use of fire fighting men and equipment only. If the public were allowed to use these roads, the fire hazard would be increased rather than diminished.

There is another aspect which must be considered. Most of these fire roads and fire lanes have been built in areas hitherto inaccessible by automobile. Most of them are in excellent game territory. The

very existence of such a system of fire roads and fire lanes may prove a serious temptation to game law violation.

If additional unemployment relief projects are necessary, the conservation department holds itself in a position to carry on with the same kind of work done in 1932. If so directed by the legislature, the department now has plans for projects which would give unemployment relief to the extent of approximately $600,000. These projects could be carried out without adding to the permanent personnel or equipment of the department.

Moreover, if the legislature deems additional unemployment relief necessary, the department has at hand necessary information to undertake projects to the extent of one million dollars a year for the next two years. All projects in these plans would be grouped generally under the heading of pre-suppression work. If the unemployment relief movement is to be still further expanded, the department is in a position to use another one and one-half million dollars for specific forest improvement work on state owned forest lands and other publicly owned forest lands in which the state has a financial interest.

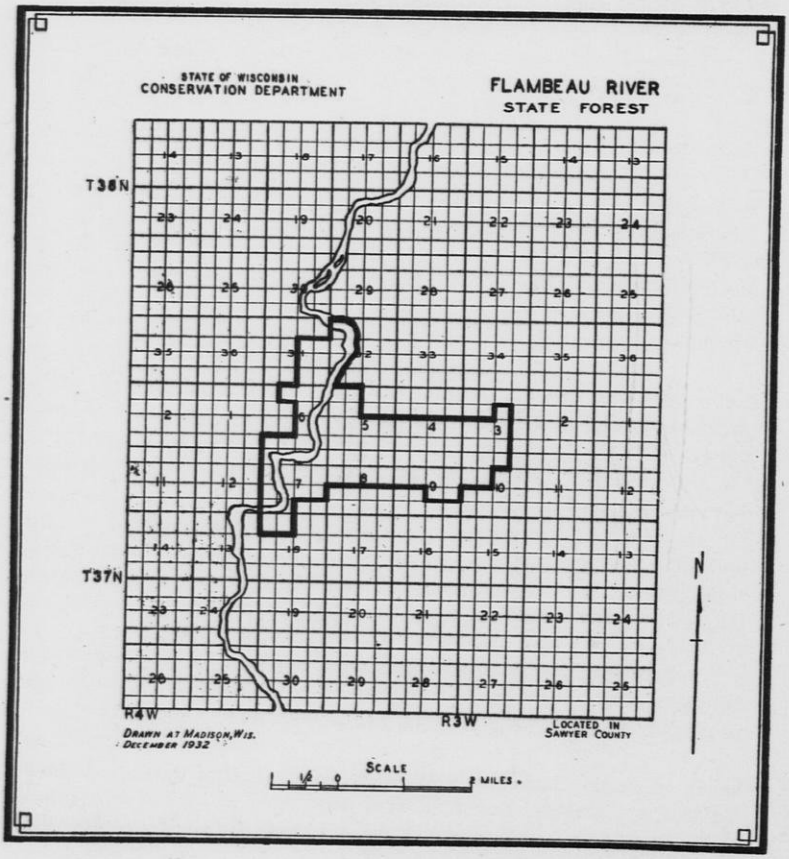
Part II—Section 4

FORESTRY—STATE FORESTS AND REFORESTATION

State Forests

Although the principal activities of the state forest program during the biennium have been toward the blocking and improvement of forest lands already owned by the state, there have been two notable advances made in land acquisitions.

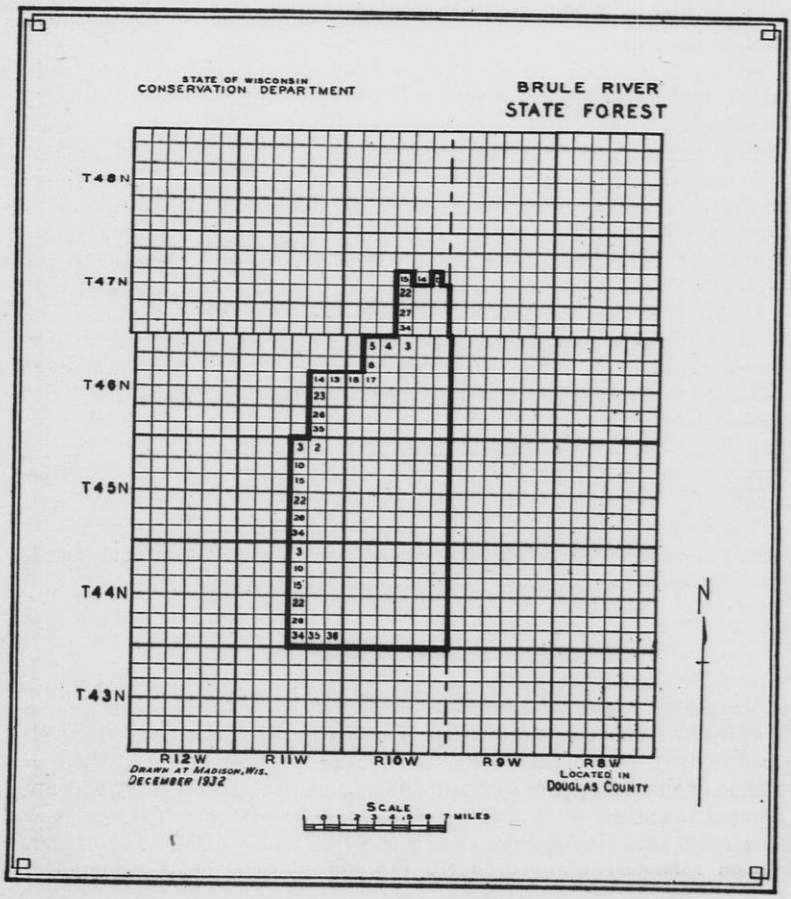
The first of these was the purchase of 833 acres in the Flambeau River State Forest, most of which contained virgin timber. This pur-



chase was arranged with the lumber company owners so that the state could acquire at minimum expense the maximum amount of river frontage. The Flambeau River State Forest will probably be more of a recreational area than most state forests because of its natural advantages. For this reason river frontage is particularly valuable.

The land acquired along the river made accessible to the public larger areas of state owned land under the jurisdiction of the Commissioners of Public Lands back from the river. It is around the nucleus purchased by the conservation department during the biennium that the Flambeau River State Forest will be developed. This was the first purchase of lands for forestry purposes since the days of the old State Board of Forestry which existed prior to 1915.

The other notable advance was in the crystallization of the policy of exchanging scattered state forest lands outside of the boundaries



of state forests for privately owned lands within such boundaries. By such exchanges the state acquired 1,700 acres of land within state forest boundaries in 1932. These exchanges resulted in reducing interior boundaries by a total of 12 miles, thereby reducing future survey and administration costs. Both these exchanges resulted in the acquisition of lands in Northern State Forest. At the close of the biennium negotiations were under way for four other such exchanges.

Except for planting, the improvement of roads has been the principal activity in state forest work during the biennium. In Northern State Forest, particularly, the primary road system containing 66 miles received major attention. In addition to surfacing with gravel each year, the roads in the primary system were given a coating of oil.

It is intended that eventually these roads will be given a turnover bituminous surface well adapted to the traffic demand. The secondary road system of Northern State Forest consisting of 47 miles, was also improved. The roads in American Legion State Forest were oiled during each season and there was some new construction done on both these areas.

In the Brule area, improvements were made in co-operation with the State Highway Commission, and with the county highway departments concerned. Such improvements were paid for from gas tax funds.

A number of new camp grounds have been made in state forests, and existing ones have been improved by the construction of suitable comfort stations, the sinking of new wells, the furnishing of tables, fireplaces, and refuse burners. Policing has been continued on all such camp grounds.

Under a co-operative agreement with the State Board of Control there were three state forest camps established in which prison labor was to be used for forest improvement work. These were located at Athelstane in Marinette county, Gordon in Douglas county, and Lake Tomahawk in Oneida county. In each of these camps the conservation department furnished a forester to lay out and supervise the forestry projects. Conservation department equipment was also furnished.

The activities in each of these camps consisted principally of planting, fire lane construction, fire road construction, slash and brush burning, surveying, refuge posting, and ribes eradication.

Reforestation

By far the most noteworthy progress in state forest work during the biennium has been the enlarged program of forest planting initiated in 1931, and carried out in 1932. Late in 1931 a special subcommittee of the Governor's Committee on Land Use and Forestry was appointed to make a study of the needs for reforestation. The report of this committee was presented in the early part of 1932. The conservation commission approved the recommendations of the committee

that the state should commence at once a forest planting program of from 8,000 to 10,000 acres per year and to carry the program forward for at least five years. The work of land examination and the assembling of necessary equipment was undertaken immediately and field planting crews started work as soon as the frost was out of the ground in the spring.

The tremendous expansion of the planting activities made imperative the purchase of planting stock from private nurseries, principally from those located in Wisconsin. State forest planting activities in the past had been on a scale so much smaller than that begun in 1932, that the state nursery could not supply nearly enough stock. In

Furrow planting on Northern State Forest.

addition to the stock supplied by the Trout lake nursery, and that purchased from private sources, a considerable amount was secured from the federal government.

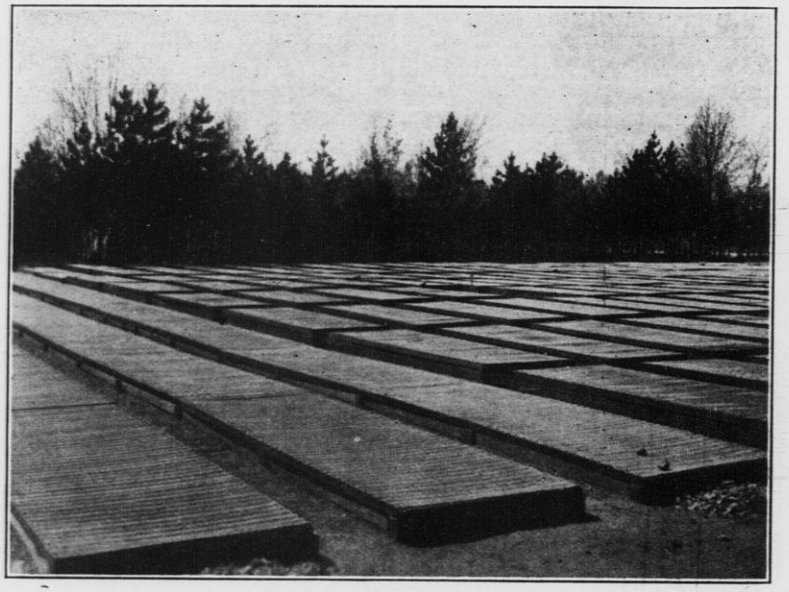
The policy adopted by the conservation commission, based on the recommendations of the special subcommittee, explained in Part I, Section 4, was adhered to strictly by the department in carrying out the planting program in 1932. Surveys were made during the year to determine the locations best adapted for expansion of the planting program in future years, bearing in mind the necessity for establishing planting areas readily accessible to the locations of the principal woodworking and wood using industries.

Much of the land now owned by the state which can be furrowed has been planted, and it is becoming increasingly more difficult to find suitable planting locations within existing state forests. When

the furrow method of planting was impracticable, the spot planting method was followed.

In all, during 1932, there were planted 10,064 acres of which 5,607 acres were planted in the spring, and 4,457 acres were planted in the fall. Of the 10,064 acres planted which required 9,722,197 trees, 60 per cent were planted to Norway pine, 10½ per cent to white pine; one and one-half per cent to Scotch pine; 12 per cent to jack pine; 13 per cent to Norway spruce; and three per cent to white spruce.

The species planted in 1932 were regulated to a considerable extent by the stock available. In the future it is planned to plant a greater percentage to spruce in line with the policy to encourage the planting of species in demand by pulp and paper industries.



First year seed beds at Trout Lake State Nursery.

The detail records including planting locations, species planted, and men employed will be found in Part III of this report.

Co-operative reforestation enterprises

Planting on state forests is the principal factor in the state's reforestation program. However, to encourage extensive reforestation, the commission continued a policy under which planting stock was furnished at reasonable price to private landowners for reforestation work in the state. The department co-operated with the extension division of the College of Agriculture of the University of Wisconsin in promulgating this program. During the first year of the biennium there were 886,650 trees furnished to landowners in 61 counties. Dur-

ing the second year this number was decreased when 311,275 trees were furnished to landowners in 45 counties.

A new policy of co-operation was entered into during the biennium. Several of the northern counties are establishing county forests. During 1932, extensive planting was carried on in county forests in two counties, Bayfield and Oneida. The conservation department supplied more than a million trees for planting in these two counties.

State forest nursery

The greatly enlarged reforestation program necessitated a five-fold increase in nursery operations. The Trout lake nursery was expanded to the utmost and the entire seeding for the spring of 1932 was done here. Necessary equipment was built and the seeding at Trout lake was completed before June 1. From this seeding it is anticipated that in the fall of 1933 there will be from 10,000,000 to 12,000,000 pine and spruce seedlings from the Trout lake nursery. These will be used for the planting period of the fall of 1933 and spring of 1934.

The enlarged reforestation program made more imperative than ever before the need of a new nursery in the central part of the state. Coupled with the enlarged need for planting stock for state lands is the old need of supplying trees approximately two weeks earlier for planting in the southern and central parts of the state than is possible from the Trout lake nursery.

A survey to determine suitable sites was carried out resulting in the selection of an area approximately three miles south of Wisconsin Rapids in Wood county for the new state forest nursery. An area of 20 acres, well located with respect to transportation, light, power, water, and labor, was donated to the state for nursery purposes by the Nekoosa-Edwards Paper Company. This new site was developed during the fall of 1932, and the production of forest planting stock will henceforth be divided between this new nursery near Wisconsin Rapids and the old nursery at Trout lake. These two nurseries will produce all the necessary planting stock for direct planting on state forest lands, for co-operative forestry with landowners, and for extension educational planting.

Detailed records of nursery production, output, distribution, and inventory are contained in Part III of this report.

Part II—Section 5

FOREST CROP LAW AND COUNTY FORESTS

Forest Crop Law

Entry of lands

Because the forest crop law provides what may be regarded as a probation period of five years, the conservation commission was at first liberal in approving lands for entry. Stringent restrictions at that time might have made the law ineffective. During the past year applications have been carefully appraised and where hearings left the matter in doubt, the lands were examined before final action by the commission. This has resulted in an increase in rejection of applications.

With respect to county entries, the blocking of the lands has become a major consideration. There is greater probability that scattering lands will be withdrawn by the county at the first opportunity for sale. Well blocked areas of county lands are being set aside as county forests. They reflect a growing tendency of the cutover counties to zone county owned lands in order to reduce the excessive costs for roads and schools resulting from scattered settlement. Consequently, there is reasonable certainty that well blocked areas of county land will not be broken up by withdrawals and sales.

Periodic Examination of Forest Crop Lands

Until 1931, land examination was limited to special cases. In 1932 a systematic examination of all entries was undertaken and more than half of the 1928 entries were examined by the foresters assigned to that work. Examination of 1928 entries will be completed by the spring of 1933, and a considerable acreage will be listed for hearing to determine whether the land shall continue under the law. As soon as the 1928 entries are completed the examination of the 1929 lands will begin. An earlier examination will provide time within the five year period for owners to improve their holdings by planting or other forestry work, and thus qualify to continue under the law.

The contract between the state and the owner of forest crop lands runs with the land. Thus forest crop lands may be conveyed to another ownership without affecting its entry. Whenever sales are made, the grantor is requested to fill out a request of transfer blank, listing the descriptions of land and the new owners. After the new owner has acknowledged the acquisition of such land and his intent to continue the practice of forestry thereon, an order of transfer is entered and copies are sent to the agencies receiving entry orders.

This assures correct ownership records. In addition to file records, this department has compiled a ledger listing description entered, transferred or withdrawn, and the acreage balance under each ownership. The net registered acreage by counties and for the entire state is also shown.

Classification of Lands Entered

It is interesting to note that during the biennium there was an increase in the amount of county owned land entered under the forest crop law as compared to the privately owned. In 1931 there were 95,695.28 acres of county owned lands entered, and 42,805.43 private. In 1932, 328,110.74 acres of county owned lands were entered and 33,820.14 acres private. Subtracting withdrawals at the close of 1932, there were 458,415.38 acres of county owned, and 291,877.18 acres privately owned land, or a total of 750,292.56 acres entered under the provisions of the forest crop law. The number of acres of county owned land entered includes those lands listed within defined county forest areas.

The lands entered under the law are located in 35 counties. Complete detailed tables of land entry may be seen in Part III of this report.

County Forests

Establishment of County Forests

To aid counties in establishing county forests, the procedure was discussed with county officers and county boards. To clarify procedure in the adoption of the enabling resolution, a standard form resolution was prepared and copies supplied to interested counties. All of the instructions to the county clerk were included in this resolution. The adoption of a standard procedure which meets legal requirements, has been of considerable aid to the counties. This resolution was prepared with the co-operation of the Attorney General.

In counties where the project was undertaken the extension forester worked with county board committees and the county agricultural agent in selecting and delineating tracts suitable for state forests. Areas not suitable for agriculture and where county owned lands were well blocked were selected for county forests.

Administration of County Forests

In the absence of any county organization to supervise the county forests, the responsibility has been delegated to a committee of the county board. This may be a conservation committee specifically or the responsibility may be one activity of the agricultural committee. In some cases a newly created land or zoning committee has been designated for this work. There is a growing sentiment in favor of county zoning. Suitable county zoning ordinances or legislation would be of material assistance in helping select areas for establishment of county forests.

Because county agricultural agents had been helpful in selecting county forest areas and preparing applications for entry of lands under the forest crop law, the conservation commission adopted a resolution favoring their participation in the management of county forests. This proposal has been adopted by the county board committees, and the county agent is administering the forestry aid work under the supervision of the conservation department.

Suitable projects have been laid out by foresters from the conservation department, and local matters such as wages and distribution of employment have been handled by the county groups. Planting plans for the light soils areas in Oneida and Bayfield counties have been carried out and one million seedlings have been planted by these two counties this fall. Other projects will be outlined for Rusk and Langlade counties.

Department foresters have also helped on fuel cutting projects on county forest crop lands where the establishment of county forests has not been completed. While these constitute relief projects, they result in improvement cuttings, by removing cull hardwood trees which are overtopping valuable young growth.

Part II—Section 6

STATE PARKS

Introductory

For many years the State of Wisconsin has provided facilities for outdoor recreation for her citizens and visitors. It is important to reserve for public use the outstanding scenic or historic places, reasonably accessible, so that all natural or other features may be enjoyed under conditions that are safe and sanitary. This fact sets up a direct need for roads, trails, comfort stations, communication facilities, policing, safe water supplies, shelter, camp and picnic ground equipment, fire protection, and many other requirements which are the daily concern of the department and which absorb the bulk of the energy of the personnel and funds made available. State parks can contribute to the recreational and business needs of the state most effectively when these use requirements are adequately met. It has been the constant aim of the department to improve all facilities on the state parks in a manner consistent with the preservation of all natural or other valuable features.

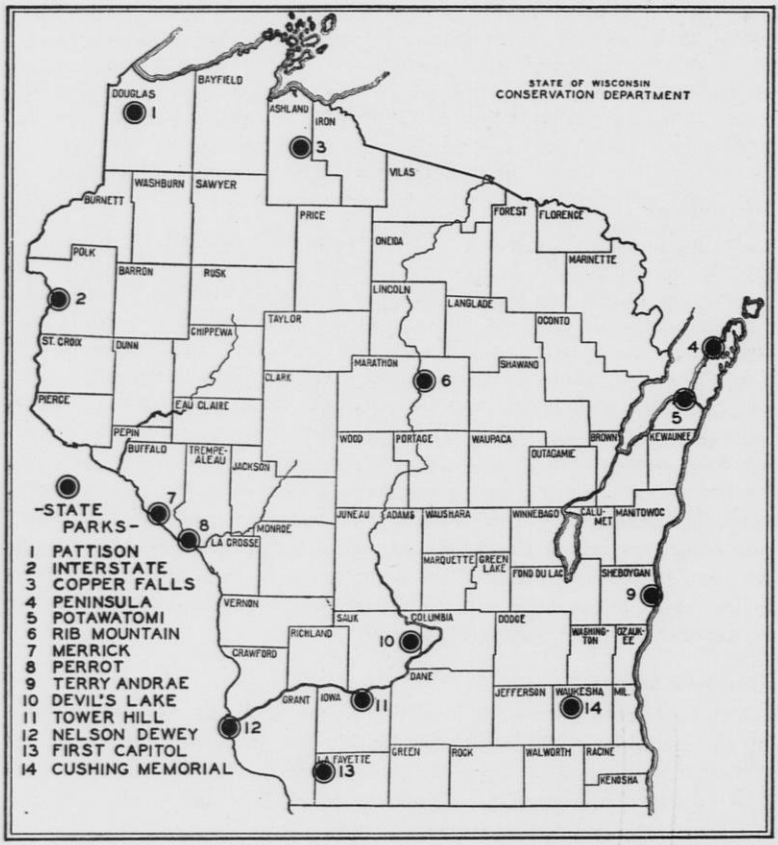
Open new areas

Two new areas were made available to the public as state parks during the biennium. While both the land in Rib Mountain State Park in Marathon county, and Merrick State Park in Buffalo county have been owned by the state for a number of years, there were no roads to either area and consequently the parks were used very little.

An excellent new road has been built to the summit of Rib Mountain, the highest known point in the state, and the park was officially opened to the public. This road was built with the co-operation of the Marathon County Highway Commission, with the forest and park road appropriation from gas tax funds.

The area now known as Merrick State Park is located just north of Fountain City in Buffalo county, on a bay of the Mississippi river. This latter area had been in considerable use for a number of years as a park, through the co-operation of Fountain City officials, who furnished equipment for park use. In 1932, the conservation department took over the improvement work and the area was renamed and definitely established as Merrick State Park.

The area was named in honor of the late George B. Merrick. Mr. Merrick was a pilot in the old steamboat days on the Mississippi river and was an historian and author of note. He was considered one of the outstanding authorities of Upper Mississippi river history.



Attendance

As the state parks are more generally known, attendance increases. This was true up to and including the year 1931. During 1932, however, attendance in Pattison, Nelson Dewey, Tower Hill, and Copper Falls State Parks decreased. Attendance at Devil's Lake, Peninsula, and Interstate Parks increased. This was particularly true of Peninsula State Park, where the number of campers increased notably during 1932.

Designation of parks and forests

During the biennium a distinction was established between the designation of lands hitherto classed as state parks. State parks are now understood to be those areas which have outstanding scenic or historic characteristics and in which recreation is paramount and forestry subsidiary.

In state forests the production of forests is considered first. Ulti-

mately, the latter may produce lumber, but forest areas in state parks will never be logged. Several of the areas hitherto called state parks were definitely named state forests. Prior to the present biennium, due to the dual responsibility concerning certain lands, areas which were in fact state forests were officially called state parks. There were three such areas, Northern Forest State Park, American Legion State Park and Forest Preserve, and Brule State Park. Each of these areas was relatively large in acreage and while each possessed very important recreational possibilities, each is essentially a state forest area rather than a state park area. A clear cut differentiation was made possible during the last two years and the list of state parks and state forests appearing in Part III of this report lists them under their proper designations.

Roads and improvements

While the funds available for general park maintenance and improvement have been very limited during the biennium, the road fund has been maintained. This has given an opportunity for continued improvement of the roads leading to or within state parks and state forests. Particular attention has been given to the roads in Peninsula State Park, where the new Norway ridge road was constructed and all of the primary park road system was surfaced with crushed stone and oiled.

At Devil's Lake State Park the road from state trunk highway 113 to the northeast corner of the park was graded and surfaced with gravel. The road to the top of Rib mountain was graded and surfaced with gravel. The road leading to Copper Falls State Park from the city of Mellen was widened. The new road in Potawatomi State Park was completed and partially surfaced with crushed stone. Nelson Dewey State Park road was improved and resurfaced, and minor road improvements were made at Tower Hill, Perrot, Merrick, Interstate, and Terry Andrae State Parks.

A dust settler, either of oil or calcium chloride, was applied to all roads in the primary systems of all parks and to the principal approaches to the parks.

Equipment and facilities

Continued attention has been given to the improvement of sanitary facilities and drinking water supplies on all the parks. At Nelson Dewey State Park the main well was deepened from 184 to 531 feet, and a power pumping unit installed with running water now provided. Several new wells were drilled at Devil's Lake State Park. Sets of new and improved comfort stations were erected at Nelson Dewey, Interstate, Merrick, Rib Mountain, Copper Falls, and Tower Hill State Parks. Additional park equipment was provided for the Terry Andrae, Devil's Lake, Rib Mountain, Merrick, and Pattison areas. In general, the state parks are now reasonably well supplied with the necessary park equipment and facilities.

Part II—Section 7

FISHERIES

Production

Generally favorable conditions during the biennium enabled the conservation department to increase the total annual output of fish despite reduced funds. In 1931, of all species, there were 377,746,495 fish produced and distributed. In 1932, the total rose to 425,194,348. The larger total is accounted for principally by the increased production of wall-eyed pike. Complete detailed records of production by hatcheries and species and distribution by counties may be seen in Part III of this report.

Reduced funds necessitated the closing of some hatcheries. In 1931 there were 21 hatcheries in operation and 18 were operated in 1932. The increased production despite the reduced number of hatcheries is due to successful grouping of activities, increased efficiency of the plants operated, and generally favorable conditions, particularly weather. The hatchery methods which have been proved by many years' experience were followed during the biennium. Further experiments in the use of fish foods reveal improvements, principally in the food for trout. It was found that adding dehydrated sweet milk to the diet of brown trout fry and small fingerling improved and hastened their growth. The milk, which comes in large sacks, is prepared for the fish by mixing it into thick paste, lumps of which were placed in the feeding troughs. Some of it was kept in the feeding trough at all times. This use of dried milk proved to be the determining factor in making possible the rearing of brown trout at the Madison hatchery. Hitherto, brown trout hatched there had been shipped to other hatcheries for rearing, but because of this new food, excellent results were obtained at the Madison hatchery in 1932.

The propagation and rearing of trout was increased during the biennium. This same expansion followed through all species of fish. The department made the best record in muskellunge propagation in 1932 that has been made in the 35 years of experimentation with this species. In 1932 there were 1,100,000 muskellunge hatched and planted.

Propagation of a new species was begun during the biennium. Prior to 1932, there had been no state propagation of perch. Beginning on a small scale in 1932, perch are being hatched and reared in hatcheries in the southern part of the state for distribution to certain lakes also in the southern part of the state. The numbers of perch for planting in the southern waters were augmented by shipments of fingerling and adult perch from certain northern Wisconsin lakes which are overstocked with this species.

Co-operative hatcheries

The demand for lake fish for planting has multiplied many times in recent years, taxing the production capacity of all state hatcheries. At the present time it is impossible for the conservation department to establish new hatcheries. Consequently an attempt has been made to answer this increased demand by a co-operative policy which enables towns and counties to establish pike hatcheries. Under this arrangement all expense in connection with the building of the hatcheries, the collection of eggs, and the hatching and planting of fish is borne by the town or county. For its part, the conservation department furnishes experienced men to supervise the hatchery operations during the few weeks of each year the hatcheries are in operation. These men have full charge of all pike egg collections and hatchery operations. The department also furnishes nets and some other equipment to be used in the collection of eggs until the towns or counties owning the hatchery can purchase their own equipment.

Under this co-operative agreement it is distinctly understood that at no time in the future will the conservation department be called upon to assume all the expense of operation of the hatchery or any other obligations relative to their operation and maintenance.

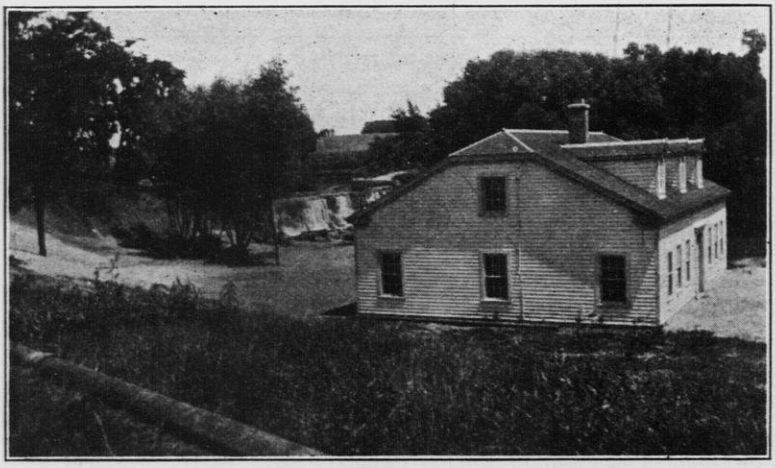
Distribution

Fish were distributed during the biennium under the same policy and following the same methods employed in previous years. Of interest, however, is the increased distribution to individuals or organizations who call at the hatcheries to receive their fish.

The state's distribution facilities include two large specially constructed trucks and one specially constructed railroad car, the Badger No. 2. These trucks and the railroad car are equipped with icing and aeration facilities so that fish can be kept in the best condition throughout transit.

The Chicago & North Western Railroad loaned to the conservation department the use of two baggage cars during the fish distribution season of each year. With these added facilities it was possible to formulate a distribution system by which fish could be moved from any hatchery or rescue headquarters in the state to any receiving station and not have fish in transit more than 24 hours.

The program of distributing adult trout to certain of the principal trout waters in the state was continued during the biennium. The extent of such a program depends in large measure upon funds available to purchase food during the increased period necessary for rearing. In the first year of the biennium there were 98,331 adult brook trout distributed to waters in 25 counties. In 1932 there were 69,125 adult brook trout distributed to trout waters in 24 counties and 600 adult brown trout distributed to waters in two counties. A smaller



Hebron State Fish Hatchery.

number of adult rainbow trout was also distributed during each of these years. The adult trout mentioned in this connection means the yearling and 20 month old fish reared at the hatcheries. In addition, there was a considerable distribution of older trout, principally superflous breeding stock from certain of the hatcheries.

Co-operative rearing program

The co-operative rearing program carried on by the conservation department and sportsmen's organizations has been continued with success. During each of the two years the conservation department furnished brook and brown trout fry to 52 organizations for rearing to a large fingerling size before planting. Many of these organizations maintained several rearing ponds. The number of fish distributed to each was determined entirely by the capacity of the pond.

In 1931, there were 318,100 brook and 308,000 brown trout distributed to co-operating organizations. In 1932, 391,000 brook and 363,000 brown trout were so distributed.

Continued study in rearing pond methods resulted in the recommendation of a metal rearing trough to replace the natural rearing ponds. There are four reasons which point to the rearing trough as being more satisfactory than the rearing pond for general use by sportsmen's organizations: (1) the attendant, who obviously is not an expert on feeding, can better see at all times how the fish are feeding; (2) troughs can be kept cleaner than a pond; (3) the fish can be better protected from predacious birds and animals; and (4) all the fish can be taken out of the troughs, whereas frequently it is difficult to get all the fish from a pond.

Experience of several years shows that fish will grow as large in the troughs as they will in ponds if they receive the same amount of food. Ideal troughs, and the size recommended by the department, are 14 feet long, 14 inches deep, and 18 inches wide. They will hold 12 or 13 inches of water. The narrowness and depth of this trough facilitates cleaning and the fish seem to do better in a deep trough than in a shallow one. At the state hatcheries as old equipment is used up, new equipment will be added.

Commercial fishing conditions

The excellent results obtained in the propagation of game fish did not carry over to commercial fish during all of the biennium. During the year 1931, prolonged heat and drought continued late into the fall, postponing the cooling of the water in the Great Lakes and Green Bay. This postponed the spawning time for lake trout. Considerable difficulty was encountered in the collection of spawn and the waters in the hatcheries continued so warm that the hatch of commercial fish, particularly lake trout, was not as high as in some previous years. In 1932, however, conditions were better and correspondingly better results were obtained.

There are two conditions, one artificial and one natural, which are assuming the proportions of menaces to the commercial fishing indus-

try in Lake Michigan. The first of these is the new kind of net introduced and used by certain fishermen in recent years. It is called the submarine net and is held in place by anchors and buoys and has the pot and hood covered. It can be placed in any depth of water, which enables fishermen to follow the migration of fish. This net is particularly destructive to whitefish. The 1931 legislature ordered the conservation commission to make an investigation regarding the use of this net, and its effect upon fish population. This investigation was made and resulted in a recommendation by the conservation commission to the legislature recommending the prohibition of the use of such nets. A detail of the recommendations may be found in Part II, Section 1 of this report.

The natural menace to commercial fishing in Lake Michigan is the tremendous increase in the numbers of an exotic fish introduced into the lake several years ago. The fresh water smelt, first introduced into Lake Michigan waters from inland lakes from the State of Maine, have so increased in recent years that they greatly hamper the placing of nets at certain times of the year. While the smelt itself is a good food fish, such large numbers of immature and consequently unsalable fish, invade the fishing grounds at certain times of the year that they tangle nets. This condition became so severe during the spring of 1932 that nets of Marinette fishermen became so fouled with smelt that it was necessary to take the nets ashore to remove the smelt before the nets could be used to catch the chubs and trout for which they were set. The smelt were so numerous at times that they necessitated cessation of all fishing. At first the nets were cleaned in the usual way by picking the smelt out by hand, but in certain instances nets were so badly tangled that the fish had to be boiled out of them.

It has been claimed by certain fisheries authorities that fresh water smelt in Lake Michigan will become as great a nuisance in years to come as German carp have in inland waters.

Stocking of Chippewa lake

The public utilities company which built the dam on the Chippewa river creating the 16,000 acre flowage in Sawyer county, received its authority with the provision that it would plant as many fish in this new water area as the conservation department deemed to be sufficient to properly stock it. Such an agreement was fair because in flowages natural reproduction is practically negligible due to the fluctuating water level. After considerable study, the department recommended that at least 240,000 bass and 96,000,000 pike should be planted. The power company could not secure such a quantity of fish for planting and it was agreed that the power company should pay to the conservation department a sum of money sufficient to produce and plant the fish required. The work of producing and planting the fish was begun in the spring of 1932, when 51,600,000 pike and 12,000 bass fingerling were produced and planted in the

flowage. This work is carried on with the co-operation of the Hayward Rod and Gun Club and Sawyer county officials.

Whitefish destruction in Lake Mendota

The inland water whitefish or cisco is native to Lake Mendota, Dane county. In addition to the native stock, Great Lakes whitefish have been planted in the lake, the first planting of 75,000 fish being made in the year 1880. Conditions are excellent for the fish and they are extremely plentiful at the present time.

At several other times there have been plagues of varying intensity, but the one which occurred during the summer of 1932 was by far the most severe. So many of the fish died that the surface of the lake seemed to be covered with them, and sanitary agencies had great difficulty in removing the fish from the shores. Bathing had to be prohibited on the beaches for several days.

There was nothing to indicate the specific cause of death. It was observed that the fish would come to the surface with enough force to throw them full length out of the water, and after falling back into the water they would make a slight struggle before dying. University biologists studied the problem, but their studies did not disclose evidence enough to give a satisfactory explanation. Small worms were found in intestinal tracts of the dead fish and other slight unusual indications showed that the fish were not in perfect health. However, because the whitefish lives in such deep water during the summer that it was impossible to secure enough healthy fish to make a comparative study, this had to be postponed until late the following fall when the fish came into shallow water to spawn.

One interesting phenomenon of this condition was that all of the fish that died were practically the same size. It was unusual for an individual fish to vary in weight more than an ounce or two from the average.

Fish refuges

More attention has been paid during the biennium to the improvement of natural conditions for fish than ever before in the history of fisheries work in Wisconsin. Principal efforts were along two directions, creating refuges to protect fish in known spawning and rearing grounds, and installation of the first successful fishway to enable fish to proceed upstream through dams.

There are three types of fish refuges. The first of these are established for trout and are permanent. Trout spawn and artificially reared trout are planted in these small feeder streams. Except at spawning time, large fish do not inhabit the small streams and if fishing is permitted in them, the fisherman's catch is largely illegal. These refuges are established to protect the trout until they are large enough to swim out into the main stream. At the end of the biennium there were 226 such refuges in effect.

The second type of refuge is established in lakes on known spawn-

ing grounds, and continues only during the spawning season. This type is particularly for bass. During 1931 there were 50 refuges of this type established, and during 1932 there were 52. Five of the refuges created for bass or other lake fish are permanent until rescinded by commission action.

The third type of refuges, of which there is at present only one in the state, are established under dams or other obstructions where fish congregate because they are unable to continue their trip upstream. Considerable unfortunate experience at such places has indicated the necessity of providing greater protection to such areas than is provided by the regular fishing laws. The refuge of this sort is the one established in the Chippewa river below the dam at Winter. However, practical refuge conditions are obtained through general legislation which prohibits fishing for varying distances below all dams.

Fishways

The obstruction of water courses by dams is one of the two or three greatest reasons for the lack of efficient natural propagation of fish. Nature tells fish to go upstream to spawn. Even at the best, a very small percentage of the tremendous number of eggs laid, hatch and develop into fish. When fish are obstructed in their normal spawning activities there is practically no reproduction.

Until 1931, there had never been a successful fishway which would permit access of lake species of fish, muskellunge, pike, pickerel, bass, and others of these types, to get over or through dams in their annual journey upstream. The Wisconsin Conservation Department has been experimenting with many types of fishways for many years, but the first success was had with the installation of a new type fishway at the Rest lake dam in the Manitowish river in the spring of 1931. This new fishway was a radical departure from other ideas. Rather than a fish ladder or fish wheel of usual types, it was really a fish lock or elevator. Detailed description of the fish lock or elevator may be had upon application to the Wisconsin Conservation Department.

Several factors were against the success of the fishway in its first operation. It could not be placed at the point in the dam where all fishways should be placed, i. e. at the point furthest upstream and immediately below the dam. The dam was located immediately below a principal state trunk highway and the large numbers of people who were attracted by the unusual experiment tended to keep the fish from entering the fishway. Construction delays postponed the completion of the fishway until after the normal migration season.

Despite all these factors, however, the fishway proved successful in its first year of operation. The conservation department upon the basis of this successful experiment, recommended the introduction of fishways in other dams in the state.

Another significant experiment was conducted at the Prairie du Sac dam on the Wisconsin river, in which there were even less fav-

orable conditions. This experiment also proved successful. Detailed tabular information about the numbers of fish of each species which passed through the fishway may be found in Part III of this report.

Pollution

Pollution studies have continued. The conservation department is represented on and makes its facilities available to the State Committee on Water Pollution, which is developing co-operative plans for the control and disposal of commercial waste and sewage which pollutes Wisconsin waters.

Part II—Section 8

GAME

Introductory

The game program, starting late in the field of other Wisconsin conservation activities, has the advantage of the experience of other states and countries to consider in the formulation of as comprehensive a program as possible. Wisconsin has made a start in the past four years toward meeting some of the problems facing the successful game program. Particular progress has been made during the biennium. However, this represents merely a beginning. If Wisconsin is again to take her place among the major game states, the program must have the wholehearted support of the public at large and sportsmen in particular.

It is for this reason that public support and co-operative enterprises are undertaken to as great an extent as possible. In practically every field of activity the game division has co-operative projects with individuals and organizations.

An efficient and comprehensive game program must include more than merely protection of native species or production of substitute species. It must include efforts toward protection and restoration of desirable cover, control of predators, and provision of food in times of need.

Under the present program, the administration of the game division includes the game survey, game and census trapping reports, game refuges, wild life refuges, wild life sanctuaries, waterfowl refuges, public shooting grounds, game farms, restocking and transplanting programs, experimental projects, winter feeding, and regulation of shooting preserves, private game farms, private fur farms, private deer farms, fur bureau, and research bureau.

Game survey—Game and trapping census reports

The extent of the Wisconsin game harvest, together with an annual estimate of the game crop, is essential if the Wisconsin plan is to function. In order to obtain an estimate of the game crop, it is necessary to take inventory, so to speak, by a comprehensive game survey. A survey organization has been formed in Wisconsin, and is composed of 600 people including conservation wardens, forest rangers, game observers, and sportsmen's organizations, who report periodically to the department on game conditions, by counties.

The 1931 legislature passed the census report law, which requires that each sportsman report on an individual blank his kill for each hunting season. This gives the conservation department its first real opportunity to check on the annual game kill in this state. By check-

ing the annual kill against the estimated game crop, the department has a splendid nucleus on which to build its general game program.

Knowledge of the extent of the annual game harvest makes it possible to estimate the total game crop more accurately. In Wisconsin, for instance, at the end of the 1931 hunting season, 600 questionnaires were sent to the game survey members. Conclusions as to the percentage of species taken were reached, by estimation, actual counts over small areas, winter feeding station counts, and by banding. Through a general state average it was learned that although the total grouse kill for 1931 was approximately 100,000 birds, a general estimate was that less than 10 per cent of the total grouse crop was killed. It was, therefore, a conservative estimate that the total Wisconsin grouse crop in 1931 approximated 750,000 birds. The waterfowl kill, approximately 400,000 birds, was estimated to be but 20 per cent of the 1930 kill, indicating reasonably that a minimum of 1,500,000 ducks, geese, and coots were taken in Wisconsin in 1930. The rabbit crop, conservatively estimated at 8,000,000, including the 2,000,000 killed by actual count, includes those taken by landowners who have the right to take rabbits and squirrels all year without a license, the estimated number killed by automobiles, and those killed by predatory animals and birds. The estimated squirrel kill by census report tabulation was slightly over 1,000,000, estimated to be less than 30 per cent of the total crop.

It is recognized that these figures are not entirely accurate. However, even if they should be as much as 25 per cent in error, they still provide a satisfactory basis upon which to work. Knowledge of the grouse crop, for instance, in conjunction with the splendid rearing season of 1932, gave the conservation commission a solid foundation upon which to increase the length of hunting season and the bag limits.

In 1933, for the first time, there will be available specific information on the annual kill and crop of ring-necked pheasants, Hungarian partridge and bobwhite quail by counties. This will permit not only a thorough check on stocking and winter feeding operations, but a satisfactory basis upon which to establish the length and bag limits of the 1933 hunting seasons. There will also be available for the 1933 legislature for the first time, detailed information on the deer kill by counties. For the first time, information will be available to the legislature which will give an accurate picture of the population of such game species as rabbits, squirrels, raccoon, opossum, and other quadrupeds. The department will also be able to advise the federal biological survey of the approximate number of ducks killed in Wisconsin and the actual number of other species of migratory birds. Not least of the values of the game census will be the information to give the Wisconsin public concerning the value of the total annual game kill, both in terms of value as food and in costs of restocking.

A reproduction of the 1932 game census card, together with the

tabulation of species taken during the 1931 season, may be seen in Part III of this report.

Game survey—Trapping reports

The conservation department has received reports from licensed trappers for many years. These indicate specifically the number of animals of each species taken by the trapper. The reports also indicate the county in which the animals were taken and the price received by the trapper for the pelts.

The tabulation for the reports for 1931 reveal a smaller number of trappers, probably due to the lowest fur prices in a decade, and the fact that there was not an open season on muskrats in most counties. However, it is interesting to note that despite the low prices, the value of fur taken in Wisconsin by licensed trappers exceeded an estimated value of a half million dollars.

The tabulations showing the number of animals taken and the prices received during each of the past several years may be found in Part III of this report.

Game refuges

For game administration and refuge purposes, Wisconsin may be divided into four game districts, each of which has its own peculiar problems and characteristics. These four districts are the southeastern district comprising 26 counties; the southwestern district comprising 17 counties; the central district comprising six counties; and the northern district comprising 22 counties.

From the standpoint of game, a game refuge or wild life refuge is efficient only when it is stocked with species of game which will fill up the refuge area and overflow into adjacent public hunting lands.

Certain species of game are particularly adapted for a refuge-public shooting ground program. These may be listed as Class A game. Other species which make use of refuges, but which are not the best refuge game, may be termed Class B game.

The game species in Wisconsin best adapted for a general refuge program are deer, beaver, muskrat, prairie chicken, sharp-tailed grouse, ring-necked pheasants, and Hungarian partridge. Of these, the most important in the northern and central game districts are deer, beaver, muskrats, prairie chicken, and sharp-tailed grouse; in the southeastern and southwestern districts, muskrats, ring-necked pheasants, and Hungarian partridge. Rabbits, squirrels, and ruffed grouse are the most important Class B game in all districts.

Wild life refuges and sanctuaries

There are 59 wild life refuges comprising 62,291 acres in Wisconsin. For the most part these are efficiently managed small game refuges. There are 12 state wild life refuges comprising 235,137 acres. All state game refuges, with the exception of the Blackhawk refuge, are established primarily for big game. The 14 state parks,

comprising 11,562 acres, form a valuable addition to the refuge system. All state parks are wild life refuges.

During the biennium certain lands hitherto classed as state parks were reclassified as state forests. All lands within state forests are not refuges. In the largest of the state forest areas, Northern State Forest in Vilas county, a new refuge was established by commission action comprising approximately two-thirds of the former area there.

In the state parks and state forests there are approximately 140,000 acres of land classified as wild life refuges.

Wild life sanctuaries are established for the protection and propagation of certain species of animals, birds, trees, shrubs, plants, or flowers. A wild life sanctuary has the same regulations as a wild life refuge. Two sanctuaries were established in Wisconsin in 1932, both in Outagamie county.

A map and detailed information about the refuge system in Wisconsin may be found in Part III of this report.

Waterfowl refuges

There are three waterfowl refuges in Wisconsin. They are the Delta Fish and Fur Farm in Trempealeau county, established by statute, Moon Lake Waterfowl Refuge in Fond du Lac county, and Puckaway Lake Refuge in Green Lake county. The latter two were established by commission action. In all, these three refuges comprise approximately 5,000 acres.

The Puckaway Lake Refuge, established in September, 1931, includes about 500 acres of rice beds in the eastern end of Puckaway lake in Green Lake county. This is Wisconsin's first managed waterfowl refuge. Observations were taken in the fall of 1931, and again in the fall of 1932, for the purpose of checking the practicability of establishing additional waterfowl refuges in Wisconsin.

Waterfowl refuges are established primarily for marsh duck species, including mallard, black duck, green and blue winged teal, pintail, widgeon, gadwall, shoveler, wood duck, and coot. From observations made in 1931, it is believed that a series of small refuges, comprising approximately 20 per cent of each of the more important duck lakes, will offer the migratory birds an opportunity to feed and rest, and will provide greatly improved hunting. The waterfowl refuge system is advocated by enthusiastic duck hunters as a principal solution to better duck hunting in Wisconsin.

Waterfowl refuge inspection

Preliminary to a waterfowl refuge program, in the event that the Puckaway Lake refuge shows itself to be practicable, surveys have been made of 20 principal Wisconsin waterfowl areas in order to increase in 1933 the Wisconsin waterfowl refuge program. Surveys have included the following: Puckaway lake, Rush lake, Lake Butte des Morts, Lake Poygan, Buffalo lake, Horicon marsh, Delta Fish and Fur Refuge, Moon lake, Theresa lake, Fox lake, Hustisford mill pond,

Fox river, Wisconsin river, Lake Mendota, Lake Koshkonong, Rome mill pond, Hubbleton mill pond, Lake Mills, Sheboygan marsh, and Lake Geneva.

If waterfowl refuges are established on these areas, it is probable that funds will not permit the setting up of more than from two to four refuges each year. Only a small per cent of the marshy areas adjoining each lake will be set aside as a refuge. No refuge will comprise more than 20 per cent of the entire waterfowl area.

Public hunting grounds

There are no lands in Wisconsin specifically set aside as public hunting grounds. However, all lands entered under the forest crop law, approximately 750,000 acres, are both public hunting and fishing grounds. Public hunting and fishing is possible on all publicly owned lands not specifically set aside as refuges. This includes all lands in state forests not classed as refuges, and all other state or county owned lands.

The acquisition of public hunting grounds systematically located with reference to refuges is advisable in a modern game program. With this in mind, the game division selected and surveyed several areas adapted to public hunting ground purposes with the hope that a beginning may be made soon toward the establishment of a scientifically managed combination of public hunting grounds and refuges.

State game farms

The Peninsula state game farm, located in Peninsula State Park in Door county, consists of approximately 95 acres which are in actual use for game farm purposes. Facilities include one game farm manager's residence, one residence used as quarters for game farm employes, one combination hatching equipment and feed house, one storage feed house, one experimental hatching and brooding house, and four smaller brooder houses and runs. There are four large pheasant rearing fields, one of approximately 18 acres, one of 26 acres, one of 14 acres, and one of 11 acres, a wild turkey field, comprising about six acres, an emergency rearing field of four acres, and an experimental field of six acres, together with a winter pen of approximately eight acres. An additional four acres of land is covered by 200 portable breeding pens. A covered winter pen, of approximately two acres, is located near the game farm residence. There are also 16 large covered pens which are used for game bird and animal exhibition. There is, in addition, a two acre field used for the display of white-tailed deer and wild turkeys.

In 1931, 28,973 ring-necked pheasant eggs were distributed from the state game farm. Reports show that from these eggs 10,810 ring-necked pheasants were reared to the age of eight weeks and released.

Approximately 10,500 ring-necked pheasants were reared at the state game farm in 1931. Exactly 7,807 birds were distributed for stocking, 837 birds were distributed for co-operative breeding, and

1,862 birds were held for breeding at the farm or were shipped during the spring of 1932 to co-operators for breeding purposes. It is interesting to note that from the 837 birds distributed in 1931 to sportsmen's organizations as breeders, that 5,669 eggs were produced, from which 1,477 birds were reared and liberated.

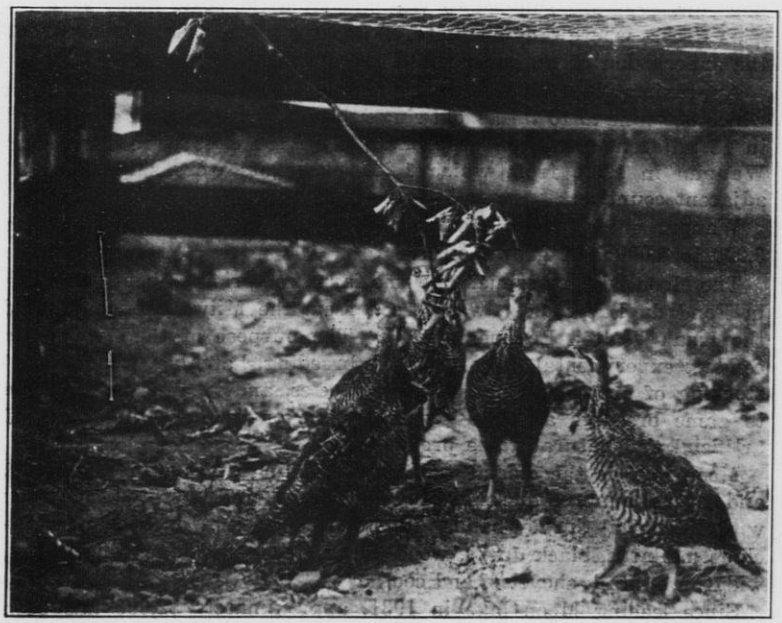
About 150 wild turkeys were also reared at the Fish Creek farm in 1931.

The state game farm, in addition to being a hatching and propagating plant, is a clearing house for all confiscated game. About 47 white-tailed deer, nine black bear, and 66 other animals and birds of various species were distributed from the game farm during 1931.

Improvements for 1931 include remodeling of the game farm zoo, remodeling of the game farm house and barn, the addition of 4,500 feet of fencing, not including a two acre deer field, the purchase of 100 portable steel breeding pens, the remodeling of winter pens and holding pens, the building of four feather brooder houses and runs, the building of a 54 foot modern hatching and brooding house, and the construction of 75 small breeding pens and special brooding coops.

During 1932, 29,522 ring-necked pheasant eggs were distributed from the state game farm. Records on hatching and distribution are not compiled to date, but it is estimated that between 11,000 and 12,000 pheasants were liberated from these eggs.

Approximately 10,500 ring-necked pheasants were reared at the



Hand reared prairie chickens, 80 days old, at state game farm.

game farm in 1932. About 7,800 birds were liberated for stocking, 2,021 birds were distributed for breeding. Breeding records on approximately 1,000 ring-necked pheasants have not been tabulated to date, but it is estimated that co-operators received from these pheasants in excess of 20,000 eggs, and that from these eggs between 7,000 and 8,000 pheasants were reared and distributed for stocking purposes.

Approximately 250 wild turkeys were reared at the game farm in 1932, together with 345 Reeves, Versicolor, Mongolian, and Mutant pheasants, and 60 Chukar, Hungarian, and Valley partridge. About 300 bantams were reared, in addition, for brooding purposes.

Experimental projects for 1932 included the artificial hatching of 1,000 ring-necked pheasant eggs, the rearing of approximately 800 pheasants by feather brooders, and the experimental hatching and brooding of ruffed grouse and pinnated grouse. Eight pinnated grouse were hand reared during 1932. These are believed to be the only hand reared prairie chickens in the United States.

Exactly 30 white-tailed deer and seven black bear, together with 40 other game animals and birds, were distributed from the state game farm clearing house in 1932.

Improvements at the state game farm during 1932 included the building of 2,500 feet of rearing field fence, and the building of 75 small breeding pens.

A subsidiary of the state game farm, the Waupun game farm, is operated only during the hatching and rearing season. Ring-necked pheasant eggs are shipped to Waupun from the state game farm at Fish Creek, where they are hatched and reared by prison labor under the supervision of an experienced game breeder.

Approximately 1,900 eggs were shipped to Waupun in 1931, from which 880 nine to 10 weeks' old ring-necked pheasants were distributed in 18 adjacent counties. Approximately 2,450 eggs were shipped to Waupun in 1932, from which 1,284 pheasants were shipped to 26 adjacent counties.

Waupun game farm plans for 1933 call for the distribution of from 3,000 to 4,000 half grown birds.

The Moon lake experimental game farm, comprising about 900 acres in Fond du Lac county, was leased from the Milwaukee chapter of the Izaak Walton League in 1931. The purpose of the farm is to conduct experimental projects in the breeding, hatching, rearing, and stocking of exotic and native game species, and to offer information to game breeders and the general public on methods and costs of artificial and natural game production.

Moon lake is the official waterfowl banding station in Wisconsin, and several hundred ducks are reared, banded, and liberated each year with Biological Survey bands. Principal species of ducks banded include mallards, black ducks, wood ducks, green and blue winged teal, widgeon, pintail, shoveler, and coot.

Since leasing Moon lake in 1931, approximately $2,000 has been spent in establishing new equipment in the form of a hatching and

Canada geese at Moon Lake State Game Farm.

brooder room, incubators and artificial brooding equipment, holding pens, breeding pens, rearing runs, and fencing.

Experimental brooding, hatching, and rearing has been conducted principally with Hungarian, Chukar, and Valley partridge, bobwhite quail, Reeves, Versicolor, Mongolian, and Melanistic Mutant pheasants, and mallard ducks.

In 1931, 2,008 ring-necked eggs were distributed from the Moon lake farm, together with 1,408 ring-neck pheasants which were stocked in 14 counties. Approximately 450 partridge, quail, and the rarer pheasants were reared to maturity from which breeding stock was selected for 1932.

There were 275 mallard ducks banded and liberated at Moon lake in 1931.

In 1932, 7,423 ring-necked pheasant eggs were distributed to 36 Wisconsin counties, in addition to 445 Melanistic Mutant eggs which were distributed to additional counties. About 850 Melanistic Mutant pheasants, 700 Mongolian pheasants, and approximately 75 Reeves, Versicolor, and Formosan pheasants were reared at the Moon Lake farm this year. In addition, 156 Hungarian partridge, 148 bobwhite quail, 86 Valley partridge, and 10 Chukar partridge were reared to maturity. About 425 mallard ducks and 36 wood ducks were reared in the waterfowl projects. The 225 ring-necked pheasants hatched and

reared artificially at Moon lake in 1932 were distributed to adjacent counties.

Approximately 400 Melanistic Mutant pheasants, 350 Mongolian, 30 Versicolor, and 20 Reeves pheasants will be held over at Moon lake for breeding purposes in 1933. In addition, 150 Hungarian partridge, 10 Chukar partridge, and 75 mallard ducks will be held as breeders.

Ring-necked pheasant stocking program

The ring-necked stocking program for Wisconsin is being enlarged each year. In 1930, through pheasants stocked from the state game farms, pheasants reared from eggs shipped from the state game farms, pheasants reared and liberated from breeders shipped from the state game farms, it is estimated that a total of 18,000 pheasants were liberated.

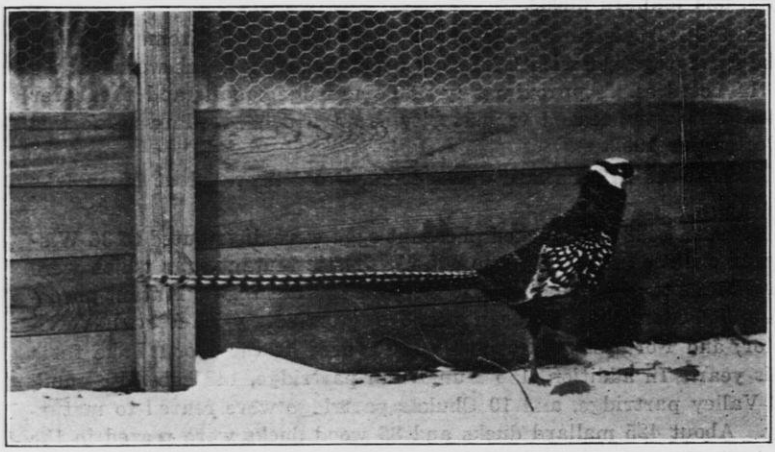
Under the same plan, 25,000 pheasants were distributed in 1931, and it is estimated that the 1932 distribution will be between 30,000 and 32,000 birds.

The game division is concentrating its stocking program in 24 counties, although it is stocking ring-necked pheasants in all of Wisconsin's 71 counties. Stocking work in 11 northern counties is of an experimental nature.

Under power granted by the 1931 legislature, the Wisconsin Conservation Commission now has authority to open seasons on upland game birds. Maps, illustrated in Part III, designate bag limits, and the counties open on upland game birds during 1931 and 1932.

Miscellaneous game projects

In order to test species of pheasants other than English ring-necks, and to test certain foreign varieties of partridge and quail, test plantings are being made in 12 Wisconsin counties on Reeves, Versicolor,



Reeves pheasant cock at state game farm.

Melanistic Mutant, and Mongolian pheasants, Hungarian, Valley, and Chukar partridge. The majority of plantings are being made in western and northern counties in the hope that a non-cyclic game bird can be found which will work in with native grouse and quail, and that eventually will produce good hunting. The experimental stocking program covers a five year period.

Approximately 140 wild turkeys were reared at the state game farm in 1931, and 235 were reared at the farm in 1932. The principal wild turkey stocking area lies along the Wisconsin river bottoms between Spring Green and Lone Rock in Iowa and Richland counties. It is estimated that there is a total of between 400 and 500 birds in this planting at the present time.

Other plantings include the Poynette planting in Columbia county, and the Yellow lake planting in Burnett county.

It is planned to continue with test wild turkey plantings for at least two more years before a definite program is adopted.

Approximately 200 mallard ducks were banded with state and biological survey bands, and were liberated at Moon lake in 1932. In addition, 100 mallards have been liberated at Puckaway lake in Green Lake county, and 100 birds have been liberated at Lake Koshkonong in Rock county, all banded with state and biological survey bands.

It was planned that the conservation department would develop its mallard stocking program on the basis of returns from these two experimental plantings. Returns of the banding were surprisingly large. Of the 200 banded birds released, there were 94 returned, of which 91 represented birds taken by Wisconsin hunters in Wisconsin. It was deemed by the department that this was a sufficiently large return to justify continuation of the experiment.

The conservation department is co-operating with the Wisconsin Raccoon Hunters' Association in its raccoon stocking program. Approximately 20 raccoon were furnished the association in each year of the biennium. A greatly enlarged raccoon stocking program is contemplated for 1933 and 1934, in co-operation with the association.

Test plantings of 1,000 pounds of wild rice were made in five counties in 1931 and 1932. Reports indicate that 80 per cent of the plantings have been most successful. Plantings were made in Eau Claire, Marquette, Oneida, Vilas, and Wood counties.

An experimental project on ring-necked pheasant propagation has been conducted in 1932 with 4-H clubs in Barron county in order to determine the practicability of stocking pheasants under the New York plan. About 200 eggs were allotted the Barron county groups from which 59 pheasants were reared and liberated. Club members were paid at the rate of 50 cents each for each bird released. The experiment will be continued on a larger scale in 1933.

The game division has for the past year worked in conjunction with the University of Wisconsin, county agents, and sportsmen's organizations in an attempt to bring about test areas for the utilization of game as a by-product. A special refuge has been approved by the

conservation commission and department in Wood county, and in the event that funds are available, a test area should be in operation by the fall of 1933.

The fur bureau, in conjunction with the game division, is continuing to transplant trapped beaver to more suitable localities. Of particular interest are plantings in Adams, Juneau, and Wood counties in the drainage country districts.

Because of the lack of sanitary facilities, the game farm zoo was discontinued in 1931. In its place an educational exhibit of native and foreign game birds has been set up, showing from 20 to 25 varieties of game birds native to Wisconsin, game birds which are being experimentally stocked in Wisconsin, or game birds of particular interest to Wisconsin sportsmen. In addition, white-tailed deer and black bear are exhibited.

It is estimated that 25,000 people visited the game bird farm display in 1931–1932.

Due to the rarity of black squirrels and spruce grouse in Wisconsin sin, the game division during 1932 instigated a special survey resulting in the location of many of the existing coveys of spruce grouse in Wisconsin and the principal counties that the black squirrel inhabits. It is proposed, if necessary, to set up special sanctuaries in order to save these species in certain districts.

The game division, in co-operation with the division of public relations, has been engaged in 1932 in the acquisition of groups of mounted game birds for educational purposes. It is likewise collecting a series of interesting game display pictures.

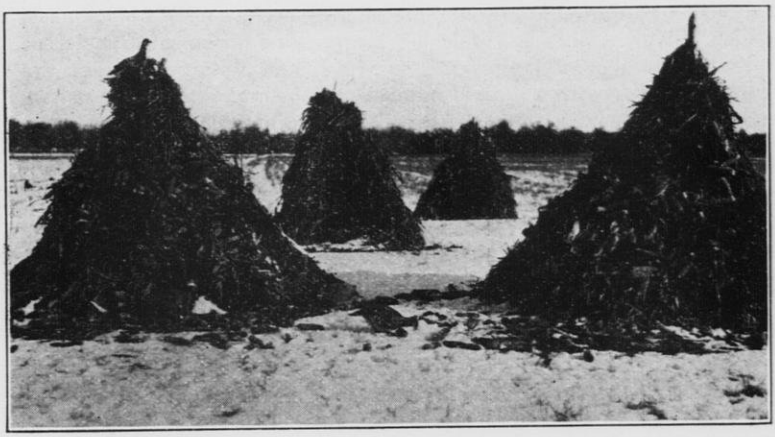
Both the mounted groups and pictures have been displayed at expositions and at state and county fairs in 1931 and 1932.

Wisconsin flushing rod

The Wisconsin flushing rod was designed to be attached to a mowing machine to flush nesting birds in time to permit the operator of the mower to lift his knife to avoid the nest itself. Further experimental work with the rod during 1931 and 1932 revealed defects. It was not entirely satisfactory for use in heavy hay fields. Many improvements have been made over the first rods used in Racine county in 1931. It is felt that the use of such rods by Wisconsin farmers will do much to protect nesting birds. During the experiment several of these rods were furnished by the conservation department to co-operating farmers and many other farmers made rods of their own design.

Winter feeding

From an estimated 600 organized winter feeding stations in 1931, organized winter feeding stations in 1932 have increased to approximately 4,000. With use of the $2,500 winter feeding budget set up in 1931–1932, 84 organizations in 57 counties put forth the most intensive winter feeding program in Wisconsin's history. One organization alone purchased 8,000 pounds of grain and established and set



Prairie chickens at tepee type of winter feeding station.

up 65 hopper feeding stations. Many individual sportsmen also carried on one or more feeding stations. There is no record of farmers' stations.

The principal game birds fed during 1931 and 1932 include sharp-tailed grouse, ring-necked pheasants, Hungarian partridge, and bob-white quail.

Approximately 12,000 winter feeding bulletins were distributed in 1931–1932 to Wisconsin sportsmen.

Licensed shooting preserves

Through the licensed shooting preserve law, passed by the 1930 legislature, Wisconsin farmers and landowners have their first incentive to rear game from the standpoint of remuneration.

The bill creating the new licensed shooting preserve law was recommended by the conservation department with the full realization that there is a change coming about in Wisconsin's hunting conditions. The new law is in the nature of an experiment. With the co-operation on the part of the state department administrators and farmers and sportsmen, it is believed that eventually fee shooting will become an integral part of the Wisconsin hunting program.

Five licensed shooting preserves were established in Wisconsin in 1931. These have increased to 18 preserves in 1932, the smallest of which is 160 acres, and the largest approximately 3,000 acres.

Private game farms

Private game farms in Wisconsin have increased in number from 58 in 1930 to 102 in 1931, and 132 in 1932. They vary in size from half an acre to approximately 30 acres.

The principal game bird reared on Wisconsin game farms is the English ring-necked pheasant. Other pheasants include Mongolian,

Melanistic Mutant, Formosan, Chinese ring-neck, English black-neck, Golden, Silver, Amherst, Versicolor, Reeves, and ornamental varieties. A limited number of Hungarian partridge and Valley partridge are reared, together with a limited number of bobwhite quail. One or two breeders rear wild turkeys. About 30 per cent of commercial game farms deal in wild ducks, principally mallards, and wild Canada geese.

Private deer farms

Only 10 licensed deer farms were established in Wisconsin in 1930. These increased to 19 in 1931 and to 25 in 1932. A total of approximately 300 deer are registered on these farms. Wisconsin deer farms vary in size from four to 800 acres. Many Wisconsin deer farmers have reported a brisk business for 1931.

Private fur farms

Fur farms have been established in Wisconsin since 1923. There were but five licenses issued in that year. Licenses gradually increased until in 1930, 2,230 fur farm licenses were issued to Wisconsin fur farmers. These have decreased to 1,161 in 1931, down to 1,021 in 1932.

The majority of fur farmers breed muskrat. Approximately 65 bred beaver in 1931 and 1932. Combination fur farm licenses include otter, fisher, marten, skunk, mink, and raccoon.

Research bureau

Experiments, investigations, and surveys conducted by the game research bureau during the biennium have produced much practical information regarding the mortality rate in birds, migration, cover requirements, all year food requirements, and effect of predatory animals. With this information, it will be possible for farmers and other private landowners, including game farm proprietors and licensed shooting preserve proprietors and gun clubs, to greatly increase the number of game birds in Wisconsin.

The prairie chicken and sharp-tailed grouse were emphasized in the upland game bird study. The study included winter feeding, parasites, disease, the grouse cycle, and food studies. Much information of value regarding migration and mortality rate in seasons was obtained from the banding experiments conducted. During the two years there were 480 prairie grouse banded, of which 300 sharp-tailed grouse and 60 prairie chickens were banded in 1932. Returns from the birds banded in 1931 showed that the shift from winter to fall is from one to three miles, but that the same winter feeding grounds are used in succeeding years. There was very little mixing of flocks. It was determined by retrapping that the mortality rate in the Babcock area in Wood county from March, 1931, to March, 1932, was 50 per cent. The increase of young birds in 1931 more than made up for the loss, so that the flocks were larger in 1932 than in the preceding year.

The research bureau also helped in the studies of the artificial propagation of native game birds and in grafting growth curves for species both in artificial and natural propagation.

Considerable work was done in photography, both motion picture and still. Much of the motion picture film taken has been assembled into reels and is in constant use.

Part II—Section 9

LAW ENFORCEMENT

The dual responsibility of the law enforcement division to protect Wisconsin fish and game and at the same time protect the right of the state to charge a fee of its citizens and visitors for taking fish and game, has had its usual number of difficulties multiplied by the economic depression, with its incident sentimentality and prejudice.

Due to the increase in the number of men not profitably employed, there has been an increase in the number of hunters and fishermen. However, violations have increased in greater proportion than the number of people hunting and fishing, probably because of the class of persons who will take advantage of public sympathy toward unemployed people and violate the law with the hope of impunity. This is reprehensible and such people should be punished severely.

There has been an increased leniency on the part of courts and prosecuting attorneys also directly attributable to general economic conditions. In some cases, however, courts have failed to distinguish between petty or casual violations and malicious, commercial offenses. This lack of co-operation on the part of a few courts continues to be one of the greatest handicaps to efficient conservation law enforcement.

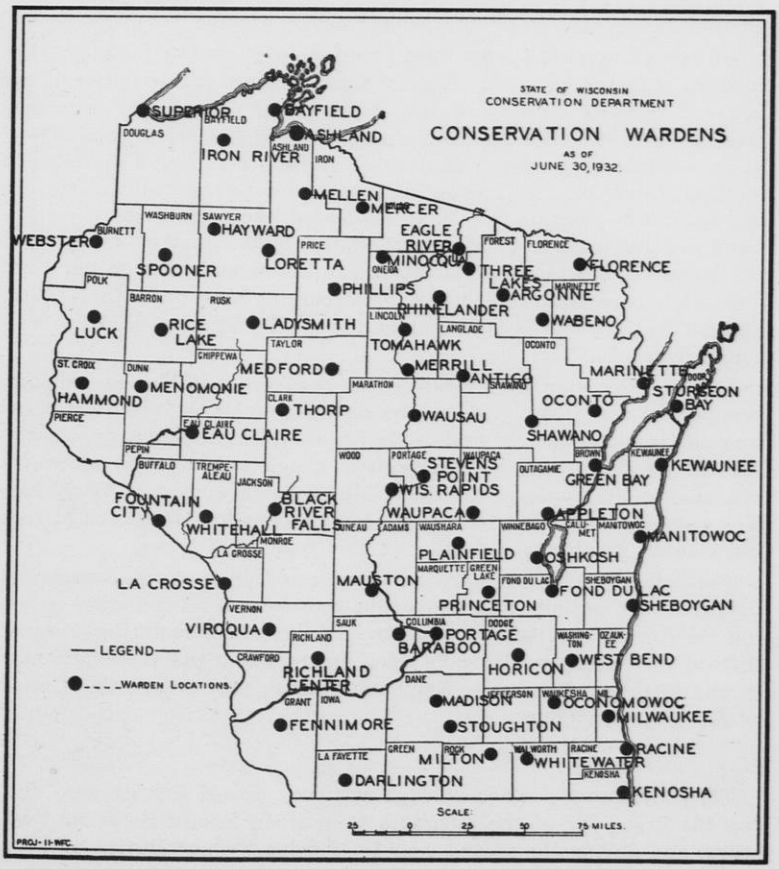
This increased leniency has an unfortunate effect on public morale toward conservation law enforcement. On the one hand the potential game law violator, thinking he can capitalize on public sympathy, will violate more brazenly. On the other hand, such leniency is likely to prove disheartening to conservationists in every locality who want to see laws enforced.

The depression is having another effect which will be more permanent in nature than any of the above. Any law enforcement agency depends for its success upon public sentiment. The crystallization of public sentiment is a gradual process. Certain types of conservation law violations, for instance, which today are considered reprehensible, 20 years ago were condoned. Other principles are in process of formation. Present measures of expediency may postpone the development of a crystallized public sentiment toward certain conservation principles which today are recognized as correct, but are not generally popular. Ice fishing is a good example. From a conservation standpoint, ice fishing is not desirable, yet because it has always been done, the public in times like these is slower to become educated to its undesirability.

Another outgrowth of general economic conditions which has affected all phases of conservation work, but law enforcement in particular, is the tremendous increase in the number of "shackers" who

have gone into the wilder sections of the state to live on the country. For the most part these people come from large cities, and to a very considerable extent, from large cities outside the state. Generally they are not taxpayers and have no interest in localities beyond what they can get for nothing. Game laws mean nothing to a large percentage of "shackers" and a jail sentence resulting from a violation would be welcome to many of them. The advent of so many indigent people presents a serious economic problem.

Looked at from a financial angle, law enforcement is of vital importance to the conservation program. Without a trained force of officers in the field, income from license sales would be practically negligible and bag limits would not be observed. The two ways of developing the wild life resources of the state are protection and production. Neither of these could be successful alone. Law enforcement protects the wild life resources that now exist as well as those which are to be produced.



Efficient conservation law enforcement assumes vital significance when it is considered that the protection of fish and game means the protection of one of the basic factors in attracting tourists. It is impossible to estimate the total value of Wisconsin's wild life, whether considered from the standpoint of attracting tourists, from the food value of the game and fish taken by citizens and visitors, from the income derived from the sale of furs taken by licensed trappers, or from the esthetic value which cannot be reckoned in dollars and cents, but is none the less real. Further, without conservation law enforcement, the commercial fishing industries of the Great Lakes would rapidly decrease.

Lack of sufficient funds prevented enlarging the conservation warden force during the biennium. Some new men were added, but they replaced wardens who died in service.

Increased vigilance during both years of the biennium resulted in an increased number of cases. In the first year of the biennium there were 2,212 arrests, and in the second year 2,458, a larger number than had ever been made in a similar period of time.

All money resulting from fines imposed on game law violators goes into the state school fund. Prior to this biennium the activities of the law enforcement division of the conservation department benefitted the school fund to the extent of approximately $50,000 a year. However, despite the increased number of arrests, because of the general economic conditions, the amount of fines decreased markedly. Although the amount of revenue from fines decreased, the percentage of convictions to total number of arrests remained high. In the first year of the biennium it was 87 per cent, and in the second year 83 per cent. This high percentage of convictions occurring even in a time of increased leniency by courts signifies the good judgment used by Wisconsin wardens.

Strict prosecution in several courts has been a factor in reducing commercial violations. During the second year of the biennium there was particular emphasis paid to the illegal killing, transportation, and sale of deer. Several well organized gangs were broken up which operated in the upper peninsula of Michigan as well as in Wisconsin. The co-operation of courts in heavy penalties and confiscations of cars contributed greatly to reduction of this type of violation.

The law enforcement division co-operated in making commercial fishing investigations and preparing recommended legislation covering the commercial fishing industry. It also made its facilities available to the Attorney General's office in preparing the Wisconsin case in the Michigan-Wisconsin boundary dispute now before the United States Supreme Court.

Noyes award

The Noyes conservation warden efficiency award was granted during the first year of the biennium to Warden Ernest Swift of Hayward, and during the second year to Warden Barney Devine of Web-

ster. The purpose of the award, which is given by Commissioner Haskell Noyes of Milwaukee, is to instill a feeling of friendly competition among the conservation wardens. The winning warden receives a silver watch and has his name engraved upon a silver plaque which hangs in the Madison office.

The bases of judgment for selecting the winning warden each year include the methods in which he handles his cases and seizures, his citizenship and general appearance, his co-operation with other divisions, his care in making reports and answering inquiries, and any unusual service rendered by the officer.

Part II—Section 10

PUBLIC RELATIONS

From the beginning there has been a dual purpose in the work of the division of public relations. Its objectives have been of an educational nature within the state, and advertising outside. In practice through its four years of existence, the educational purpose received the greater emphasis.

During the biennium all educational material prepared by the division stressed forest protection as the principal factor in a sound conservation program. An effort was made to show that all phases of the conservation program—forestry, fish, game, parks, beauty—were dependent for their very existence and future welfare upon a sound program of forest protection.

This emphasis upon fire prevention was done both directly and indirectly. It permeated all releases and several specific lectures and exhibits were prepared upon this subject.

Newspaper publicity

With the objective of reaching as many of the citizens of the state at the least possible expense, all the fields of educational media were

A pictorial exhibit prepared by the conservation department.

considered when the program was begun. These include newspaper and magazine publicity for the general public, lectures and illustrative material for organized groups, and specific educational material for schools. The newspaper field in Wisconsin is thoroughly covered. Daily papers are reached through press associations and special correspondents. The division issues a weekly news release which goes to all weekly papers in the state, and a monthly summary listing arrests for conservation law violations and carrying general news of the department. This summary goes to all newspapers, daily and weekly, to judges, district attorneys, secretaries of sportsmen's organizations, and a large number of individuals. The newspapers of the state have co-operated excellently in the use of the material prepared by the division. The department has also prepared special news stories and articles for newspapers and magazines, both within and without the state. These are prepared upon request. Several magazines of national circulation have carried articles and pictures prepared by the division.

Public addresses

A large proportion of the work of the division has been in making public addresses. This has included the use of radio, lectures to interested groups, and co-operative meetings with teachers and in schools.

The radio program of the division may be divided into two parts, regular and special. Each week during the biennium, addresses were prepared and delivered by the division over the state radio station WHA at the University. As soon as the two state stations, WHA at the University, and WLBL at Stevens Point, were combined, the message went out over the two stations at the same time. The talks in this regular radio program were divided into two classes, those for school use, which went over the School of the Air program on Friday afternoon, and those directed to the general public, which went out over the farm program at noon.

All the radio stations in the state expressed co-operation with the department in forwarding messages and appeals to the public at times of particular fire hazard. These were prepared as short, terse statements, and a large number of them were furnished to all radio stations in the state. The wholesome response to these appeals indicates their effectiveness.

Speaking to interested organizations who request speakers has been a principal phase of the division's work. During the biennium an average of at least one lecture a week to such groups has been maintained.

In addition to the speaking which has been done in response to invitations, the division has been represented at nine teachers' institutes, two meetings of supervising teachers and county superintendents, and two state teachers conventions.

During the spring of 1932, the division superintendent spoke in

every school in two counties in a forest protection district, Oneida and Forest. All of these talks were illustrated lectures on the subject of forest protection.

A growing phase of the division's work is furnishing lecture material to interested conservationists for use in schools and before conservation organizations. There is an increasing number of requests for this type of service, which is maintained in addition to the extensive informational service of the division.

Photography

The photographic resources of the department were built up during the biennium. There are now 22 reels of motion pictures available for showing to any groups in the state. Several of these reels are distributed through the co-operation of the Milwaukee Public Museum.

Sets of lantern slides, principally on forestry and forest protection subjects, have been developed during the biennium. These are available on the same basis as the motion pictures.

The general photographic files have been considerably augmented. There are now approximately 5,000 pictures on file which are available for use in any publication, providing a credit line to the Wisconsin Conservation Department is given. Such use of pictures in magazines and newspapers, both in Wisconsin and outside the state, has a great advertising value.

Study courses

The division was working during the biennium to develop specific courses of study for interested organized groups, particularly women's

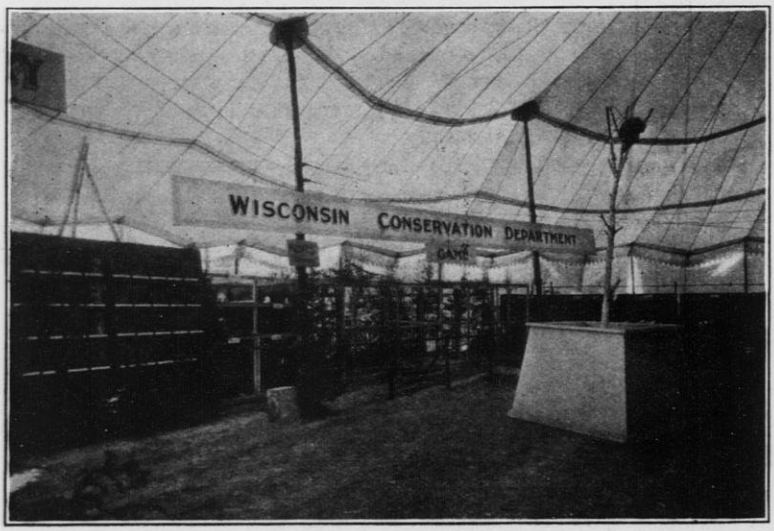
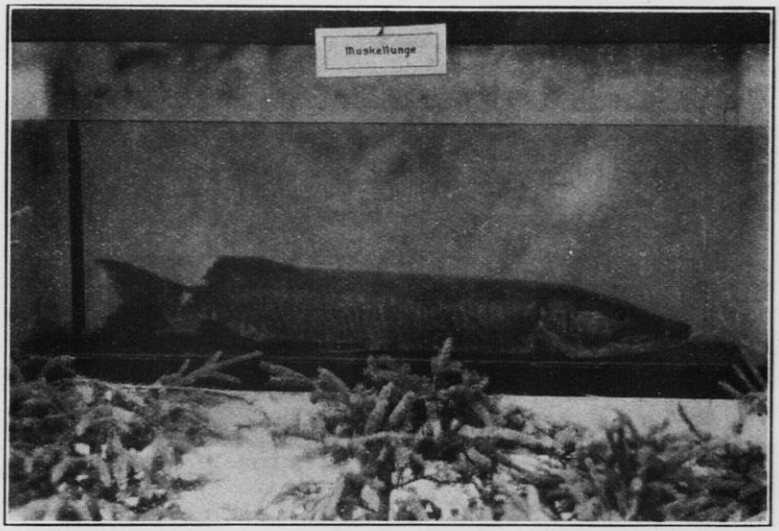


Exhibit at Minocqua exposition 1932.

clubs, as well as the supplementary outlines prepared for use of teachers in schools. These latter are prepared to co-ordinate the teaching of conservation principles with subjects now on the curriculum of the schools of the state. There is a growing demand for this type of material.

Fairs and exhibits

The division continued its work in preparing conservation exhibits for use at fairs, conventions, and outdoor shows. In addition to these specific presentations, there are several sets of display material available for distribution and use in school exhibits, Boy Scout, and similar conventions. The conservation department was also represented at the two conventions of the State Federation of Women's Clubs, at the state fair during both years, and at several county fairs.



Muskellunge displayed at Minoqua exposition, 1932.

In the summer of 1932, the department prepared an extensive exhibit at the outdoor show held at Minocqua. This was one of the most succesful exhibitions of its kind ever held in the state, and the exhibit of the conservation department was the feature of the show.

Publications

Several manuscripts were prepared and published by the division in co-operation with other divisions of the department. These included Forest Planting Handbook; Wisconsin Licensed Shooting Preserve Law; Pheasant Propagation Handbook; state park pamphlets including Copper Falls State Park, Devil's Lake State Park, Potawa-

tomi State Park, Peninsula State Park, Nelson Dewey State Park; Forest, Field and Marsh Fire Laws; Forest Crop Law; Forest Fire Facts; Laws Relating to Conservation; and Summary of Wisconsin Game Laws.

Educational use of existing facilities

Plans are being prepared to develop a systematic educational utilization of the various facilities of the department, such as the forest ranger stations, lookout towers, nurseries, state parks, fish hatcheries, and game farms. The educational use of these facilities in the past has been unorganized. It is planned to organize them.

State Geographic Board

An important co-operative phase in the work of the division was that with the State Geographic Board created by the 1931 session of the legislature. The purpose of this board is to remove duplication of names of lakes and streams in the state and ultimately to publish a gazetteer listing the names of all geographic features in the state.

The conservation department was made the administrative agency. There has been a great deal of work incident to the examination of maps prepared by public agencies and the research necessary to find appropriate names for geographic features, either unnamed or duplicated.

Part III

This report has been prepared in three parts. In Part I is a discussion of policies and plans promulgated by the conservation commission for the guidance of the conservation department.

In Part II is a presentation of the activities of each of the various divisions of the conservation department for the biennium.

Part III is supplementary to Part II in that it presents graphically and statistically the activities of the various divisions of the department.

Part III—Section 1

ADMINISTRATION

FINANCIAL STATEMENT

of the

STATE CONSERVATION DEPARTMENT OF WISCONSIN

Fiscal Years of
July 1, 1930 to June 30, 1931
and
July 1, 1931 to June 30, 1932

Disbursements

	1930—1931	1931—1932
General Administration	$ 57,014.44	$ 34,504.53
Parks division		
Administration	$3,993.87	$3,700.79
Peninsula	17,032.15	10,132.58
Devil's Lake	11,595.27	7,331.39
Interstate	4,803.63	3,337.94
Nelson Dewey	3,020.10	2,424.69
Pattison	283.50	2,324.18
Northern Forest	9,098.93	504.31
Brule	267.29	290.98
First Capitol	52.85	13.94
Tower Hill	1,774.08	690.57
Perrot	1,589.34	331.38
Cushing	813.86	374.24
Copper Falls	6,988.81	694.67
Terry Andrae	4,975.97	2,734.00
Potawatomi	140.29	367.27
Rib Mountain	402.07	3,240.82
Land Economic Survey	330.00	----------
	$67,162.32	$38,493.75
Warden division	$214,750.63	$166,718.87
Fisheries division		
Administration	$15,397.28	$11,293.92
Madison	14,431.78	8,610.15
Bayfield	18,947.08	15,825.85
Minocqua	7,670.30	7,585.85
Delafield	6,935.45	6,407.50
Wild Rose	14,435.77	13,820.15
Sturgeon Bay	5,536.64	4,408.43
Sheboygan	4,934.37	4,170.51
Spooner	68.22	371.38
Eagle River	117.93	495.39
St. Croix Falls	14,066.01	14,423.31
Westfield	12,860.56	6,508.18
Hebron	1,205.99	101.70
Lakewood	17.08	15.91
Hayward	1,469.71	158.53
Osceola	20,003.32	21,772.46
Wisconsin Rapids	1,200.59	275.09
Eau Claire	4,685.11	2,587.09
Sparta	4,321.59	3,179.12

Antigo	$1,827.02	$15.08
Burlington	8,498.35	4,940.98
Brule	1,779.20	23.35
Birchwood	998.46	224.93
Transportation	17,237.13	13,846.95
Collection of spawn	24,505.59	8,677.20
Lake Michigan research	1,807.53	3,599.30
Removal rough fish, northern	6,768.26	1,434.27
Removal rough fish, Winnebago	8,497.56	2,153.56
State Fair exhibit	38.58	---
Haugen	19.95	---
	$220,282.41	$156,926.14
Field Investigator	$308.39	$241.16
Game Division		
Game farm	$43,135.85	$55,606.84
Fur bureau	3,736.09	5,459.33
Winter feeding	---	1,260.69
	$46,871.93	$62,326.86
Education and publicity	$13,265.52	$1,915.57
Research bureau	9,363.52	2,681.79
Park recreation	7,010.09	3,375.94
Devil's lake boat	913.58	---
Horicon dam	23,435.70	186.55
Park lands	---	5.05
Forestry division		
Administration	$---	$14,576.96
Forestry and fire protection	100,436.89	348,208.30
Fire suppression	215,580.69	81,838.65
Clarke-McNary fund	51,054.60	6,183.52
Nursery	23,435.17	60,346.38
County forests	---	16,754.05
State forests	---	24,804.07
Education and publicity	---	11,007.84
Land inventory	3,307.00	4,190.11
Lake States stations	2,811.94	2,720.00
Blister rust control	19.20	596.53
Wardens—forestry	---	27,181.00
Land acquisition	---	1,019.42
	$396,645.49	$599,426.83
*Bounties	$63,409.81	$26,577.00
*Predatory animal control	14,081.71	11,242.24

* The moneys expended for bounties and predatory animal control work were paid out of the conservation fund, but the fund was reimbursed for the amounts from the state general fund.

Receipts

	1930—1931	1931—1932
Non-resident licenses		
Non-resident fishing licenses	$187,051.50	$161,604.55
Non-resident fishing coupons	6,954.90	4,983.90
Non-resident hunting licenses	11,600.00	3,000.00
	$205,606.40	$169,588.45
Resident game licenses		
Resident hunting licenses	$193,301.07	$154,453.39
Settlers' hunting licenses	318.50	234.00
Duplicate licenses	259.50	236.00
Deer tags	38,491.15	139.50
Trapping licenses	18,073.51	16,528.13
Trap tags	16,614.48	17,234.12
Decoy bands	1,810.11	1,225.55
	$268,868.32	$190,050.69

Resident fish licenses—commercial		
Clamming licenses	$1,020.00	$640.00
Set line licenses	2,525.00	2,193.65
Guide licenses	639.00	469.00
Sturgeon tags	----------	280.98
Fish dealer licenses	2,225.00	1,925.00
Great Lakes fishing licenses	9,384.75	8,226.50
Mississippi river fishing licenses	2,014.45	1,672.00
Rough fish	28,392.14	18,259.80
Winnebago rough fish receipts	3,564.18	594.08
	$49,764.52	$34,261.01
General		
Confiscations	$19,000.93	$10,389.50
Wardens' fees	4,278.10	3,235.77
Game, fur, and deer farms	10,720.50	8,624.74
Taxidermist	----------	480.75
Fur dealer licenses	----------	5,820.10
Christmas tree licenses	----------	3,539.32
Interest	6,679.59	6,375.66
Refunds	1,206.28	722.66
Miscellaneous	2,298.04	1,401.52
Park rentals	5,673.00	5,046.23
Golf receipts	8,908.87	6,446.74
	$58,765.31	$52,082.99
Forestry		
Clarke-McNary receipts	$49,925.29	$51,401.97
50-50 returns from counties	79,203.99	30,834.16
Nursery	2,881.55	1,476.50
Forestry mill tax	294,821.58	----------
General forestry appropriation	----------	600,000.00
	$426,832.41	$683,712.63
Grand total	$1,009,836.96	$1,129,695.77

SALE OF RESIDENT HUNTING AND TRAPPING LICENSES

County	1927		1928			1929		1930			1931	
	Hunting Licenses	Trapping Licenses	Hunting Licenses	Deer tags	Trapping Licenses	Hunting Licenses	Trapping Licenses	Hunting Licenses	Deer tags	Trapping Licenses	Hunting Licenses	Trapping Licenses
Adams	875	141	960	125	164	843	148	1,007	150	119	987	133
Ashland	1,349	300	2,750	2,456	394	1,148	433	3,223	2,871	351	1,788	353
Barron	2,129	454	3,227	2,508	315	1,223	701	3,773	2,715	341	2,650	443
Bayfield	593	459	2,013	1,956	496	1,578	528	2,285	2,184	401	915	355
Brown	5,032	273	5,291	1,372	287	4,679	271	5,430	1,647	258	4,812	285
Buffalo	791	294	1,023	150	289	927	418	933	195	244	814	245
Burnett	715	323	1,384	1,211	296	793	542	1,559	1,375	261	832	336
Calumet	1,093	284	1,043	186	302	1,008	305	1,136	199	273	902	171
Chippewa	3,108	499	4,178	2,426	298	2,902	548	4,735	2,750	299	3,453	285
Clark	2,178	422	2,810	1,695	415	2,042	611	3,357	1,870	270	3,174	330
Columbia	2,836	455	2,846	285	510	2,649	511	2,962	322	302	2,640	439
Crawford	1,107	183	1,327	75	223	961	392	1,220	92	170	829	259
Dane	8,072	435	7,339	823	275	7,861	707	9,024	1,072	304	7,897	582
Dodge	4,041	420	3,597	306	250	3,626	611	4,151	408	360	3,312	401
Door	1,179	108	1,326	121	159	1,275	178	1,620	209	200	1,532	145
Douglas	1,933	431	4,215	3,721	529	1,823	585	4,488	3,853	381	2,273	289
Dunn	1,667	330	2,176	850	174	1,614	425	2,286	900	230	1,866	314
Eau Claire	3,608	212	3,840	1,318	154	3,282	238	4,121	1,541	173	2,932	151
Florence	259	82	710	699	140	329	124	807	776	123	394	120
Fond du Lac	3,784	564	3,927	562	342	3,826	640	4,074	662	545	3,426	400
Forest	809	192	1,756	1,534	330	840	270	1,980	1,773	237	1,083	220
Grant	2,489	243	2,391	103	328	2,713	513	3,100	146	370	2,566	404
Green	2,140	204	1,906	124	139	1,942	259	2,433	184	213	2,241	204
Green Lake	1,367	260	1,458	160	297	1,134	322	1,552	212	209	1,312	300
Iowa	1,280	220	1,085	70	150	1,300	282	1,426	88	198	1,206	210
Iron	769	161	1,270	1,081	219	683	233	1,348	1,143	166	881	162
Jackson	1,162	250	1,368	343	263	892	287	1,374	459	179	1,239	158
Jefferson	2,860	371	2,718	168	309	2,735	448	2,812	246	190	2,449	381
Juneau	1,538	236	1,724	281	233	1,443	276	1,774	402	203	1,796	270
Kenosha	2,854	184	2,889	464	71	2,621	204	2,989	497	138	2,219	151
Kewaunee	1,070	108	1,010	197	185	984	221	1,124	242	195	1,083	141
La Crosse	3,419	245	4,625	371	185	2,764	529	3,904	382	162	2,505	239
Lafayette	1,613	234	1,153	80	188	1,401	328	1,694	66	261	1,402	257
Langlade	1,957	266	3,074	2,486	556	2,019	447	3,393	2,712	306	2,432	256
Lincoln	1,451	248	2,329	2,252	547	1,621	368	2,957	2,412	224	1,930	214
Manitowoc	3,965	523	3,783	513	396	3,662	596	4,076	581	487	3,561	400
Marathon	5,256	797	6,241	2,899	905	4,172	712	7,161	3,157	475	6,407	401
Marinette	2,684	309	3,692	2,700	585	3,131	526	4,108	3,146	489	2,973	377

SALE OF RESIDENT HUNTING AND TRAPPING LICENSES—Continued

County	1927		1928			1929		1930			1931	
	Hunting Licenses	Trapping Licenses	Hunting Licenses	Deer tags	Trapping Licenses	Hunting Licenses	Trapping Licenses	Hunting Licenses	Deer tags	Trapping Licenses	Hunting Licenses	Trapping Licenses
Marquette	1,007	275	1,055	100	277	932	239	1,094	101	103	908	265
Milwaukee	19,347	95	21,549	2,944	86	22,487	100	24,375	3,882	90	20,102	94
Monroe	2,301	246	2,445	598	210	1,820	297	2,166	385	203	2,137	199
Oconto	2,570	259	2,004	1,488	351	2,161	391	2,950	1,635	260	2,379	236
Oneida	1,600	303	2,882	2,410	619	1,630	450	3,095	2,843	340	2,053	380
Outagamie	3,726	401	4,025	971	486	3,601	616	4,287	1,182	376	3,387	182
Ozaukee	1,092	131	971	83	129	1,015	143	1,217	174	119	1,147	98
Pepin	340	71	570	189	78	411	119	600	200	63	455	70
Pierce	1,385	205	1,732	431	243	1,241	295	1,505	407	236	1,308	237
Polk	1,321	461	2,145	1,512	434	1,380	708	2,195	1,549	372	1,363	399
Portage	3,202	361	3,145	933	353	2,821	353	3,465	1,074	253	3,313	251
Price	816	497	2,418	2,300	701	841	581	2,546	2,391	371	1,114	336
Racine	3,707	219	3,595	394	69	3,870	293	4,064	477	171	3,266	222
Richland	1,448	131	1,702	278	214	1,094	328	1,480	300	210	1,141	296
Rock	5,485	263	4,676	416	209	4,981	341	5,393	502	263	4,265	253
Rusk	1,154	411	2,473	2,269	459	1,175	599	2,750	2,476	352	1,665	374
St. Croix	1,109	257	1,434	600	256	1,145	374	1,409	660	267	1,040	245
Sauk	3,189	246	2,887	220	169	2,667	322	3,053	248	199	2,771	248
Sawyer	595	341	1,868	1,566	311	703	486	1,730	1,634	271	1,845	330
Shawano	2,236	250	2,382	996	442	1,689	310	2,368	836	241	1,983	198
Sheboygan	3,256	361	3,679	437	192	3,619	369	4,114	593	297	3,757	260
Taylor	912	483	1,551	1,138	418	1,193	491	1,917	1,381	281	1,560	235
Trempealeau	1,345	453	1,459	300	679	1,312	545	963	300	299	1,367	368
Vernon	1,786	161	2,089	371	326	1,304	330	1,540	325	255	1,228	278
Vilas	780	274	1,780	1,989	256	845	310	1,936	1,826	260	1,058	284
Walworth	2,683	316	2,511	275	263	2,480	289	2,797	333	192	1,984	228
Washburn	713	260	1,630	1,425	184	865	493	1,896	1,598	177	1,106	355
Washington	2,237	262	2,161	175	229	2,144	280	2,418	230	193	2,204	195
Waukesha	3,733	255	3,636	336	127	3,572	427	3,966	462	214	3,420	353
Waupaca	4,133	1,069	3,954	925	1,156	3,656	883	4,209	1,093	684	3,381	654
Waushara	1,800	414	1,644	200	454	1,437	393	1,706	300	337	1,605	231
Winnebago	4,765	479	5,127	753	571	4,715	651	5,247	948	432	4,137	286
Wood	3,706	332	3,580	1,356	309	3,215	369	3,901	1,300	252	4,132	201
Total	174,511	22,262	201,219	69,049	23,158	168,467	28,912	219,748	77,284	18,940	175,294	19,622

Note: Deer tag sale only in years in which there is a deer season.

WISCONSIN CONSERVATION DATES

	Chapter	Year
Fish Inspector	77	1866
Commission to Investigate Forestry Conditions	36	1867
Timber Agents	46	1869
Commissioner to Receive Spawn	253	1874
Fish Commissioners	299	1878
Establishment of first State Park	324	1878
Game Wardens	456	1887
Fish Wardens	455	1887
State Fish and Game Warden	436	1891
Commissioners of Fish and Fisheries	221	1895
Chief clerk of land commission made State Forest Warden	266	1895
Commissioners to Plan for Forestry Department	229	1897
Sale of first State Park lands	367	1897
Interstate Park Commission	102	1899
Interstate Park Commission	305	1901
State Department of Forestry	450	1903
Provision for purchasing state forest reserve	450	1903
Commissioners of Interstate Park of the Dalles of the St. Croix	395	1905
State Board of Forestry	264	1905
State Forester	264	1905
State Park Board	495	1907
Superintendent of Fisheries	548	1907
First Conservation Commission	644	1911
Adverse Supreme Court forestry decision		1915
Second Conservation Commission	406	1915
Third Conservation Commission—Conservation Commissioner	118	1923
Fourth Conservation Commission	426	1927

Part III—Section 2

FOREST PROTECTION

FOREST PROTECTION—PERSONNEL AND EQUIPMENT

December 31, 1932

Forest Protection District Number	1	2	3	4	5	6	7	8	9	10	11	Total
I. Personnel												
*District Rangers	1	1	1	1	1	1	1	1	1	1	1	11
Rangers	6	4	4	7	4	5	5	4	7	3	3	52
Dispatchers	1	1	1	1	1	1	1	1	1	1	1	11
Emergency fire wardens	66	56	60	8	16	53	52	34	53	33	42	473
II. Structures												
**Towers beginning of biennium	9	7	11	8	6	9	8	10	8	7	6	89
New towers on old locations	2	2	4	3		3				1		15
New towers on new locations	3	1			1		2	1	2	1	3	14
Rebuilt towers on old locations				1				2				3
Rebuilt towers on new locations		1	1	1	1	1	1		1	2	1	10
Towers strengthened	1	1			1		8		5	1	4	21
Old towers unaltered	4	4	7	3	5	6		7	2	5	2	45
Total towers	10	9	12	8	8	10	11	10	10	10	10	108
District headquarters	1	1	1	1	1	1	1	1	1	1	1	11
Ranger stations			2	1	1		1	1		1		7
Garages	1	1	2			1	1	1	1			8
Tower cabins		1	4	2		1		5				13
Telephone line—state owned	187.0	74.0	179.5	67.8	112.0	31.0	63.0	29.2	88.0	48.9	55.0	935.4
Telephone line—state wire on other poles	9.0	8.0	16.8	77.0	9.5	35.0	2.5		8.0	19.5	20.5	205.8
Total telephone line	196.0	82.0	196.3	144.8	121.5	66.0	65.5	29.2	96.0	68.4	75.5	1,141.2
III. Major equipment												
Tractors—crawler type	1	1	1	1	1	1	1	1	1	1	1	11
Trailers	1		1	1	1	2	1	1		1	1	10
Trucks—½ ton	3	2	4	3	3	3	5	6	5	4	4	42
Trucks—1 and 1½ ton	5	5	5	4	4	6	6	4	3	4	4	50
Plows—16 inch bottom	1	2	3	1	1	1	1	1	1	3	4	19
Fresnos						1						1
Pumpers—Evinrude	2	2	3	2	2	3	3	1	2	1		21
Pumpers—Pacific Marine—"N"	2	2	2	2	2	2	3	2	2	1	1	21

FOREST PROTECTION—PERSONNEL AND EQUIPMENT—Continued

December 31, 1932

Forest Protection District Number	1	2	3	4	5	6	7	8	9	10	11	Total
Pumpers—Pacific Marine—"U"	1	1	1	1	1	1	1	1	1	2	2	13
Pumpers—Waukesha Centrifugal											1	1
Thresher pumps	2	3	1	2			2	1		1	2	14
Hose—1½ inch (feet)	4,900	5,000	10,350	7,680	7,400	8,750	9,500	5,500	7,900	4,450	7,500	78,930
Hose—2½ inch (feet)											1,500	1,500
Water tanks for ½ ton trucks		1		1	2	1	2					*7
Water tanks for 1 and 1½ ton trucks	5	4	1	3	3	1	3	2	2	2	4	*30
IV. Fire fighting tools												
Fire tool boxes	34	23	61	7	12	39	46	30	32	16	30	330
Back pack pumps	272	161	277	175	185	333	311	267	233	134	305	2,653
Axes	82	128	131	98	84	160	56	131	90	124	69	1,153
Grub hoes	2		15	38	6	104	6	23	2	22	9	227
Mattocks	12	26		55	50	98	10		60			311
Pick axes	2	12	4	7		32	1	2				60
Shovels—long handle	24	88	6	13	5	114	86	167	39	48	58	648
Shovels—short handle	750	508	696	547	377	844	503	446	541	187	360	5,759
Cross-cut saws	6	24	20	15	8	31	31	10	20	6	9	180
Brush scythes	6	11	4	1	38	10	4	16	1	24	18	133
Brush forks	2	8	4		13	1	6	2	18		1	55
Brush hooks	3	5	9	43	8	65	4		20	24	7	188
Cant hooks	6	9	19	12	8	26	8	5	9			102
Back fire torch	60	45	51	60	32	47	23	47	49	31	29	474
Fire rakes	2		4	27	39			23	37			132
Pack sacks	6	6	1	6		2	8		5			34
Galvanized pails	247	191	377	222	84	224	193	218	131	51	19	1,957

* In addition to the district rangers there are four supervising area wardens.
** Number of towers at beginning of biennium not included in classification "Total towers."

SUMMARY OF FOREST AND MARSH FIRES FOR THE YEAR 1931 AS REPORTED BY DISTRICT FOREST RANGERS

District	No. of Fires	Per cent of Total Fires	Acres Burned	Acreage burned per fire	Reported damage
1	193	8.3	57,890	300	$46,710.90
2	251	10.7	83,551	332	45,555.85
3	141	6.0	9,193	65	27,541.25
4	203	8.7	94,953	468	63,190.15
5	147	6.3	64,800	441	21,621.10
6	335	14.3	121,204	362	80,826.70
7	327	14.0	73,429	225	48,252.75
8	138	5.9	37,209	270	19,220.35
9	232	9.9	31,968	138	37,242.30
10	188	8.0	25,240	134	15,418.70
11	185	7.9	41,542	224	15,920.90
Total or average	2,340	100	640,979	274	$421,500.95

FIRES BY CAUSES—1931

District	Lightning	R. R.	Logging	Clearing	Camp Fires	Smokers	Incendiary	Misc.	Unknown	Total
1	0	5	1	23	5	37	2	10	110	193
2	4	9	0	64	13	73	65	17	6	251
3	6	9	0	25	30	51	9	7	4	141
4	2	4	5	17	16	20	80	23	36	203
5	0	10	0	18	7	36	10	9	57	147
6	0	7	0	65	20	53	37	33	120	335
7	0	7	7	105	17	29	58	10	94	327
8	1	3	0	58	7	40	0	29	0	138
9	0	15	5	86	26	15	52	4	29	232
10	0	10	1	61	2	2	8	6	98	188
11	0	13	0	21	7	51	9	11	73	185
Total	13	92	19	543	150	407	330	159	627	2,340
Per cent	0.6	3.9	0.8	23.2	6.4	17.4	14.1	6.8	26.8	100.

FIRES BY MONTHS—1931

District	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.
1	0	103	45	1	16	4	13	10	1
2	8	120	72	8	22	4	14	0	3
3	0	41	40	3	25	15	12	5	0
4	0	108	62	5	11	4	13	0	0
5	1	81	44	4	8	2	5	1	1
6	0	198	98	3	5	7	21	2	1
7	3	167	84	1	8	6	50	7	1
8	0	71	45	2	4	4	10	1	1
9	4	115	62	2	12	30	5	1	1
10	5	73	35	3	24	33	13	2	0
11	2	45	16	8	35	40	27	8	4
Total	23	1,122	603	40	170	149	183	37	13
Per cent	1.0	48.0	25.7	1.7	7.2	6.4	7.8	1.6	0.6

FIRES BY AREA CLASSES—1931

District	A Under ¼ acre	B ¼ to 10 acres	C 11 to 100 acres	D 101 to 500 acres	E 500 acres and over
1	6	56	65	37	29
2	11	64	90	55	31
3	38	64	22	10	7
4	0	33	77	45	48
5	0	54	46	30	17
6	15	78	125	74	43
7	40	73	122	55	37
8	0	36	47	45	10
9	16	65	102	36	13
10	2	56	71	47	12
11	4	50	76	39	16
Total	132	629	843	473	263
Per cent	5.6	26.9	36.1	20.2	11.2

COSTS AND AREAS BURNED

Year	Total cost of Protection	Area under protection in millions acres	Cost per acre in cents	Number of fires	Area burned over	Acreage per fire	Per cent of area burned	Damage
1928	$137,751.90	12.5	1.1	430	44,139	103	.35	$ 27,627
1929	164,660.28	13.5	1.22	960	103,888	109	.77	72,770
1930	312,855.22	13.6	2.3	2,300	513,856	223	3.8	460,627
1931	384,260.44	13.1	2.9	2,340	640,979	274	4.89	421,501
1932	433,612.14	13.1	3.3	3,168	119,458	38	.91	69,320

EXPENDITURES

Year	Contributed by State	Contributed by Federal Government	Contributed by Counties	Total Cost of Protection
1929	$ 110,939.71	$ 38,137.40	$ 15,583.17	$ 164,660.28
1930	183,131.35	43,783.43	85,940.44	312,855.22
1931	268,622.80	51,819.05	63,818.59	384,260.44
1932	314,301.49	67,015.00	52,295.65	433,612.14

ALLOTMENT OF EXPENDITURES

Year	Administrative expense	Field Personnel	Equipment and Improvements	Fire Fighting	Total Cost
1929	$ 3,000.00	$ 77,645.51	$ 52,848.40	$ 31,166.37	$ 164,660.28
1930	6,857.32	103,112.49	31,034.52	171,880.89	312,855.22
1931	17,848.18	156,131.28	82,643.80	127,637.18	384,260.44
1932	39,616.95	198,876.85	90,527.03	104,591.31	433,612.14

SUMMARY OF FOREST AND MARSH FIRES FOR THE YEAR 1932 AS REPORTED BY DISTRICT FOREST RANGERS

District	No. of Fires	Per cent of Total Fires	Acres Burned	Acreage burned per fire	Reported damage
1	285	9.0	6,959	24	$ 3,858.02
2	311	9.8	26,927	86	10,771.80
3	139	4.4	1,832	13	3,759.00
4	332	10.5	5,544	17	2,762.50
5	185	5.8	4,190	22	1,058.15
6	350	11.0	15,922	45	18,070.00
7	362	11.4	10,198	28	9,131.25
8	221	7.0	13,854	63	6,844.45
9	394	12.4	16,176	41	5,711.80
10	233	7.3	4,964	21	3,477.85
11	356	11.4	12,892	36	3,875.50
Total or average	3,168	100	119,458	38	$ 69,320.32

FIRES BY CAUSES—1932

District	Lightning	R. R.	Logging	Clearing	Camp fires	Smokers	Incendiary	Misc.	Unknown
1	1	12	1	69	11	129	35	27	0
2	2	17	0	66	11	63	65	19	68
3	1	3	1	15	31	53	25	8	2
4	7	8	0	54	38	50	102	28	45
5	2	7	0	33	13	89	14	13	14
6	2	10	4	92	10	78	72	36	46
7	0	10	1	118	15	75	75	20	48
8	0	17	0	41	17	120	21	5	0
9	4	18	1	93	29	33	56	63	97
10	0	14	0	60	7	46	11	10	85
11	1	22	0	160	12	131	6	24	0
Total	20	138	8	801	194	867	482	253	405
Per cent	0.6	4.3	0.2	25.4	6.1	27.4	15.2	8.0	12.8

FIRES BY MONTHS—1932

District	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.
1	0	73	36	18	11	53	26	68	0
2	0	122	69	26	21	26	20	25	2
3	0	35	21	24	9	41	7	2	0
4	0	72	57	37	44	95	18	9	0
5	0	38	30	15	44	41	8	9	0
6	0	88	49	24	27	66	35	59	2
7	0	117	58	24	17	68	25	53	0
8	0	38	18	21	44	65	18	17	0
9	0	47	38	27	91	118	49	24	0
10	0	71	17	13	29	21	14	40	28
11	3	103	62	24	19	18	35	63	29
Total	3	804	455	253	356	612	255	369	61
Per cent	0.1	25.4	14.4	8.0	11.1	19.4	8.0	11.7	1.9

FIRES BY AREA CLASSES—1932

District	A Under ¼ acre	B ¼ to 10 acres	C 11 to 100 acres	D 101 to 500 acres	E 500 acres and over
1	16	170	82	15	2
2	40	147	85	30	9
3	26	72	40	1	0
4	50	209	61	10	2
5	31	105	41	7	1
6	22	180	117	27	4
7	22	180	141	19	0
8	0	103	94	20	4
9	71	218	79	18	8
10	36	133	54	9	1
11	141	139	62	9	5
Total	455	1,656	856	165	36
Per cent	14.4	52.3	27.0	5.2	1.1

AREA AND DAMAGE BY CAUSES—1932

Causes	Lightning	R. R.	Logging	Clearing	Camp fires	Smokers	Incendiary	Misc.	Unknown	Total
Acres burned	180	3,090	254	17,266	2,637	37,123	27,781	5,870	25,257	119,458
Damage (dollars)	297	1,235	40	9,677	2,697	25,282	12,658	4,982	12,452	69,320

Part III—Section 3

UNEMPLOYMENT RELIEF

A—Report of Expenditures

Of $500,000.00 appropriated to the Conservation Department $493,-467.25 was allocated to approved projects designed to relieve the distress of the unemployed and to develop and augment the facilities for forest protection.

During the year 1932 the Conservation Department expended a total of $464,221.08 on these projects. Of this amount the sum of $396,-691.98 or 85.45% was expended in the form of wages.

The total wages paid consist of the following items:

Wages to foremen, operators of trucks and equipment, and laborers	$348,181.06
Wages to teamsters	41,062.25
Camp, board and keep	7,448.67
Total Wages	$396,691.98

Table I

TABLE BY DISTRICTS SHOWING NUMBER OF PROJECTS, LABOR EXPENDITURE, AND TOTAL EXPENDITURE

Dist. No.	No. of Projects	Counties making up Districts	Labor Expenditure	Total Expenditure	Per cent of labor Expenditure to Total Expenditure
1	30	Bayfield and Douglas	$ 37,348.00	$ 41,385.74	90.24%
2	66	Burnett, Polk, Washburn	27,479.07	29,788.20	92.25%
3	36	Iron and Vilas	38,489.44	47,339.83	81.30%
4	32	Florence, Forest, Marinette	50,140.68	58,385.32	85.88%
5	39	Marinette	29,253.80	33,894.37	86.31%
6	46	Ashland, Iron, Price, Taylor	47,668.13	59,429.18	80.21%
7	34	Chippewa, Rusk, Sawyer	31,935.17	38,815.48	82.27%
8	25	Lincoln, Oneida	33,503.05	35,300.55	94.91%
9	33	Langlade, Marathon, Oconto, Shawano	40,170.15	42,810.90	93.83%
10	33	Clark, Eau Claire, Jackson, Monroe	30,915.84	34,073.04	90.73%
11	32	Adams, Juneau, Portage, Wood	23,075.75	25,877.17	89.17%
Door Co.	5	Door	4,719.40	4,958.22	95.18%
Misc.	5	All districts	1,993.50	12,163.08	16.39%
Total	416		$396,691.98	$464,221.08	85.45%

The work accomplished was divided into 416 separate projects. Table I shows by forest protection districts the number of projects worked upon, the counties making up each district, the amount expended for labor, the total amount expended, and the percentage of labor expenditures to total expenditures.

These expenditures have been further analyzed to show in which counties projects are located and how much money was expended in these counties. Table II shows the labor expenditure and the total expenditure, and the percentage of each which has been apportioned to each of the thirty counties in which work was done.

Table II

APPORTIONMENT OF EXPENDITURES TO COUNTIES

No.	County	Labor Expenditure	Per Cent of Total	Total Expenditure	Per Cent of Total
1	Adams	$ 11,620.66	2.92%	$ 12,495.99	2.69%
2	Ashland	27,880.83	7.03	33,713.89	7.26
3	Bayfield	11,902.08	3.00	12,815.74	2.76
4	Burnett	10,723.90	2.71	10,752.20	2.32
5	Chippewa	1,484.02	.37	1,570.06	.33
6	Clark	11,433.47	2.88	12,539.74	2.71
7	Door	4,719.40	1.19	4,958.22	1.06
8	Douglas	25,395.07	6.40	28,480.27	6.14
9	Eau Claire	3,570.14	.90	3,910.43	.84
10	Florence	15,408.73	3.89	18,023.71	3.88
11	Forest	$ 31,301.86	7.89%	$ 36,398.87	7.84%
12	Iron	24,556.95	6.19	32,281.14	6.96
13	Jackson	13,766.12	3.47	15,193.09	3.27
14	Juneau	7,363.16	1.86	8,146.99	1.76
15	Langlade	27,657.31	6.97	29,286.99	6.31
16	Lincoln	12,299.60	3.10	12,795.66	2.75
17	Marinette	32,526.39	8.20	37,699.61	8.12
18	Monroe	2,053.71	.52	2,328.05	.50
19	Oconto	8,352.24	2.10	8,846.07	1.91
20	Oneida	21,203.45	5.35	22,504.89	4.85
21	Polk	$ 799.20	.20%	$ 799.20	.17%
22	Portage	173.49	.04	199.50	.04
23	Price	14,073.05	3.55	16,917.50	3.65
24	Rusk	11,978.09	3.02	15,817.69	3.40
25	Sawyer	17,303.63	4.36	20,130.22	4.34
26	Shawano	4,160.60	1.05	4,677.84	1.01
27	Taylor	3,788.68	.95	4,545.43	.98
28	Vilas	16,822.19	4.24	20,234.35	4.36
29	Washburn	15,917.77	4.02	18,143.41	3.90
30	Wood	3,670.64	.92	3,931.64	.85
	Undistributed	2,785.55	.71	14,082.69	3.04
	Total	$ 396,691.98	100.00%	$ 464,221.08	100.00%

A statement of expenditures showing the purposes for which money was expended is shown in Table III.

Table III

STATEMENT OF EXPENDITURES

District Number	Labor	Team Hire	Camp Board	Dynamite, Fuses, Caps	Equipment Hired	Gas, Grease and Oil	Supplies, Repairs	Administration	Other Expense	Total Expenditure	% of Total
1	$ 29,560.42	$ 5,275.73	$ 2,511.85	$ 1,279.78	$ 1,828.56	$ 459.66	$ 305.46	----------	$ 164.38	$ 41,385.74	8.91
2	24,264.37	2,360.70	854.00	576.23	353.35	171.07	373.07	----------	835.41	29,788.20	6.42
3	34,885.89	3,603.55	----------	3,675.13	4,082.32	783.25	278.45	----------	31.24	47,339.83	10.19
4	44,480.86	5,659.82	----------	5,856.77	1,430.24	494.06	434.37	----------	29.20	58,385.32	12.58
5	25,202.80	2,986.60	1,064.40	2,283.11	978.24	722.93	598.81	----------	57.48	33,894.37	7.30
6	41,682.33	3,192.51	2,793.29	4,221.23	4,909.11	1,017.10	1,324.17	----------	289.44	59,429.18	12.80
7	28,434.71	3,275.33	225.13	2,744.03	2,783.15	714.15	310.07	----------	328.91	38,815.48	8.37
8	30,717.39	2,785.66	----------	1,113.86	417.20	186.54	34.00	----------	45.90	35,300.55	7.60
9	33,438.95	6,731.20	----------	2,229.34	10.00	111.65	163.71	----------	126.05	42,810.90	9.22
10	27,752.26	3,163.58	----------	1,574.06	397.25	743.69	221.19	----------	221.01	34,073.04	7.34
11	21,048.18	2,027.57	----------	800.47	----------	583.72	794.84	398.54	223.85	25,877.17	5.58
Door Co.	4,719.40	----------	----------	----------	----------	132.11	106.71	----------	----------	4,958.22	1.06
Mis. Projs.	1,993.50	----------	----------	----------	----------	----------	7,998.87	2,170.71	----------	12,163.08	2.63
Totals	$348,181.06	$41,062.25	$ 7,448.67	$26,354.01	$17,189.42	$ 6,119.83	$12,943.72	$ 2,569.25	$ 2,352.87	$464,221.08	100.00
	75.01%	8.84%	1.61%	5.68%	3.70%	1.32%	2.78%	.56%	.50%	100.00%	

B—Employment

12,790 men were given employment. These men had a total of 40,209 dependents or an average of 3.14 dependents for each man employed. The average wage per man employed was $31.02.

This information is shown by districts in Table IV.

Table IV

NUMBER OF MEN EMPLOYED, NUMBER OF DEPENDENTS AND AVERAGE WAGE

District No.	No. of Men Employed	Total Wages	Average Wage Per Man	Number of Dependents	Average No. Dependents Per Man
1	1,047	$ 37,348.00	$ 35.67	2,996	2.86
2	879	27,479.07	31.26	3,448	3.92
3	1,276	38,489.44	30.16	3,348	2.62
4	1,427	50,140.68	35.14	4,850	3.40
5	834	29,253.80	35.08	2,630	3.15
6	2,332	47,668.13	20.44	6,283	2.69
7	1,072	31,935.17	29.79	3,743	3.49
8	876	33,503.05	38.25	2,803	3.20
9	1,224	40,170.15	32.82	4,245	3.47
10	997	30,915.84	31.01	3,194	3.20
11	590	23,075.75	39.11	1,961	3.32
Door Co.	225	$ 4,719.40	$ 20.98	675	3.00
Misc.	11	1,993.50	181.23	33	3.00
Total	12,790	$ 396,691.98	$ 31.02	40,209	3.14

In order to show which counties have benefited by employment for relief purposes, Table V has been prepared, showing the number of men employed from each of the thirty-five counties from which labor was secured.

Table V

NUMBER OF MEN EMPLOYED BY COUNTIES

No.	County	No. of Men Employed	Per Cent of Total
1	Adams	334	2.61%
2	Ashland	1,223	9.56
3	Barron	5	.04
4	Bayfield	375	2.93
5	Burnett	349	2.73
6	Chippewa	67	.52
7	Clark	248	1.94
8	Columbia	1	.01
9	Door	225	1.76
10	Douglas	671	5.24
11	Eau Claire	237	1.86
12	Florence	334	2.61
13	Forest	992	7.75
14	Iron	978	7.65
15	Jackson	339	2.65
16	Juneau	152	1.19
17	Langlade	793	6.20
18	Lincoln	361	2.82
19	Marinette	942	7.37
20	Monroe	134	1.05
21	Oconto	259	2.02
22	Oneida	515	4.03
23	Polk	27	.21
24	Portage	1	.01
25	Price	823	6.43
26	Rusk	316	2.47
27	Sawyer	621	4.86
28	Shawano	165	1.29
29	Taylor	270	2.11
30	Trempealeau	35	.27
31	Vernon	1	.01
32	Vilas	375	2.93
33	Washburn	506	3.96
34	Waushara	5	.04
35	Wood	100	.78
	Miscellaneous	11	.09
	Totals	12,790	100.00%

In order to show roughly the sources from which labor was obtained and to show to what degree labor was obtained from the immediate locality in which the projects are located, Table VI has been prepared in percentages. Employment on miscellaneous projects and the projects in Door county have not been included in this compilation. The number of men employed on these projects was comparatively small and if included would materially affect the percentages otherwise obtained.

Table VI

SOURCES OF LABOR IN PERCENTAGES

Dist. No.	Per Cent of Labor Employed from Towns in which Projects are located	Per cent of Labor Employed from Nearby Towns	Per Cent of Labor Employed from Nearby Cities	Per Cent of Labor Employed from Outside County	Total Per Cent
1	72.67	9.33	18.00	----------	100
2	72.15	16.98	8.27	2.60	100
3	67.62	24.29	7.91	.18	100
4	80.45	11.80	7.75	----------	100
5	86.66	11.54	1.80	----------	100
6	57.06	18.02	11.74	13.18	100
7	64.26	15.88	19.86	----------	100
8	54.60	25.60	19.80	----------	100
9	66.42	31.30	2.18	.10	100
10	27.30	20.61	37.06	15.03	100
11	50.37	26.93	18.53	4.17	100
Door Co.-	(2.00)	(80.00)	(18.00)	----------	(100)
Totals ---	63.59	19.30	13.90	3.21	100

The percentages in parentheses are not included in computing totals.

Common labor was paid at the rate of 25 cents per hour for the first four weeks and at the rate of 30 cents per hour thereafter. Foremen, grader-men, and tractor operators were paid at a rate of from 35 cents per hour to 40 cents per hour. Teams and trucks were hired at local prevailing rates.

In computing the figures shown in columns g, h, i, and j of Table VII it was assumed that the average wage for all classes of labor was 30 cents per hour in all districts except miscellaneous projects, where 53 cents was used. The total man hours was computed by dividing the total wages by the average hourly wage. This was divided by the number of men employed to give the average number of hours worked per man. By dividing this figure by eight the average number of eight hour days worked per man was obtained.

The rotation of labor or average number of periods for which each man was employed was obtained by dividing the total number of times men were employed by the actual number of men employed. By dividing the average number of days each man worked by this ratio, the average number of days in each period of employment was obtained.

The total number of times men were employed is the total number of times men worked on all projects. When one man worked on two or more projects he was considered to have worked as many times as the number of projects on which he worked. The transferring of labor from one project to another during the same period of employment was discouraged as much as possible.

Table VII

PERIODS OF EMPLOYMENT AND AVERAGE NUMBER OF DAYS WORKED PER MAN

Dist. No.	(a) No. Times Men Were Employed	(b) Total Wage	(c) (b/a) Ave. Wage Per Time Employed	(d) Actual No. Men Employed	(e) (a/d) Rotation of Labor	(f) Average Wage per Hour	(g) (b/f) Man Hours	(h) (g/d) Ave. Hours Worked Per Man	(i) (h/8) Ave. Days Worked Per Man	(j) (i/e) Ave. Days Per Period of Employment
1	1,968	$ 37,348.00	$ 18.98	1,047	1.88	$ .30	124,493.3	118.9	14.8	7.9
2	1,575	27,479.07	17.45	879	1.79	.30	91,596.9	104.2	13.0	7.3
3	2,087	38,489.44	18.44	1,276	1.64	.30	128,298.1	100.5	12.6	7.7
4	2,272	50,140.68	22.07	1,427	1.59	.30	167,135.6	117.1	14.6	9.2
5	1,653	29.253.80	17.70	834	1.98	.30	97,512.7	116.9	14.6	7.4
6	2,502	47,668.13	19.05	2,332	1.07	.30	158,893.8	68.1	8.5	7.9
7	1,751	31,935.17	18.24	1,072	1.63	.30	106,450.6	99.3	12.4	7.6
8	1,954	33,503.05	17.15	876	2.23	.30	111,676.8	127.5	15.9	7.1
9	2,022	40,170.15	19.87	1,224	1.65	.30	133,900.5	109.4	13.7	8.3
10	1,737	30,915.84	17.80	997	1.74	.30	103,052.8	103.4	12.9	7.4
11	1,421	23,075.75	16.24	590	2.41	.30	76,919.2	130.8	16.4	6.8
Door Co.	375	4,719.40	12.59	225	1.67	.30	15,731.3	69.9	8.7	5.2
Misc. Proj.	11	1,993.50	181.23	11	1.00	.53	3,759.0	341.7	42.7	42.7
Totals	21,328	$396,691.98	18.60	12,790	1.67	.30	1,319,420.6	103.2	12.9	7.7

C—Work Accomplished

The total expenditures classified according to the type of work accomplished are as follows:

Type of Work Accomplished	*Total Expenditure*	*% of Total*
New fire roads	$374,299.17	80.62
Fire breaks	40,655.40	8.76
Fire hazard elimination	10,669.82	2.30
Construction labor	18,679.97	4.02
Miscellaneous	19,916.72	4.30
Total	$464,221.08	100.00

The above classifications will be discussed in the following paragraphs.

New fire roads:—1,020 miles of new fire road were constructed at a total cost of $374,299.17 or an average cost per mile of $366.96. In constructing these roads, 17,497 rods of fill, 266 bridges of an average length of 22.7 feet, 764 culverts and 299 gates were installed. These figures are shown by districts in Table VIII.

Table VIII

NEW FIRE ROADS

Dist. No.	No. Miles	Cost	Cost per Mile	Rods of Fill	No. of Bridges	Tot. Ft. Bridges	No. of Culverts	No. Gates
1	66.3	$ 33,156.71	$500.10	2,389	18	459	100	11
2	51.2	16,279.11	317.95	1,005	4	390	15	5
3	139.8	44,519.98	305.35	1,402	22	592	205	25
4	90.6	53,647.21	592.13	1,533	31	767	88	36
5	102.7	32,479.67	316.26	1,810	48	849	40	34
6	111.7	56,603.90	506.75	1,938	39	1,004	137	28
7	58.5	33,196.61	567.46	464	14	145	71	19
8	111.3	34,605.05	310.92	1,860	28	403	65	40
9	171.2	40,740.05	237.97	1,167	43	1,175	30	54
10	86.5	20,564.69	237.74	3,009	15	163	11	35
11	30.2	8,506.19	281.66	920	4	86	2	12
	1,020.0	$374,299.17	$366.96	17,497	266	6,033	764	299

Fire breaks:—342.2 miles of fire breaks were constructed at a total cost of $40,655.40 on an average cost per mile of $118.81. In constructing fire breaks 323 rods of fill, 11 bridges of an average length of 18.6 feet, 13 culverts and four gates were installed. These figures are shown by districts in Table IX.

Table IX

FIRE BREAKS

Dist. No.	No. Miles	Cost	Cost per Mile	Rods of Fill	No. of Bridges	Tot. Ft. Bridges	No. of Culverts	No. Gates
1	12.6	$ 2,073.86	$164.59	100			5	
2	176.9	10,233.20	57.85	3			3	
3								
4								
5	1.5	288.80	192.53					
6								
7	4.5	572.30	127.18		2	20	1	
8								
9								
10	63.1	12,451.79	197.33	52	8	167	4	4
11	83.6	15,035.45	179.85	168	1	18		
	342.2	$40,655.40	$118.81	323	11	205	13	4

Fire hazard elimination:—The work accomplished under this classification consisted of the following:

Type and Amount of Work Accomplished	*Total Cost*
103.5 miles of snag cutting at an average cost per mile of $47.84	$ 4,951.36
81.5 miles of road slash, burned at an average cost per mile of $26.85	2,188.41
190.0 miles of telephone line brushing at an average cost per mile of $13.32	2,530.15
30 acres of park and other slash disposed at an average cost per acre of $33.33	999.90
Total hazard elimination	$10,669.82

Construction labor: Practically the entire expenditure under this classification was for labor. Supplies and materials have been changed to other funds wherever possible. The work accomplished under this classification consisted of the following:

Type and Amount of Work Accomplished	*Total Cost*
21 New towers	$ 3,845.84
12 Tower replacements	1,567.43
8 Tower relocations	971.82
Tower repairs	358.08
Addition to ranger station buildings	462.30
Improvements to ranger station buildings	1,781.99
Repairs to ranger station buildings	78.00
190.9 miles of new telephone line at an average cost of $35.86 per mile	6,846.26
Improvements to old telephone line	2,768.25
Total construction labor	$18,679.97

Miscellaneous: The work on expenditures under this classification are as follows:

Type of Work	*Total Cost*
Construction of gates not distributed to projects	$ 557.33
Miscellaneous brushing (12 mi. at $45.81 per mi. and 695 acres at $7.13 per acre)	5,507.91
Cruising	327.90
Tower cabin construction	235.90
Administration and supervision	2,569.25
Tower Foreman	1,362.30
Tools and supplies not distributed to projects	8,455.58
Transportation not distributed to projects	631.20
Miscellaneous expenditures	269.35
Total miscellaneous	$19,916.72

Part III—Section 4

FORESTRY—STATE FORESTS AND REFORESTATION

CLASSIFICATION OF STATE OWNED LANDS

County	Commissioners Public Lands June 30, 1932* Trust Fund Lands	Conservation Commission Dec. 31, 1932 Forestry Lands	Total
Adams	289.82		289.82
Ashland	3,703.35	360.00	4,063.35
Barron	120.20		120.20
Bayfield	1,190.96	239.58	1,430.54
Buffalo	550.42		550.42
Burnett	4,587.31	1,114.35	5,701.66
Chippewa	324.24		324.24
Clark	1,105.80		1,105.80
Columbia	107.80		107.80
Crawford	5.51		5.51
Dodge	160.00		160.00
Door	144.40		144.40
Douglas	1,211.02	6,151.92	7,362.94
Dunn	684.50		684.50
Eau Claire	494.75		494.75
Florence	3,498.36	80.00	3,578.36
Forest	34,964.44	2,245.47	37,209.91
Grant	43.15		43.15
Iron	21,693.63	6,573.24	28,266.87
Jackson	1,806.99		1,806.99
Juneau	160.00		160.00
La Crosse	127.27		127.27
Langlade	1,298.42	920.00	2,218.42
Lincoln	1,204.32		1,204.32
Marathon	160.00		160.00
Marinette	4,885.91	447.10	5,333.01
Marquette	176.61		176.61
Monroe	600.00		600.00
Oconto	11,737.91		11,737.91
Oneida	34,557.56	37,404.34	71,961.90
Outagamie	1,617.21		1,617.21
Pepin	48.60		48.60
Pierce	63.87		63.87
Polk	1,185.85	606.40	1,792.25
Price	18,906.69	1,037.69	19,144.38
Richland	6.32		6.32
Rock	80.00		80.00
Rusk	2,258.51		2,258.51
Sawyer	10,714.34	2,365.50	13,079.84
Shawano	5,999.49		5,999.49
Taylor	2,082.54		2,082.54
Trempealeau	199.90		199.90
Vernon	558.49		558.49
Vilas	15,134.81	116,745.90	131,880.71
Washburn	3,268.46	433.15	3,701.61
Waupaca	40.00		40.00
Wood	526.06		526.06
Islands (1912 Grant)		812.08	812.08
Total	194,285.79	177,536.72	371,822.51

Note—The above table does not include any state park lands.
*From Biennial report of Commissioners of Public Lands 1932.

CLASSIFICATION OF STATE OWNED LANDS WITHIN WISCONSIN STATE FORESTS

Name of Forest	Location (county)	Forest Land* Acres	Trust Fund Lands** Acres	Total
Brule River	Douglas	3,711	280	3,991
Northern State	Vilas	102,140	1,782	103,922
American Legion	Oneida	17,456	320	17,776
Flambeau River	Sawyer	833	2,128	2,961
Total		124,140	4,510	128,650

* Under jurisdiction of conservation commission
** Under jurisdiction of commissioners of public lands

ANNUAL OUTPUT OF TROUT LAKE STATE FOREST NURSERY

Year	For Private Planting	For State Planting	Total Output
1911		192,300*	
1912		18,000**	
1913		68,500	68,500
1914	20,200	458,430	478,630
1915	77,400		77,400
1916	110,200	216,650	326,850
1917	272,105	332,525	604,630
1918	246,278	262,485	508,763
1919	200,151	309,900	510,051
1920	206,682	113,875	320,557
1921	199,601	255,925	455,526
1922	39,482	83,710	123,192
1923	177,260	176,800	354,060
1924	247,000	163,300	410,300
1925	350,538	160,700	511,238
1926	748,497	424,200	1,172,697
1927	1,038,249	579,000	1,617,249
1928	1,101,464	637,200	1,738,664
1929	1,393,267	1,022,750	2,416,017
1930	1,185,075	981,500	2,166,575
1931	1,304,250	2,050,350	3,354,600
1932	880,315	5,701,500	6,581,815
Total	9,798,014	14,209,600	23,797,314

* Stock secured from Michigan State College
** Stock purchased.

OUTPUT OF TROUT LAKE NURSERY

Species	1931		1932	
	For Private Plantings	For State Plantings	For Private Plantings	For State Plantings
White pine	397,900	181,100	227,000	837,900
Norway Pine	328,400	474,000	297,200	2,858,600
Jack pine	59,950	1,208,500	14,950	573,700
Scotch pine	74,050	4,500	96,115	130,800
Norway spruce	342,450	176,150	188,275	1,222,800
White spruce	101,500	6,100	56,775	77,700
	1,304,250	2,050,350	880,315	5,701,500
Total output		3,354,600		6,581,815
Total output for biennium				9,936,415

DISTRIBUTION OF FOREST PLANTING STOCK
TROUT LAKE NURSERY—1931

County	General Distribution	Extension Planting	State Planting	Total
Adams		5,000		5,000
Ashland	2,200	20,000	35,000	57,200
Barron	2,000			2,000
Bayfield	1,000	2,000		3,000
Brown	4,000			4,000
Buffalo	1,000	13,000		14,000
Burnett	1,000			1,000
Calumet				
Chippewa	5,500	6,000		11,500
Clark	3,500	18,200		21,700
Columbia	15,550	5,200		20,750
Crawford		19,600		19,600
Dane	26,250	2,300		28,550
Dodge	1,500	1,200		2,700
Door	20,400		25,000	45,400
Douglas	12,550	4,300		16,850
Dunn	2,000			2,000
Eau Claire	14,000	5,100		19,100
Florence		2,000		2,000
Fond du Lac	4,000	2,500		6,500
Forest		18,000		18,000
Grant	7,500	2,400	11,000	20,900
Green	1,000	5,900		6,900
Green Lake	3,000	1,000		4,000
Iowa	2,000	13,500		15,500
Iron	16,100			16,100
Jackson	3,250			3,250
Jefferson	4,850	2,000		6,850
Juneau	2,000			2,000
Kenosha	1,000	2,000		3,000
Kewaunee	2,000			2,000
La Crosse	5,400	27,000		32,400
Lafayette	1,000			1,000
Langlade		15,400		15,400
Lincoln	2,000			2,000
Manitowoc	9,000	1,000		10,000
Marathon	1,000	3,900		4,900
Marinette	97,000	37,000		134,000
Marquette	3,000	3,000		6,000
Milwaukee	37,950	1,750		39,700
Monroe	1,000	2,600		3,600
Oconto	4,000			4,000
Oneida	11,000	3,500	260,100	274,600
Outagamie	4,500	5,000		9,500
Ozaukee	10,000	2,500		12,500
Pepin		10,200		10,200
Pierce	5,500	13,100		18,600
Polk	2,500	2,000		4,500
Portage	14,150	13,200		27,350
Price	8,500	12,000		20,500
Racine	2,200		1,000	3,200
Richland				
Rock	6,000	8,300		14,300
Rusk		6,100		6,100
St. Croix	8,000			8,000
Sauk	6,500	3,400		9,900
Sawyer	2,500	9,200		11,700
Shawano	1,000	1,300		2,300
Sheboygan	38,400		2,000	40,400
Taylor	76,000	2,750		78,750
Trempealeau	2,600	1,500		4,100
Vernon	5,500			5,500
Vilas	40,300	7,400	1,716,000	1,763,700
Walworth	4,000			4,000
Washburn		9,000		9,000
Washington	13,400	7,000		20,400
Waukesha	22,000	7,000		29,000
Waupaca	8,300	10,400		18,700
Waushara	16,300	28,000	250	44,550
Winnebago	1,000			1,000
Wood	256,000	11,900		267,900
Totals	886,650	417,600	2,050,350	3,354,600

DISTRIBUTION OF FOREST PLANTING STOCK
TROUT LAKE NURSERY—1932

County	General Distribution	Extension Planting	State Planting	Total
Adams				
Ashland		5,000	1,000	6,000
Barron		6,200		6,200
Bayfield	5,400	8,700		14,100
Brown	1,000			1,000
Buffalo	2,000	13,400		15,400
Burnett	4,000			4,000
Calumet				
Chippewa	1,000	17,500		18,500
Clark	3,000	15,000		18,000
Columbia	2,000	15,250		17,250
Crawford		15,000		15,000
Dane	1,500	1,500		3,000
Dodge		2,000		2,000
Door	4,000	5,600		9,600
Douglas	32,800	30,000	195,000	257,800
Dunn		900		900
Eau Claire	4,975			4,975
Florence		3,000		3,000
Fond du Lac	4,000	2,000		6,000
Forest	1,000	31,000		32,000
Grant	1,000	6,500		7,500
Green				
Green Lake	2,000	2,000		4,000
Iowa	1,000	6,000		7,000
Iron	12,000	4,000		16,000
Jackson	1,400			1,400
Jefferson	5,000	3,900		8,900
Juneau	1,300	2,000		3,300
Kenosha				
Kewaunee		11,000		11,000
La Crosse	13,300			13,300
Lafayette				
Langlade	1,000	33,000		34,000
Lincoln	5,000	500		5,500
Manitowoc	10,000	2,000		12,000
Marathon	9,000	17,000		26,000
Marinette	34,000	41,000		75,000
Marquette	1,000	15,400		16,400
Milwaukee	2,000			2,000
Monroe		4,600		4,600
Oconto				
Oneida	5,300	45,940	1,475,000	1,526,240
Outagamie		9,550		9,550
Ozaukee	9,200			9,200
Pepin		1,500		1,500
Pierce		15,000		15,000
Polk	15,000	2,700		17,700
Portage	3,100	11,250		14,350
Price		13,200		13,200
Racine	3,000			3,000
Richland				
Rock	2,750	12,500		15,250
Rusk		24,900		24,900
St. Croix	2,000	5,000		7,000
Sauk	10,700	3,650		14,350
Sawyer	1,000	9,200	1,000	11,200
Shawano				
Sheboygan	7,000	2,500	1,000	10,500
Taylor		1,250		1,250
Trempealeau		1,800		1,800
Vernon				
Vilas	40,950	11,650	4,028,500	4,081,100
Walworth	5,000			5,000
Washburn		16,000		16,000
Washington	6,000	5,500		11,500
Waukesha	17,000	6,500		23,500
Waupaca	3,800	12,700		16,500
Waushara	12,800	20,900		33,700
Winnebago	1,000	3,550		4,550
Wood		11,350		11,350
Totals	311,275	569,040	5,701,500	6,581,815

INVENTORY OF STOCK IN TROUT LAKE NURSERY

TRANSPLANTS

Species	Age	Height in Inches	1931 Number	1932 Number
White pine	2–1	2″— 3″	290,000	
	2–2	5″— 8″	70,000	240,000
Norway pine	2–1	2″— 4″	521,000	
	2–2	6″—10″	137,000	306,400
Scotch pine	2–1	2″— 4″	101,000	
	2–2	6″—10″	65,000	77,000
Norway spruce	2–1	2″— 4″	181,000	
	2–2	4″—11″	116,000	150,000
	2–3	6″—14″	80,000	16,200
White spruce	2–1	2″— 4″	129,000	191,000
	2–2	4″—11″	121,000	211,100
Total transplants			1,811,000	1,191,700

SEEDLINGS

Species	Age	Height in Inches	1931 Number	1932 Number
White pine	1–0		470,000	679,000
	2–0	2″— 3″	450,000	96,000
	3–0	3″— 6″	130,000	
Norway pine	1–0		1,200,000	4,417,000
	2–0	2″— 3″	850,000	92,000
	3–0	4″— 7″	190,000	
	4–0	6″—12″	250,000	
Scotch pine	1–0		45,000	248,000
	2–0	2″— 3″	110,000	57,000
Norway spruce	1–0		135,000	2,830,000
	2–0	2″— 4″	320,000	34,000
	3–0	3″— 8″	74,000	
White spruce	1–0		60,000	490,000
	2–0	2″— 4″	275,000	35,000
	3–0	3″— 7″	225,000	210,000
	4–0		140,000	
Jack pine	1–0		280,000	5,937,000
	2–0	3″— 4″	325,000	
Total seedlings			5,529,000	15,125,000
TOTAL INVENTORY			7,340,000	16,316,700

STATE PLANTING PROJECTS

1932

SPRING PERIOD

Forest	Camp	Acres	Norway Pine	White Pine	Scotch Pine	Jack Pine	Norway Spruce	White Spruce	Number of Trees
Brule River	Brule	746	237,200	163,500	22,000	56,300	66,000	184,000	729,000
Brule River	Gordon	397	248,640		44,100	111,180			403,920
American Legion	Lake Tomahawk	1,094	240,050	98,500	58,900		751,780		1,149,230
American Legion	McNaughton	411	210,100			153,250	28,550	33,902	425,802
Northern State	Oxley	1,490	852,150			125,000	395,000		1,372,150
Northern State	Trout Lake	474	350,300	1,500		44,900			396,700
Northern State	Nebish	995	271,678	102,118		460,163			833,959
	Total	5,607	2,410,118	365,618	125,000	950,793	1,241,330	217,902	5,310,761

FALL PERIOD

Brule River	Gordon	402	204,500	86,500		63,000	17,000	21,000	392,000
Thunder Mountain	Wausaukee	332	299,000						299,000
Northern State	Oxley	1,741	1,370,335	467,978	8,250		45,000		1,891,563
Northern State	Camp 2	1,559	1,056,083	119,890		184,000		45,300	1,405,273
American Legion	McNaughton	423	398,600	25,000					423,600
	Total	4,457	3,328,518	69,368	8,250	247,000	62,000	66,300	4,411,436
	Grand total	10,064	5,738,636	1,064,986	133,250	1,197,793	1,303,330	284,202	9,722,197

CLASSIFICATION OF WISCONSIN TIMBER BEARING LANDS BY ACRES

County	Woodland Pastured*	Woodland not Pastured*	Cutover Lands**	Timber Lands**	Total Farm Lands and Timber Lands
NORTHEASTERN AREA					
Florence	13,231	9,829	203,393	63,384	86,444
Forest	18,120	11,282	430,466	181,166	210,568
Langlade	56,462	16,929	347,751	51,434	124,825
Marinette	66,226	31,182	701,080	10,199	107,607
Oconto	72,084	18,722	430,067	25,339	116,145
Shawano	94,766	43,439	295,963	32,376	170,581
Total	320,889	131,383	2,408,720	363,898	816,170
NORTHERN AREA					
Ashland	38,383	11,920	490,803	23,155	73,458
Iron	12,005	7,617	307,542	87,963	107,585
Lincoln	65,461	21,504	400,500	49,327	136,292
Marathon	213,979	40,535	642,455	26,852	281,366
Oneida	25,664	18,647	509,555	28,138	72,449
Price	68,178	29,745	618,569	9,400	107,323
Taylor	75,739	31,863	484,363	7,421	115,023
Vilas	13,860	5,017	290,699	35,521	54,398
Total	513,269	166,848	3,744,486	267,777	947,894
NORTHWESTERN AREA					
Barron	146,333	18,960	237,770	17,951	183,244
Bayfield	79,783	30,753	760,428	18,560	129,096
Burnett	86,780	17,018	422,113	11,407	115,205
Chippewa	116,863	31,385	308,815	53,204	201,452
Douglas	57,086	24,936	593,347	40,234	122,256
Dunn	143,003	22,198	180,355	48,684	213,885
Polk	163,882	15,664	329,070	22,018	201,564
Rusk	61,185	16,458	479,223	16,840	94,483
St. Croix	70,729	7,285	88,725	15,171	93,185
Sawyer	37,663	15,206	586,557	96,957	149,826
Washburn	61,708	18,032	415,563	5,288	85,028
Total	1,025,015	217,895	4,401,966	346,314	1,589,224
CENTRAL AREA					
Adams	60,585	27,695	241,348	29,354	117,634
Buffalo	108,910	51,121	146,718	50,165	210,196
Clark	138,008	18,242	436,286	48,906	205,156
Eau Claire	54,928	23,163	171,662	25,652	103,743
Jackson	79,217	39,693	338,423	63,775	182,685
Juneau	73,086	27,616	267,511	43,669	144,371
La Crosse	70,892	27,147	107,414	42,488	140,527
Marquette	49,018	15,232	151,868	24,575	88,825
Monroe	127,929	38,340	212,708	73,937	240,206
Pepin	36,796	12,940	66,809	9,296	59,032
Pierce	73,226	7,974	116,730	7,039	88,239
Portage	65,975	35,989	200,021	32,715	134,679
Trempealeau	81,412	35,449	109,580	96,052	212,913
Waushara	46,844	27,434	106,122	43,474	117,752
Wood	71,518	12,648	257,564	17,776	101,942
Total	1,138,344	400,683	2,930,764	608,873	2,147,900

CLASSIFICATION OF WISCONSIN TIMBER BEARING LANDS BY ACRES—Continued

County	Woodland Pastured*	Woodland not Pastured*	Cutover Lands**	Timber Lands**	Total Farm Lands and Timber Lands
SOUTHWESTERN AREA					
Columbia	44,087	15,183	143,362	41,750	101,020
Crawford	128,979	11,456	150,853	60,362	200,797
Dane	73,622	15,403	107,159	65,714	154,739
Grant	135,200	20,317	95,575	81,382	236,899
Green	25,197	7,215	30,512	19,177	51,589
Iowa	87,489	12,465	97,296	42,963	142,917
Lafayette	28,779	5,139	1,127	6,484	40,402
Richland	116,089	10,612	96,515	42,623	169,324
Rock	24,724	5,717	49,407	25,758	56,199
Sauk	98,587	35,421	214,149	34,676	168,684
Vernon	161,920	20,735	134,070	50,646	233,301
Walworth	33,211	2,437	56,393	21,665	57,313
Total	957,884	162,100	1,176,418	493,200	1,613,184
SOUTHEASTERN AREA					
Brown	43,186	7,030	77,811	870	51,086
Calumet	15,269	8,581	35,345	9,908	33,758
Dodge	27,329	7,201	153,111	15,334	49,864
Door	37,729	26,449	103,811	24,349	88,527
Fond du Lac	22,004	5,721	90,340	13,266	40,991
Green Lake	16,435	5,505	71,680	15,872	37,812
Jefferson	22,092	6,462	101,392	6,728	35,282
Kenosha	12,197	801	25,671	5,701	18,699
Kewaunee	22,151	13,856	50,941	7,173	43,180
Manitowoc	29,544	21,964	82,799	21,135	72,642
Milwaukee	6,535	496	----	----	7,031
Outagamie	40,011	10,616	127,640	12,703	63,330
Ozaukee	11,330	4,645	23,045	2,076	18,051
Racine	17,028	1,360	46,206	8,741	27,129
Sheboygan	20,081	17,371	49,181	24,666	62,118
Washington	27,957	7,856	41,710	12,577	48,390
Waukesha	31,403	3,575	68,971	8,527	43,505
Waupaca	67,967	32,297	178,452	49,454	149,718
Winnebago	14,308	4,740	43,337	9,013	28,061
Total	484,566	186,526	1,371,443	248,093	919,175
Grand Total	4,439,957	1,265,435	16,033,797	2,328,155	8,033,547

* United States Farm Survey 1930
** State Tax Commission Report 1930

Part III—Section 5

FOREST CROP LAW AND COUNTY FORESTS

ENTRY OF FOREST CROP LANDS BY COUNTIES

County	PRIVATE ENTRIES					COUNTY ENTRIES					Total Forest Crop Lands
	Prior to 1931	1931	1932	Withdrawn	Net Private Lands	Prior to 1931	1931	1932	Withdrawn	Net County Lands	
Adams		413.77	452.62		866.39						866.39
Ashland	23,904.32	4,283.92	720.	2,481.42	26,426.82						26,426.82
Barron	931.52	160.90	80.90	521.80	651.52						651.52
Bayfield	11,120.07	964.08	720.	361.20	12,442.95			57,225.78	50.	57,175.78	69,618.73
Burnett	1,766.87	1,720.	200.	1,720.	1,966.87			80,153.78		30,153.78	32,120.65
Chippewa	16,242.29			443.44	15,798.85						15,798.85
Clark	4,037.20	200.		80.	4,157.20						4,157.20
Door			1,001.90		1,001.90						1,001.90
Douglas	13,026.41	925.01	160.	9,939.65	4,171.77		9,022.38	88,211.51	160.	97,073.89	101,245.66
Dunn		176.38			176.38						176.38
Eau Claire	3,477.42	80.		80.	3,477.42						3,477.42
Florence	3,322.92	1,532.02	19,752.36		24,607.30						24,607.30
Forest	47,796.37	22,556.28	1,057.14	6,445.26	64,964.53						64,964.53
Iron	5,964.96			230.37	5,734.59						5,734.59
Jackson	160.				160.						160.
Juneau	160.				160.						160.
Langlade	2,367.	78.95	2,127.85		4,573.80	9,862.84	1,079.62	55,127.82		55,127.82	55,287.82
Lincoln	9,857.03	1,938.18	200.	269.60	11,725.61			16,488.54	360.	27,071.	31,644.80
Marathon	9,787.60		80.	160.	9,707.60						11,725.61
Marinette	840.	246.85	159.64		1,246.49	14,003.43	61,416.88				9,707.60
Marquette		55.			55.				160.	75,260.31	76,506.80
Oconto	2,873.12			120.	2,753.12						55.
Oneida	27,322.47	4,551.07	3,816.08	160.	35,529.62						2,753.12
Polk	1,250.60		120.		1,370.60			26,467.90	80.	26,387.90	61,917.52
Portage		234.30	80.		314.30						1,370.60
Price	28,150.99	840.	403.82	15,638.48	13,756.33		13,125.45	5,099.35	360.	17,864.80	31,621.13
Rusk	8,420.39	270.	298.55	200.	8,788.94	8,013.72		49,332.06	400.	56,945.78	65,734.72
St. Croix	92.50				92.50						92.50
Sawyer	20,109.38	225.50		677.32	19,657.56						19,657.56
Shawano	410.74				410.74						410.74
Taylor	1,418.42	640.	200.		2,258.42		4,890.91		2,213.64	2,677.27	4,935.69
Vilas	4,608.62	360.62	57.80		5,027.04						5,027.04
Washburn	348.54		694.08		1,042.62	6,957.01	6,160.04		440.	12,677.05	13,719.67
Waupaca	226.14	272.60			498.74						498.74
Wood	4,786.26	80.	1,437.40		6,303.66						6,303.66
Total	254,780.15	42,805.43	33,820.14	39,528.54	291,877.18	38,837.00	95,695.28	328,110.74	4,223.64	458,415.38	750,292.56

Part III—Section 6

STATE PARKS

WISCONSIN STATE PARKS

Name of Park	Location	Size (Acres)	How Acquired	Year Estab.	Address of Park Superintendent	How Reached	
						Highway	Railroad
Interstate	Polk	580	Purchase	1900	St. Croix Falls	35, 8, 87	Soo N. Pacific
Peninsula	Door	3,400	Purchase	1910	Fish Creek	42	G. B. & W.
Devil's Lake	Sauk	1,400	Purchase	1911	Baraboo	12, 113, 159	C. & N. W.
Cushing Memorial	Waukesha	8	Gift	1915	*Delafield	18	C. M. St. P. & P.
Nelson Dewey	Grant	1,671	Purchase	1917	Wyalusing	35, 60, 18	Burlington
Perrot	Trempealeau	1,010	Gift	1918	*Trempealeau	167	C. & N. W. Burlington
Pattison	Douglas	740	Gift	1920	Brule	35	Soo
Tower Hill	Iowa	55	Gift	1922	Spring Green	11	C. M. St. P. & P.
First Capitol	Lafayette	2	Gift	1924	*Belmont	118, 80	C. & N. W.
Rib Mountain	Marathon	280	Gift	1927	*Wausau	51, 29	C. & N. W. C. M. St. P. & P.
Potawatomi	Door	1,046	Purchase	1928	Fish Creek	42, 57	G. B. & W.
Terry Andrae	Sheboygan	112	Gift	1928	Sheboygan	141	C. & N. W.
Copper Falls	Ashland	520	Purchase	1929	Mellen	13, 77	Soo
Merrick	Buffalo	291	Gift	1932	*Fountain City	35, 95	C. & N. W. Burlington

* No resident park superintendent

Part III—Section 7

FISHERIES

PRODUCTION OF FISH BY HATCHERIES

	1931 Total Species	Total Fish Production		1932 Total Species	Total Fish Production
Bayfield					
Brook trout fingerling	1,988,000			1,255,000	
Brown trout fingerling	690,000			1,079,000	
Rainbow trout fingerling				89,600	
Lake trout fry	7,225,000		2,265,000		
Lake trout fingerling	60,000	7,285,000	9,963,000	170,000	2,435,000	4,858,600
Birchwood					
Perch fingerling		1,640			
Wall-eyed pike fry	12,600,000				
Wall-eyed pike fingerling	1,250	12,601,250	12,602,890		
Brule					
Brook trout fingerling				200,000	200,000
Burlington					
Black bass fingerling	273,550			157,900	
Blue gills (adult)	300				
Perch fry	16,875,000			10,000,000	
Muskellunge (adult)	22				
Wall-eyed pike fry	32,025,000	49,173,872		46,800,000	56,957,900
Delafield					
Black bass fingerling	86,225		114,700		
Black bass yearling	348	86,573	244	114,944	
Bluegills	32,750				
Perch fry	11,400,000			10,000,000	
Roach fingerling	3,000		16,350		
Roach adult			300	16,650	
Wall-eyed pike fry	31,275,000	42,797,323		36,225,000	46,356,594
Eagle River					
Wall-eyed pike fry	39,150,000	39,150,000		54,600,000	54,600,000
Eau Claire					
Brook trout fingerling	485,200			849,200	
Brown trout fingerling	284,400	769,600		157,000	1,006,200
Haugen					
Wall-eyed pike fry	19,950,000	19,950,000		34,650,000	34,650,000

Hayward						
Black bass fingerling		49,050				
Brook trout fingerling					64,100	
Brown trout fingerling					62,111	
Rainbow trout fingerling					10,675	
Wall-eyed pike fry		32,550,000	32,599,050		103,200,000	103,336,886
Hebron						
Wall-eyed pike fry		42,000,000				
Perch fry		6,825,000	48,825,000			
Madison						
Brook trout yearling		1,200				
Brown trout fingerling	171,600			604,000		
Brown trout adult	30			120		
Brown trout yearling		171,630		400	604,520	
Rainbow trout fingerling		52,200		42,000		
Rainbow trout yearling				60		
Rainbow trout adult			225,030	112	42,172	646,692
Osceola						
Brook trout fingerling	600,000			900,000		
Brook trout yearling	28,500			40,000		
Brook trout adult	700	629,200			940,000	
Brown trout fingerling		60,000			100,000	
Rainbow trout fingerling			689,200		400,000	1,440,000
St. Croix Falls						
Brook trout fingerling	1,063,725			1,009,200		
Brook trout yearling	2,438	1,066,163		11,000	1,020,200	
Brown trout fingerling		9,000				
Rainbow trout fingerling			1,075,163		450,000	1,470,200
Sheboygan						
Lake trout fry		11,200,000	11,200,000		7,500,000	7,500,000
Sparta						
Brook trout fingerling		323,000			310,200	
Brown trout fingerling		69,100	392,100		33,400	343,600
Spooner						
Wall-eyed pike fry		24,675,000	24,675,000		28,950,000	28,950,000
Sturgeon Bay						
Lake trout fry		14,280,000			8,100,000	
Wall-eyed pike fry		8,722,000			13,125,000	
Whitefish fry		7,200,000	30,202,000			21,225,000

PRODUCTION OF FISH BY HATCHERIES—Continued

		1931 Total Species	Total Fish Production		1932 Total Species	Total Fish Production
Westfield						
Brook trout fingerling	347,425			1,252,136		
Brook trout yearling	69,193	406,618		18,125	1,270,261	
Brown trout fingerling		258,000	664,618		280,000	1,550,261
Wild Rose						
Brook trout fingerling	150,000					
Brook trout adult	7,000	157,000		64,500		
Brown trout fingerling	429,750				64,500	
Brown trout yearling				790,400		
Brown trout adult	100	429,850		200		
Rainbow trout fingerling				355	790,955	
Rainbow trout yearling	525			242,000		
Rainbow trout adult	11,005	11,530	598,380	2,000	244,000	1,099,455
Woodruff						
Black bass fry	217,000					
Black bass fingerling	66,000					
Black bass adult	500	283,500		205,400		
Muskellunge fry	1,620,000				205,400	
Muskellunge fingerling	294	1,620,294		1,620,000		
Perch adult		2,850		294	1,620,294	
Pickerel fry		300,000				
Wall-eyed pike fry		49,875,000	52,081,644		420,000	
					55,650,000	57,895,694
Mississippi river fish						
Miscellaneous fish		25,470	25,470		144,090	144,090
Green Bay and northern Lakes rescue operations						
Black bass fingerling		1,841			293,869	
Muskellunge fingerling					79	
Perch fingerling		70,896			578,122	
Perch adult					8,421	
Pickerel fingerling					11,298	
Pike fingerling					218	
White bass					1,000	
Miscellaneous fish		14,418	87,155		70,169	963,176
			377,746,495			425,194,348

FISH DISTRIBUTION BY SPECIES
1931

County	Wall-eyed Pike	Pickerel	Muskellunge	Perch	Black Bass	Brook Trout	Brown Trout	Lake Trout	Rainbow Trout	Bluegills	Roach	Misc. Pan Fish	Total
Adams	685,300			10	1,835	32,340						385	719,870
Ashland	4,300,540		54,050		16,250	480,010	55,000					4,400	4,910,250
Barron	11,131,475				1,663	211,400	3,000					166	11,347,704
Bayfield	4,578,760		54,085			272,430		7,226,250				3,850	12,135,375
Brown						9,480							9,480
Buffalo	396,300					16,750	41,600						454,650
Burnett	3,327,500					58,100							3,385,600
Calumet				5,600			13,050						18,650
Chippewa	2,609,220			1,640		127,240							2,738,100
Clark	1,803,455				2,150	117,180				1,600			1,924,385
Columbia	3,396,100				7,500	44,440	48,800						3,496,840
Crawford	486,240						23,000						509,240
Dane	9,238,560			36,860	12,785	320	206,260		13,400			67	9,508,252
Dodge	2,211,650				525		49,765						2,261,940
Door	7,858,500					2,900		21,480,000*					29,341,400
Douglas	5,115,000				220	97,075						8,335	5,220,630
Dunn	718,000			775		91,720						250	810,745
Eau Claire	2,725,265					180,140	60,000		16,080				2,981,485
Florence	1,214,850					111,750							1,326,600
Fond du Lac	2,437,280			500	11,600	7,000	39,300						2,495,680
Forest	1,732,775					199,600							1,932,375
Grant	364,680						117,200		4,020				485,900
Green	1,094,040					660	25,560		2,650				1,122,910
Green Lake	2,335,480					15,818	8,450	43,750					2,403,498
Iowa	243,120					220	121,950						365,290
Iron	3,284,775		43,296		13,000	142,080							3,483,151
Jackson	911,700					90,400							1,002,100
Jefferson	5,975,700			1,575,000	7,050		23,528						7,581,278
Juneau	498,400					34,200	25,860						558,460
Kenosha	3,223,070			2,325,000	37,250								5,585,320
Kewaunee	863,500					4,800							868,300
La Crosse						15,800							15,800
Lafayette	1,276,380						14,950						1,291,330
Langlade	6,442,540		28			164,710							6,607,278
Lincoln	2,427,200	32,300	42		20,500	87,550							2,567,592
Manitowoc				7,200	1,900		36,570						45,670
Marathon	5,110,085				4,000	131,600							5,245,685
Marinette	5,592,550		43,240		3,250	169,420	20,000						5,828,460

FISH DISTRIBUTION BY SPECIES—Continued
1931

County	Wall-eyed Pike	Pickerel	Muskellunge	Perch	Black Bass	Brook Trout	Brown Trout	Lake Trout	Rainbow Trout	Bluegills	Roach	Misc. Pan Fish	Total
Marquette	155,955				500	71,802	18,125			1,000			247,382
Milwaukee	155,955				2,500						1,560		160,015
Monroe	498,400					102,650	17,400		16,050				634,500
Oconto	4,142,950		22		500	90,174							4,233,646
Oneida	28,541,515	170,800	637,910		92,083	39,200						1,201	29,482,709
Outagamie							10,200						10,200
Ozaukee	519,850				7,250		5,720						532,820
Pepin	462,350					16,750	40,000						519,100
Pierce						34,000	133,600						167,600
Polk	2,492,075					52,138							2,544,213
Portage	4,076,000				3,250	47,475							4,126,725
Price	6,047,885		97,290		5,000	261,175	6,000						6,417,350
Racine	3,950,860		10,000	11,850,490	71,725		15,000		525	300			15,898,900
Richland	547,020						50,900						597,920
Rock	729,360			1,500,000	7,000		24,840			2,000			2,263,200
Rusk	2,047,235				4,965	91,400	4,000					1,385	2,148,985
St. Croix	1,861,320					86,870	16,000						1,964,190
Sauk	1,762,620					2,050	134,200						1,898,870
Sawyer	37,077,890		54,050		49,050	143,040	22,000					2,750	37,348,780
Shawano	5,368,895		10,810			112,600							5,492,305
Sheboygan	1,247,640			7,200	16,500		98,945	11,200,000					12,570,285
Taylor	4,210,785		21,648		5,000	164,455							4,401,888
Trempealeau	243,120					71,300	61,200					12,350	387,970
Vernon							77,940						77,940
Vilas	35,783,480	96,900	583,845		144,000	312,450		15,000					36,935,675
Walworth	5,393,560			6,075,000	50,750		14,500			7,000			11,540,810
Washburn	13,889,975				220	77,950						4,145	13,972,290
Washington	1,903,190			2,625,000	13,500		24,550			4,000	1,440		4,571,680
Waukesha	16,642,500		10,000	9,163,860	68,048		43,142			14,750			25,942,300
Waupaca	2,638,470				10,200	57,420	122,775						2,828,865
Waushara	3,576,440			1,250	700	225,394	87,750		11,005				3,902,539
Winnebago	668,580						9,350						677,930
Wood	577,385				900	78,955				2,400			659,640
Total	292,823,250	300,000	1,620,316	35,175,385	695,119	5,056,381	1,971,980	32,765,000	63,730	33,050	3,000	39,284	377,746,495

*Includes 7,200,000 whitefish.

FISH DISTRIBUTION BY SPECIES
1932

County	Wall-eyed Pike	Pickerel	Muskellunge	Perch	Black Bass	Brook Trout	Brown Trout	Lake Trout	Rainbow Trout	Bluegills	Roach	Misc. Pan Fish	Total
Adams	512,590					101,100							613,690
Ashland	5,148,690		179,000		7,000	258,900	82,940						5,676,530
Barron	15,227,430				1,100	190,040	10,850		42,640			2,655	15,474,715
Bayfield	5,686,966				300	259,875	212,679	2,265,000	100,275				8,525,095
Brown	6,519,000				800	20,610			9,250				6,549,660
Buffalo						68,000	24,140						92,140
Burnett	3,652,180				200	71,040			119,560				3,842,980
Calumet				4,000	800		14,036					555	19,391
Chippewa	18,088,250				1,300	260,730						4,755	18,355,035
Clark	1,127,700				1,500	95,560						1,530	1,226,290
Columbia	1,950,570				2,800	147,020	69,600					19,900	2,189,890
Crawford							62,524						62,524
Dane	6,343,100			4,211	5,300		111,250		2,198		1,200		6,467,259
Dodge	2,188,429				3,600		60,700				900		2,253,629
Door	3,346,500						15,312	8,100,000					11,461,812
Douglas	13,559,134				13,700	256,800	19,140		8,700				13,857,474
Dunn	512,590					165,300	8,750						686,640
Eau Claire	1,007,200	11,230		282	436	322,200	97,030					1,778	1,440,156
Florence	1,316,976				1,600	116,725							1,435,301
Fond du Lac	2,476,270			13,500	6,000	35,640	72,728					4,915	2,609,053
Forest	69,662				4,200	186,545			26,100				286,507
Grant	3,347,314						199,742		39,874				3,586,930
Green	278,648				600		93,820						373,068
Green Lake	820,145					38,300	62,918						921,363
Iowa	139,324				400		112,508						252,232
Iron	3,855,071		71,612		10,360	109,500						16,950	4,063,493
Jackson						93,292						6,000	99,292
Jefferson	2,557,780			5,003,150	4,225		17,385				1,500		7,584,040
Juneau					600	31,310	64,782					1,200	97,892
Kenosha	5,689,750			5,000,000	13,750		2,675						10,706,175
Kewaunee	3,259,500						45,936						3,305,436
La Crosse						56,640	400					9,750	66,790
Lafayette	278,648				1,200		67,054						346,902
Langlade	11,974,260	72,432				119,140							12,165,832
Lincoln	2,391,565	28,964	44,800		22,045	43,975			86,520				2,617,864
Manitowoc	1,248,485			3,000	8,000		37,070					11,325	1,307,880
Marathon	3,163,155		62,650		800	309,010	11,000		7,000				3,553,615

FISH DISTRIBUTION BY SPECIES—Continued
1932

County	Wall-eyed Pike	Pickerel	Muskellunge	Perch	Black Bass	Brook Trout	Brown Trout	Lake Trout	Rainbow Trout	Bluegills	Roach	Misc. Pan Fish	Total
Marinette	2,319,674				3,200	225,520			2,000				2,550,394
Marquette	1,127,700					193,475	94,650					600	1,416,425
Milwaukee	223,442				1,000			170,000					394,442
Monroe	69,662					137,100	41,948					3,600	252,310
Oconto	698,115				6,000	57,100			31,000				792,215
Oneida	32,989,714	43,514	608,898	467,840	368,083	152,000						39,539	34,669,588
Outagamie						1,980			51,050				53,030
Ozaukee	410,070				3,200		8,932					4,920	427,122
Pepin						18,150	38,680						56,830
Pierce						22,650	48,300		36,750				107,700
Polk	4,402,770				600	71,635			245,240				4,720,245
Portage	1,649,420				1,000	135,510	36,540						1,822,470
Price	3,132,624				15,570	96,877			39,160				3,284,231
Racine	8,254,673				19,800		7,350		100			250	8,282,173
Richland						5,278	109,112					6,660	121,050
Rock	139,324				4,600		39,920						183,844
Rusk	2,719,440					118,368			49,600			5,610	2,893,018
St. Croix	2,421,555					55,900	32,100		208,050				2,717,605
Sauk	278,648					42,280	107,540					35,100	463,568
Sawyer	79,268,241		63	70,000	21,200	89,900						3,227	79,452,631
Shawano	9,354,375	57,928				100,100			20,900				9,533,303
Sheboygan	2,888,770	57,928		3,000	15,200	15,000	113,000	7,500,000				9,585	10,602,483
Taylor	820,145				2,800	67,590			8,700				899,235
Trempealeau						134,040	1,950					8,250	144,240
Vernon							109,492					1,500	110,992
Vilas	46,306,656	130,338	653,350		70,675	145,700							47,306,719
Walworth	4,972,650				31,050		20,040				1,500		5,025,240
Washburn	15,178,940				1,600	127,050			4,350			4,020	15,315,960
Washington	3,106,905			4,406,500	26,150		31,156				1,500	11,085	7,583,296
Waukesha	17,179,308			5,601,060	61,269		55,060				10,050		22,906,747
Waupaca	1,587,165	28,964			1,000	159,890	222,404		10,900				2,010,323
Waushara	3,178,060			10,000	5,500	242,066	399,555		57,680				3,892,861
Winnebago							12,288						12,288
Wood	785,290					201,050			28,850				1,015,190
Total	373,200,218	431,298	1,620,373	20,586,543	772,113	5,973,461	3,106,986	18,035,000	1,236,447		16,650	215,259	425,194,348

DISTRIBUTION OF FISH BY SPECIES AND SIZE

Species and Size	1931		1932	
	Distribution by species	Total Distribution	Distribution by species	Total Distribution
Wall-eyed pike fry	292,822,000		373,200,000	
Wall-eyed pike fingerling	1,250	292,823,250	218	373,200,218
Black bass fry	217,000			
Black bass fingerling	475,430		478,000	
Black bass yearling	348		244	
Black bass adults	500			
Black bass misc.	1,841	695,119	293,869	772,113
Muskellunge fry	1,620,000		1,620,000	
Muskellunge fingerling	294		373	
Muskellunge adult	22	1,620,316		1,620,373
Perch fry	35,100,000		20,000,000	
Perch fingerling	72,535		578,122	
Perch adult	2,850	35,175,385	8,421	20,586,543
Pickerel fry	300,000		420,000	
Pickerel fingerling		300,000	11,298	431,298
Roach fingerling	3,000		16,350	
Roach adult		3,000	300	16,650
Brook trout fingerling	4,957,350		5,904,336	
Brook trout yearling	91,331		69,125	
Brook trout adult	7,700	5,056,381		5,973,461
Brown trout fingerling	1,971,850		3,105,911	
Brook trout yearling			600	
Brook trout adult	130	1,971,980	475	3,106,986
Rainbow trout fingerling	52,200		1,234,275	
Rainbow trout yearling	525		60	
Rainbow trout adult	11,005	63,730	2,112	1,236,447
Bluegills fingerling	32,750			
Bluegills adult	300	33,050		
Whitefish fry	7,200,000	7,200,000		
White bass misc.			1,000	1,000
Lake trout fry	32,705,000		17,865,000	
Lake trout fingerling	60,000	32,765,000	170,000	18,035,000
Miscellaneous fish	39,284	39,284	214,259	214,259
		377,746,495		425,194,348

BROOK, BROWN, RAINBOW TROUT DISTRIBUTED TO REARING PONDS

Location	1931			1932		
	Brook	Brown	Rainbow	Brook	Brown	Rainbow
Altoona	30,000			30,000		
Argyle		5,000			6,000	
Baraboo		4,000				
Barneveld					5,000	
Barron	20,000			20,000		
Beloit		4,000	4,000			
Blue River					12,000	
Bowler	15,000					
Chippewa Falls	7,500			25,000		
Crandon	17,000			17,500		
Crivitz		18,000				
Cumberland	10,000	6,000				
Eagle River	10,000			12,500		
Eau Claire	30,000	30,000		30,000	10,000	
Eden		8,000			3,000	
Fall Creek	15,000	10,000		15,000		
Gresham	5,000			5,000		
Hortonville						15,000
Iola	10,000	8,000		10,000	8,000	
Juda		9,000				
Jump River		8,000				
La Farge		5,000			8,000	
Ladysmith	15,000			20,000		
Lancaster	2,000	8,000	2,000		6,000	15,000
Laona	13,600			17,500		
Lime Ridge		15,000			17,000	
Manawa					30,000	
Menomonie	27,000			25,000		
Mondovi				25,000		
Monroe				10,000		
Monticello		14,000	2,000		20,000	
Neshkoro		2,000			14,000	
Pembine	4,000			10,000		
Pine River					16,000	
Platteville		15,000	10,000		25,000	12,000
Plymouth	15,000	10,000		15,000		
Portage	15,000			15,000		
Poynette		4,000				
Red Granite		15,000			16,000	
Reedsburg	2,000	2,000		10,000	7,000	
Richland Center		5,000			30,000	
River Falls		35,000			30,000	15,000
Saxeville					8,000	
Stevens Point	10,000				12,000	
Stitzer					7,000	
Tomahawk	10,000			12,500		
Wabeno	8,000					
Waupaca		16,000			28,000	
Wausau	4,000	12,000		56,000	5,000	7,000
Wautoma	23,000	40,000			32,000	
Wisconsin Dells				10,000		
Wonewoc					8,000	
Total	318,100	308,000	18,000	391,000	363,000	64,000

ADULT TROUT DISTRIBUTION

County	1931			1932		
	Brook	Brown	Rainbow	Brook	Brown	Rainbow
Adams	5,640			1,800		
Barron				900		
Burnett	400					
Columbia	9,120			1,800		
Dane	320					48
Douglas	2,000			3,400		
Florence				2,600		
Forest				3,840		
Fond du Lac					200	
Grant						24
Green	660				60	
Green Lake	2,868			1,200		
Iowa	220					
Jackson	1,250			2,400		
La Crosse				400	400	
Langlade	3,180			4,000		
Lincoln	1,350			3,400		
Marathon	2,000			2,560		
Marinette	4,000			14,400		2,000
Marquette	14,742			6,125		
Monroe	750			400		
Oconto	2,164			3,400		
Pierce	1,500			900		
Polk	4,238					
Portage	5,940			1,200		
Racine			525			100
Rusk				3,600		
St. Croix	4,270			1,800		
Shawano	2,000					
Vilas	2,000			3,000		
Waukesha		30			60	
Waupaca	2,875			1,200		
Waushara	22,444	100*	11,005*	3,600	355	
Wood	2,400			1,200		
Total	98,331	130	11,530	69,125	1,075	2,172

* 1931 distribution includes 100 two, three, four year old brown trout and 10,000 two, three; four year old rainbow trout superfluous breeding stock.

REPORT OF FISHWAY AT REST LAKE DAM—1931

Date	Pike	Bass	Suckers	Lawyers	Muskies	Sunfish
May 19	33	21	63	3		
20	14	13	32			
21	14	7	33			
22	13	8	32	1		
23	9	1	8	1		
24	4	1		1		
25	9	11	28		4	
26	26	3	28		3	
27	29	12	40		3	
28	16	10	20			
29	17	10	5		3	
30	16	10	16			
31	16	11	7		1	
June 1	21	11	8			
2	14	7	10		1	
3	Trap sprung a leak	6				
4	11	7	16		4	
5	11	7	16		5	
6	15		8		2	
7	9		6			
8	10	1	2			
9	10		2		4	
10	2		6		1	
11	6		6			
12	10	1	28			8
13	23		25			
14	11		26		1	
15	9		20			
16	8		18			
17	8	14	22			
18	5	1	21			11
Total	399	173	552	6	32	19
Grand total						1,181

REPORT OF FISHWAY AT REST LAKE DAM—1932

Date	Pike	Suckers	Perch	Muskie	Lawyer	Ciscos	Rockbass	Bluegill	Crappie
April 21	6					1			
22	3					2			
23		1				1			
24	2				1				
25	3				1				
26	3								
27	4				1	1			
28	1								
29	5					1			
30	25				2				
May 1	54		5					1	
2	51	2	1					1	
3	24	2	3						
4	14	4	2						
5	10	18	5	1					
6	9	3	15						
7	4	18	4						
8	13	11	1		1				
9	10	18	6						
10	3	6	2						
11	6	17	4				1		
12	17	6	3		1				1
13	9	28			1				
14	11	50	3	1	1		3		
15	15	111	3				3		
16	17	101	5	1			5		
17	14	113	4				2		
18	23	163					1		1
19	20	130	1						
20	18	133			1				
21	22	309			2				
22	19	70					10		
23	13	40					5		
24	26	19		1	1		8		1
25	9	4					7		
26	7	4					4		
27	16	4					4		
28	8	1							
29	13	8							4
30	16	4					5		
31	7						1		
Totals	550	1,398	67	4	13	6	59	2	7

Totals all kinds 2,106

RECORD OF FISH PASSING THROUGH LOCK IN PRAIRIE DU SAC DAM USED AS FISHWAY
1932

Date	Black Bass	Blue-gills	Brook Trout	Buf-falo	Bull-heads	Carp	Cat-fish	Cisco	Crap-pie	Dog-fish	Gar-fish	Ger-man Br. Trout	Perch	Pike	Rock Bass	Silver Bass	Skip-jack	Stur-geon	Suck-er	Sun-fish	Total
April 15													1								1
16													1								1
17																					
18						4															
19						2													6		10
20							56		3				3	19							2
21							35		2				4	45					6		87
22							28		1				4	25		1			11		97
23					2		24							124		4			13		72
24					1		9		2					36		1			11		165
25		1*					12		4				2	26							49
26		1			1				8				1	6		1			1		45
27					1				2			1	3	5			12				19
28							1		2					28			1				24
29							1		3					68		1	13		1		32
30							11		6					37		1	2		1		87
Total		2			5	6	177		33			1	19	419		9	28		50		58
May 1					2		19		2					45		15	3	1	150		749
2							22		2			1		62		35	3		20		237
3							16		3			2		38	1	8	4		9		145
4					1									64		7	1		78		81
5					1		36					1		54		5	1		45		151
6							17		2			2		35		11	4		32		143
7						1	29		8			2		23		13	3		30		103
8	1				2		16		9			1		40		15	7		33		109
9	1				1	1	25		2					41		12	4		26		124
10	1				1	9	33		12					28		22	21		5		113
11					3	19	56		17					31		30	12		5		132
12	1				1		33	22	9					20		37	12		4		173
13					4	14	42	8	11					9		32	5		5		139
14	1				7	33	32	4	43					47		93			3		130
15	1				4	14	26	3	47					86		103	3				263
																					287

16	3	------	------	------	------	21	33	5	12	------	------	------	------	37	------	34	4	------	3	------	152
17	1	------	------	------	1	11	23	5	33	2	------	------	------	40	------	52	10	1	------	------	179
18	------	------	1	------	8	15	55	------	43	1	------	------	------	51	------	50	14	------	------	------	238
19	2	------	------	3	6	7	51	------	47	------	------	------	1	60	------	49	42	------	1	------	269
20	2	11	------	------	3	2	76	------	38	1	1	------	------	87	------	59	36	3	3	------	322
21	4	3	------	------	5	12	48	------	20	1	------	------	------	29	------	72	31	1	1	------	227
22	2	3	------	1	------	8	28	------	13	------	------	------	------	38	------	31	15	------	------	------	139
23	4	5	------	2	------	11	35	------	14	------	------	------	------	37	------	33	33	------	------	------	174
24	1	15	------	5	1	7	43	------	12	------	------	------	------	61	------	31	21	------	4	2	203
25	------	8	------	1	------	9	35	------	24	------	------	------	------	56	------	28	25	------	------	2	188
26	------	3	------	------	2	2	22	------	9	1	------	------	------	68	1	11	16	------	------	------	135
27	1	3	------	------	1	1	24	------	8	------	------	------	------	74	------	18	220	------	4	------	354
28	1	1	1	3	2	------	8	------	4	------	------	------	------	81	------	47	131	------	------	------	279
29	1	3	------	4	------	------	12	------	19	1	------	------	------	75	------	41	61	------	------	------	217
30	2	5	------	2	------	------	18	------	16	------	------	1	------	55	------	50	103	------	------	------	252
31	------	4	------	2	------	------	19	------	12	------	------	1	------	60	------	19	63	------	------	------	180
Total..	30	64	2	23	56	197	932	47	491	7	1	11	1	1,532	2	1,063	908	6	461	4	5,838
Grand total.	30	66	2	23	61	203	1,109	47	524	7	1	12	20	1,951	2	1,072	936	6	511	4	6,587

Note: From May 26 on, the gates in the lock were only open one foot indicating that the width of aperture does not lessen the number of fish which find the opening.
* Rainbow trout.

STATE ROUGH FISHING OPERATIONS IN NORTHERN WATERS—1931

Name of Lake	County	No. of Suckers	Weight
Island	Vilas	2,947	9,102
Butternut	Forest	6,322	18,966
Nokomis		574	1,492
Black Oak	Langlade	4,765	8,673
Metonga	Forest	53,875	80,812
Anvil	Vilas	9,581	29,564
Crystal	Vilas	4,496	6,945
Seven Mile	Oneida	6,532	13,064
Little Arbor Vitae	Vilas	408	1,030
Carpenter	Vilas	1,685	5,503
Minocqua	Oneida	430	937
Big Arbor Vitae	Vilas	18,528	51,624
Tomahawk	Oneida	1,949	6,203
Spirit	Oneida	2,785	11,940
Rice	Vilas	1,575	17,925
Noquebay	Marinette	8,949	28,042
Clear	Oneida	3,500	10,500
Sweeney	Oneida	11,189	35,567
Catfish	Vilas	2,304	4,564
Vieux Desert	Vilas	281	1,015
Three Lakes Chain	Oneida	7,297	16,144
Tomahawk River	Oneida	1,350	8,110
Total		151,322	367,722

Note: In addition there were 2,616 garfish taken from Island lake and 45 taken from Long lake. These weighed 8,509 pounds. There were 9,939 dogfish weighing 29,817 pounds and 863 redhorse weighing 2,589 pounds taken from Island lake.

All edible rough fish removed by department efforts under legislative direction are distributed to needy people who call for them. Inedible fish are destroyed. The work is done in April, May and June.

Due to lack of funds, the removal of rough fish from northern waters was restricted in 1932, only 30,945 suckers weighing 92,835 pounds being taken from Sweeney lake in Oneida county, and 67 suckers and 115 redhorse weighing 345 pounds being taken from Mercer lake.

Part III—Section 8

GAME

DISTRIBUTION OF RING-NECKED PHEASANT EGGS

County	1929*	1930			1931			1932		
	No.	No.	Hatch.	Rel.**	No.	Hatch.	Rel.	No.	Hatch.	Rel.
Adams	100	180	172	140	373	309	212	190	89	44
Ashland	150	175	100	77	102	40	21	620	218	98
Barron	100	90	40	10	379	250	200	625	303	206
Bayfield	25	30	8	6	100	38	26	135	100	78
Brown	230	1,142	494	283	874	400	294	165	99	64
Buffalo	140	80	29		196	102	41	80	25	17
Burnett					130	48	40			
Calumet	50				400	293	147	455	234	202
Chippewa		75	38	15	180	36	26	345	219	54
Clark	50	160	93	83	380	109	85	405	234	177
Columbia	150	620	383	199	632	216	167	770	436	261
Crawford		125	77	51	345	159	29	180	123	27
Dane	520	1,480	934	641	1,098	820	555	1,000	564	383
Dodge	225	730	176	142	726	376	238	1,055	178	90
Door	150	670	288	221	886	437	293	388	188	173
Douglas	25	15	5	1	66	8	3	430	210	121
Dunn	15	40	11	9	168	119	35	735	440	298
Eau Claire		15	13	4	144	100	8	50	28	28
Florence								80	29	27
Fond du Lac	100	554	274	220	675	359	262	620	376	257
Forest	50	75	36	21	105	42	24	200	69	48
Grant	115	290	102	48	388	158	112	810	518	276
Green	25	115	95	62	377	174	74	400	320	186
Green Lake	90	540	288	112	662	529	396	591	470	400
Iowa	195	525	299	172	374	197	131	150		
Iron	25	60			95	50	50			
Jackson	100	225	115	82	379	210	149	510	355	244
Jefferson	130	45	32	24	493	99	70			
Juneau	90	265	144	68	442	216	164	525	253	193
Kenosha	30	30	11	9	75	31	13			
Kewaunee		341	210	100	290	234	163	250	125	86
La Crosse	30	255	111	83	392	356	242	350	205	144
Lafayette	125	115	65	42	430	272	165	585	369	208
Langlade		75	33	26	292	151	103	410	219	171
Lincoln		30			100	19	18	140	81	26
Manitowoc		80	5	4	596	358	231	770	338	200
Marathon	15	115	43	43	329	215	112	520	247	270

DISTRIBUTION OF RING-NECKED PHEASANT EGGS—Continued

County	1929*	1930			1931			1932		
	No.	No.	Hatch.	Rel.**	No.	Hatch.	Rel.	No.	Hatch.	Rel.
Marinette	50	329	175	142	212	69	21	240	122	76
Marquette		165	106	43	281	220	170	17		
Milwaukee	25	160	15	8	144	102	18	485	96	64
Monroe	75	200	131	75	385	268	222	800	402	249
Oconto	25	65	34	26	325	93	8	315	193	149
Oneida	75	55	6	4	130	53	40	325	176	119
Outagamie	200				577	281	158	1,675	399	212
Ozaukee		145	41	36	200	47	28	180	109	89
Pepin					405	146	119	125	49	37
Pierce	250	325	237	162	304	124	67	150	65	51
Polk	130	210	116	70	350	181	119	385	217	93
Portage	50	115	72	44	595	142	66	120	61	
Price	30	15	11	8	174	59	45	245	128	105
Racine	50	355	253	171	405	62	45	248	130	115
Richland	100	230	125	90	407	241	162	650	236	139
Rock	250	1,135	617	340	1,085	710	548	890	516	380
Rusk	75	80	23	10	50	38	36			
St. Croix		149	23	17	554	238	160	790	42	23
Sauk	150	140	81	59	325	166	97	165	63	38
Sawyer	120	45				23	15	305	144	66
Shawano	15	205	129	80	410	186	162	520	331	257
Sheboygan		395	176	27	465	253	148	670	395	284
Taylor	100	90	20	10	104	27	21	100	44	38
Trempealeau	50	150	80	70	400	224	184	650	553	340
Vernon	65	95	60	39	427	258	171	125	30	18
Vilas	15	15	12	8	135	37	43	360	194	140
Walworth	50	150	128	107	650	434	302	750	410	269
Washburn	65	225	167	136	200	84	64	100	35	30
Washington		290	148	67	422	203	112	75		
Waukesha	50	150	100	93	364	200	143	500	354	236
Waupaca	75	530	303	215	990	698	527	1,250	598	393
Waushara	100	130	46	36	650	437	247	370	199	89
Winnebago	50	615	394	309	696	450	278	493	199	132
Wood		15	8		279	215	91	100		
Total	5,340	16,330	8,551	5,500	26,773	14,499	9,536	29,542	13,953	9,125

* 1929 was first year of major distribution. Co-operative hatching and rearing figures were not compiled.
** Released
Note—In addition to 1931 county distribution above, 2,000 eggs were shipped to the Waupun State Prison co-operative game farm bringing the total distribution of eggs for that year to 28,773.

WISCONSIN WILD LIFE REFUGES

	Name	County	Acres
1.	Lake Owen Wild Life Refuge	Bayfield	1,082
2.	Oneida Golf and Riding Club	Brown	740
3.	Granton Legion Wild Life Refuge	Clark	640
4.	Stoehr's Reserve	Crawford	220
5.	Vernon Valley Refuge	Dane	1,610
6.	Lake Wingra Refuge	Dane	500
7.	University Bay Wild Life Refuge	Dane	402
8.	Foxhall Wild Life Refuge	Dane	285
9.	Harker Wild Life Refuge	Dane	493
10.	Mendota State & Memorial Hospital	Dane	538
11.	McDonald Wild Life Refuge	Dodge	825
12.	Hotz Refuge	Door	2,209
13.	Tamarack Farm	Douglas	3,840
14.	Randall Wild Life Refuge	Fond du Lac	2,240
15.	Camp Byron Wild Life Refuge	Fond du Lac	970
16.	Duell Acres	Jefferson	319
17.	Peterson Wild Life Refuge	Juneau	160
18.	Elroy Gun Club Refuge	Juneau	2,450
19.	Krohn's Lake Wild Life Refuge	Kewaunee	1,697
20.	Uncle Joe's Wild Life Refuge	Kewaunee	1,463
21.	Lafayette County Wild Life Refuge	Lafayette	970
22.	Kraftwood Refuge	Langlade	283
23.	Manitowoc Co. Fish & Game Assn.	Manitowoc	520
24.	Manitowoc Co. Fish & Game Assn. No. 2	Manitowoc	735
25.	Mosinee Refuge	Marathon	818
26.	Izaak Walton Game Preserve	Marathon	375
27.	Silver Cliff Refuge	Marinette	200
28.	White Rapids Wild Life Refuge	Marinette	2,118
29.	Valley Farm Refuge	Monroe	849
30.	Morgan Wild Life Refuge	Oconto	680
31.	Archibald Wild Life Refuge	Oconto	3,420
32.	Ferndale Place	Oneida	163
33.	Ellington Wild Life Refuge	Outagamie	1,600
34.	Martha Boyd Game Sanctuary	Outagamie	40
35.	Root River Wild Life Refuge	Racine	1,150
36.	Overcrest Refuge	Rock	925
37.	St. Croix Reserve No. 1	St. Croix	320
38.	Wilson Game Refuge	St. Croix and Dunn	1,200
39.	Marquardt Wild Life Refuge	Shawano	500
40.	Seneca Wild Life Refuge	Shawano	320
41.	Seneca Wild Life Refuge	Shawano	1,080
42.	Forest Preserve Refuge	Sheboygan	2,102
43.	Kohler Game Refuge	Sheboygan	2,200
44.	Pigeon River Wild Life Refuge	Sheboygan	1,265
45.	North Branch Wild Life Refuge	Sheboygan	1,420
46.	Constance Lake Reserve	Vilas	1,170
47.	Outer Rapids Wild Life Refuge	Vilas	213
48.	Forest Lake Wild Life Refuge	Vilas	1,160
49.	Lakedale Reserve	Washburn	195
50.	Camp Minikani Wild Life Refuge	Washington	187
51.	Washington Co. Wild Life Refuge	Washington	1,440
52.	Red Brae Farms	Waukesha	504
53.	New Hope Iola Wild Life Refuge	Waupaca and Portage	886
54.	I. W. L. Chain O'Lakes Chapter No. 200	Waupaca and Portage	1,100
55.	Springvale Wild Life Refuge	Waupaca	1,080
56.	Northern Hospital Wild Life Refuge	Winnebago	650
57.	Winchester Wild Life Refuge	Winnebago	800
58.	Tri-City Wild Life Refuge	Wood	3,500
59.	Lake Biron Wild Life Refuge	Wood	1,650
60.	Bayfield County	Bayfield	650
61.	Horicon Marsh	Dodge	40,000
62.	Douglas County	Douglas	24,960
63.	Forest County	Forest	46,080
64.	Black Hawk Refuge	Green Lake	47
65.	Langlade County	Langlade	10,880
66.	Lincoln County	Lincoln	7,680
67.	Marinette County	Marinette	3,080
68.	Three Lakes Game Refuge	Oneida	1,600
69.	Clear-Crooked Lake Game Refuge	Vilas	8,000
70.	Trout Lake Game Refuge	Vilas	89,600
71.	South Bluff Game Refuge	Wood	2,560
72.	Copper Falls State Park	Ashland	520
73.	Merrick State Park	Buffalo	24

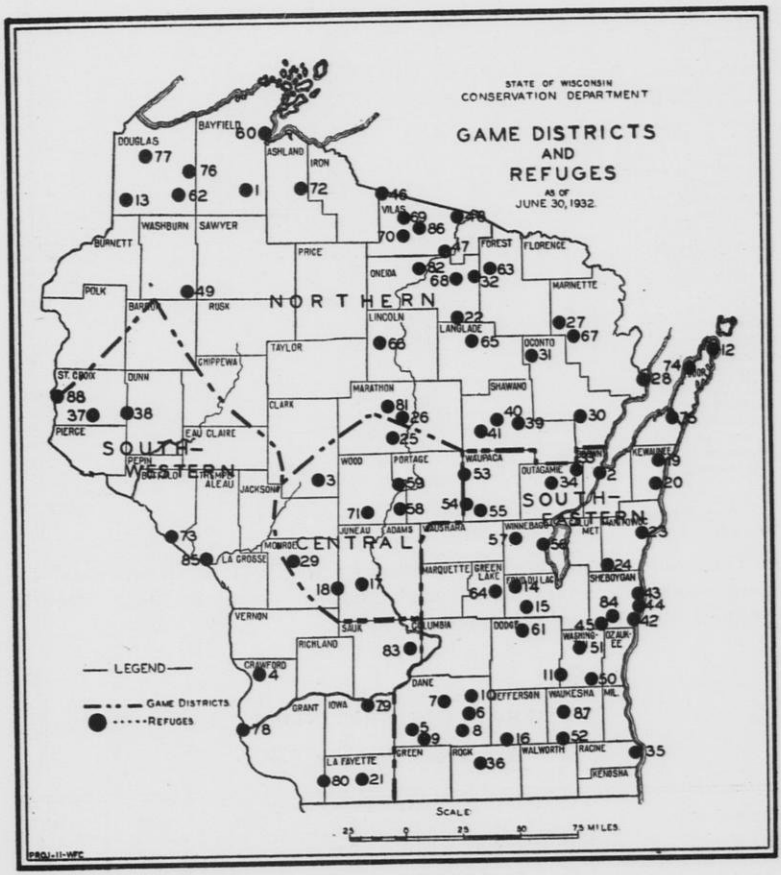
WISCONSIN WILD LIFE REFUGES—Continued

	Name	County	Acres
74.	Peninsula State Park	Door	3,400
75.	Potawatomi State Park	Door	1,100
76.	Brule State Forest	Douglas	640
77.	Pattison State Park	Douglas	660
78.	Nelson Dewey State Park	Grant	1,650
79.	Tower Hill State Park	Iowa	60
80.	First Capitol State Park	Lafayette	2
81.	Rib Mountain State Park	Marathon	160
82.	American Legion State Forest	Oneida	36,000
83.	Devil's Lake State Park	Sauk	1,400
84.	Terry Andrae State Park	Sheboygan	112
85.	Perrot State Park	Trempealeau	950
86.	Northern State Forest	Vilas	125,000
87.	Cushing Memorial State Park	Waukesha	8
88.	Interstate Park	Polk	580
	Total		469,694

Note: Nos. 1 to 59—Private wild life refuges. Nos. 60 to 71—State wild life refuges. Nos. 72 to 88—State parks and forests.

In addition to the refuges listed above there are three waterfowl refuges—the Delta Fish and Fur Farm Refuge in Trempealeau county, established by legislative act in 1931; the Puckaway Lake Refuge in Green Lake county; and the Moon Lake Waterfowl Refuge in Fond du Lac county, established by commission action.

In addition to officially established wild life refuges, there are approximately 200,000 acres contained within privately established wild life refgues and sanctuaries.


STATE OF WISCONSIN
CONSERVATION DEPARTMENT
GAME DISTRICTS
AND
REFUGES
AS OF
JUNE 30, 1932.
NORTHERN
SOUTH-WESTERN
CENTRAL
SOUTH-EASTERN
LEGEND
GAME DISTRICTS
REFUGES
SCALE
25 0 25 50 75 MILES
PROJ-11-WPC

GAME CENSUS TABULATION—1931

Cottontail rabbit	1,075,591
Snowshoe rabbit	437,183
Jack rabbit	17,956
Gray Squirrel	303,674
Fox Squirrel	149,772
Black squirrel	1,944
Red squirrel	70,204
Ruffed grouse	38,885
Prairie chicken and sharp-tailed grouse	36,453
Rails	3,703
Jacksnipe	28,636
Mallard	57,217
Black duck	5,740
Green winged teal	23,345
Blue winged teal	21,623
Pintail	9,746
Coot	132,337
Gadwall	715
Shoveler	2,947
Widgeon	4,342
Canvasback	11,129
Red head	4,223
Greater bluebill	19,726
Lesser bluebill	15,505
Ring-neck duck	989
Bufflehead	897
Ruddy	1,552
Goldeneye	1,040
Merganser	2,702
Any other duck	2,285
Canada goose	332
Any other goose	423
All other small game	49,828
Bobcat	157
Red fox	914
Gray fox	1,814
Raccoon	7,675
Opossum	2,191
	2,545,395

Total Reports 121,209

The game census law was passed by the 1931 legislature and report blanks were issued with each hunting license in 1931. Reports of the 1931 kill were tabulated in 1932.

TRAPPING STATISTICS

Average Value per Pelt

Animal	1927	1928	1929	1930	1931
Muskrat	$1.62	$1.42	$ .89	$ .51	$ .56
Mink	8.58	10.40	8.57	4.93	3.84
Raccoon	6.62	7.35	7.36	4.99	3.94
Skunk	2.19	2.59	1.93	1.34	1.16
Weasel	1.40	1.11	.64	.45	.38
Fox	9.93	11.28	8.38	5.34	2.76
Wolf	11.55	11.98	7.07	5.04	3.59
Badger	5.06	7.33	5.25	5.61	3.86
Otter	29.19	21.51	23.69	15.21	9.82
Opossum	1.05	1.06	.79	.54	.35
Rabbit	.08	.11	.04	.04	----------
Squirrel	.13	.10	.02	.01	----------
Lynx	----------	----------	2.78	2.55	----------
Wildcat	4.78	3.60	2.38	2.07	1.74
Housecat	----------	----------	.42	.14	----------

TRAPPING STATISTICS

Animal	1927		1928		1929		1930		1931	
	Total Pelts	Total Value	Total Pelts	Total Value	Total Pelts	Total Value	Total Pelts	Total Value	Total Pelts	Total Value
Muskrat	75,910	$123,111.95	120,595	$171,897.57	233,090	$208,135.62	23,314	$13,153.57	233,500	$118,181.85
Mink	5,069	43,472.59	2,938	30,565.26	11,855	101,522.83	6,629	32,724.38	11,536	44,261.16
Raccoon	821	5,433.63	1,932	14,215.38	2,345	17,265.84	1,475	7,367.78	1,979	7,785.81
Skunk	10,360	22,701.07	12,776	33,181.48	13,106	25,206.62	13,036	17,580.29	28,624	33,475.33
Weasel	19,774	27,612.93	17,740	19,661.45	28,993	18,484.27	14,640	6,674.81	20,553	7,844.91
Fox	594	5,896.57	848	9,571.26	892	7,477.22	666	3,541.02	801	2,216.34
Wolf	452	5,219.24	567	6,792.81	608	4,300.41	215	1,084.67	414	1,487.60
Badger	72	364.67	110	806.09	120	629.49	124	695.81	203	784.70
Otter	13	379.50	17	365.70	102	2,416.25	107	1,638.25	170	1,669.85
Opossum	35	36.70	72	76.55	35	27.55	70	38.25	293	103.98
Rabbit	77	6.13	274	31.73	189	8.42	48	2.22		
Squirrel	72	9.16	177	18.18	23	.35	51	.65		
Lynx					9	25.00	15	38.25		
Wildcat	75	358.80	116	417.78	35	83.35	23	47.75	50	87.04
Housecat					12	5.03	18	2.61		
	113,324	$234,602.94	158,162	$287,601.24	219,414	$385,618.25	62,431	$84,590.31	298,122	$217,897.87

Part III—Section 9

LAW ENFORCEMENT

INDIVIDUAL WARDEN RECORDS—1930–1931

Warden	District	Cases	Won	Lost	Fines	Jail sentences (days)	Costs	Seizures	Fees
Alderman, E. L.	Portage	45	41	4	$ 1,230.00	210	$ 247.15	40	$ 92.40
Apel, Edw.	Eau Claire	45	41	4	675.00	65	308.09	18	102.76
Apel, Harold	Menomonie	25	21	4	700.00	240	149.80	16	63.55
Baie, Arthur	Marinette	89	80	9	1,750.00	360	150.65	81	51.00
Baker, Chas. E.	Park Falls	10	10		52.00	25	22.87	10	7.12
Boomer, I. H.	Oshkosh	9	7	2	300.00	240	97.55	9	
Bosworth, E. F.	Merrill	17	17		990.00	60	178.96	16	31.15
Button, Percy E.	Mauston	29	22	7	1,120.00		127.76	39	53.99
Chase, A. C.	Oshkosh	27	22	5	600.00	600	78.19	38	14.23
Christensen, P. C.	Trout Lake							13	
Clawson, W. P.	Park Falls	4	4		25.00	30	35.00	1	10.00
Colburn, Roland	Pardeeville							1	
Cole, W. A.	Wisconsin Rapids	23	23		810.00	240	150.60	14	63.75
Coleman, O. L.	Madison							78	
Curtis, P. S.	Viroqua	10	7	3	300.00	60	30.05	8	9.55
Dahl, H. R.		1	1		10.00		5.61		2.11
Danielson, H. T.	Madison	1	1					9	
Devine, Barney	Webster	19	15	4	535.00	275	62.96	32	29.30
Devine, Thos.	Spooner	17	17		230.00	420	59.22	12	18.75
Diedrich, Peter	Milwaukee	17	16	1	613.33		102.02	30	45.42
Dockham, F. A.	Baraboo	12	11	1	30.00		64.62	14	41.77
Dunham, Al	Oshkosh	34	32	2	1,000.00	720	185.24	66	11.70
Edick, James	Sheboygan	35	30	5	1,083.00		321.39	26	62.72
Egan, John	Manitowoc	22	17	5	760.00		89.82	39	5.40
Elliott, W. P.	Whitewater	61	61		2,600.00	90	594.88	15	230.90
Fess, Edw.	Madison	24	20	4	500.00	15	168.39	10	29.55
Fisher, F. W.	Oconto	39	33	6	1,160.00	270	137.31	29	185.00
Fosnot, J. B.	Tomahawk	23	17	6	275.00	690	56.80	15	19.33
Freund, Henry	Rhinelander	3	2	1	10.00	15	11.92	4	5.25
Giesen, Louis	Fountain City	17	16	1	455.00	210	24.11	27	36.41
Gray, Robt.	Milton	48	47	1	1,500.00	270	411.19	18	177.68
Grimmer, W. F.	Madison							2	
Hall, A. W.	Darlington	12	11	1	550.00		58.00	31	18.75
Hanson, Allen	Ladysmith	46	44	2	555.00	900	120.48	42	47.65
Hanson, J. E.		1		1					
Happle, Max	Iron River	40	31	9	565.00	570	71.46	47	59.40

Hayner, S. W.	Eagle River	29	26	3	747.95	180	122.90	39	35.70
Hilliker, Earl	Tomah	2	1	1		30		6	
Hope, Lawrence	Hammond	38	28	10	560.00	960	142.45	16	91.86
Hornberg, Frank	Stevens Point	25	25		730.00	1,270	155.21	15	36.30
Hosford, H. M.	Medford	18	15	3	550.00	210	65.11	18	35.70
Hougen, H. O.	Loretta	56	45	11	900.00	540	249.87	132	34.90
Jakoubek, K. C.	Phillips	12	12		450.00	60	108.14	21	20.85
Jeske, Louis	Appleton	12	12		300.00	30	18.72	3	12.10
Johnson, Geo.	Richland Center	28	20	8	650.00	348	86.11	36	33.11
Johnson, Harry	Fish Creek	1	1		50.00				
Johnson, T. J.	Whitehall	23	18	5	450.00	390	126.05	9	60.76
Jones, L. D.	Ashland	32	27	5	850.00	210	71.53	22	36.70
Keeler, J. G.	Fennimore	34	32	2	1,250.00	150	175.29	9	30.50
Kirkpatrick, A. B.	Crandon	13	8	5	325.00	30	61.37	19	44.54
Kramer, Emil	Antigo	48	42	6	1,325.00	600	237.16	34	127.52
Kramer, Wm.		2	2		50.00	30	6.00	2	
Lake, R. J.	West Bend	27	22	5	1,100.00	195	66.67	14	48.14
Lange, Elmer	La Crosse	34	28	6	480.00	400	74.80	46	34.55
Lanning, B. P.	Black River Falls	14	12	2	485.00	240	66.58	44	15.65
Lee, Albert	Luck	16	13	3	250.00	240	30.90	10	13.30
Linn, Erwin	Barron	3	3		100.00	90	10.70	2	3.20
Long, Frank	Spooner	15	13	2	210.00	60	86.06	30	28.20
Long, John	Mellen	47	42	5	1,687.50	270	186.45	58	99.78
MacKenzie, H. W.	Madison	2	1	1	25.00		3.50	1	1.20
McDonald, P. A.	Spooner	13	8	5	60.00	60	56.14		4.25
McNaughton, J.	Superior	19	13	6	550.00	60	15.00	20	15.50
Meharg, Wm.	Dunbar	19	15	4	30.00		33.90		17.62
Mielke, Carl		4	4		100.00		8.25		15.00
Moeller, Ira J.	Kewaunee	17	16	1	550.00	60	136.71	79	25.11
Nixon, R. A.	Florence	38	30	8	550.00	120	222.37	25	102.12
Oshesky, Louis	Three Lakes	42	37	5	450.00	450	126.32	51	62.34
Ott, Royal		2	2		100.00		14.84		
Otto, Charles	Argonne	19	16	3	450.00	210	74.75	42	34.20
Ozburn, Wm. A.	Kenosha	19	14	5	700.00		111.06	44	99.17
Percy, H. E.	Brule	8	6	2	100.00	115	27.50	17	
Perry, Lea M.	Wausau	24	24		950.00	360	91.33	19	15.00
Peterson, A. J.	Racine	31	27	4	1,235.00	120	131.13	8	70.85
Powell, A. W.	Bayfield	11	10	1	200.00	60	24.84	23	15.95
Raeth, Val.	Milwaukee	6	5	1	100.00		46.85	24	21.98
Randall, F.	Waupaca	13	9	4	100.00	210	14.00	8	7.50
Reabe, Wm.	Horicon	34	30	4	1,005.00	60	229.03	23	61.28
Reed, Clifford	Minocqua	22	19	3	600.00	90	143.40	26	41.02
Rheaume, I. C.	Mercer	45	38	7	1,640.00	411	244.55	37	168.32
Riebe, Wm. H.	Eagle River							11	
Robinson, A. J.	Rhinelander	52	49	3	1,000.00	270	175.10	38	86.15
Rowe, Hallie	Sturgeon Bay	34	22	12	800.00	70	137.95	24	69.20

INDIVIDUAL WARDEN RECORDS—1930–1931—Continued

Warden	District	Cases	Won	Lost	Fines	Jail sentences (days)	Costs	Seizures	Fees
Sampson, Andrew	Stoughton	40	37	3	$1,100.00	30	$277.90	8	$84.65
Schwalbe, Otto	Fond du Lac	19	15	4	521.20	90	72.40	18	16.98
Scolman, J. T.	Rice Lake	15	14	1	275.00	390	47.55	21	11.25
Smith, Ira G.	Green Bay	11	11		300.00	180	41.98	7	9.84
Spencer, Carl M.		17	15	2	380.00	30	70.40	3	36.22
Steiro, Leif	Hayward	23	18	5	67.00	75	57.22		45.23
Stiglbauer, F. A.	Oconomowoc	50	48	2	1,581.67	30	207.83	15	71.44
Swift, Ernest	Hayward	63	55*	8	1,575.00	540	165.83	47	109.45
Tic, Art	Shawano	49	46	3	1,305.00	600	189.68	18	73.35
Tiedeman, H. C.	Thorp	25	24	1	450.00	120	148.48	1	55.80
Trainor, Dan	Princeton	25	23	2	1,120.00		165.91	19	78.74
Tourtillott, R.	Wabeno	30**	20	9	275.00	240	84.59	24	39.65
Weaver, Harry	Phillips	17	17		900.00	60	149.23	19	39.30
Worden, J. D.	Plainfield	20	19	1	1,105.00	90	94.70	28	31.32
Totals		2,212	1,921	290	$56,733.65	18,309	$10,112.83	2,184	$4,006.93

* 2 died before trial

** 1 outcome unknown

INDIVIDUAL WARDEN RECORDS—1931–1932

Warden	District	Cases	Won	Lost	Fines	Jail sentences (days)	Costs	Seizures	Fees
Adamski, J. F.	Sparta	5	3	2	$50.00		$23.36	3	$14.30
Alderman, E. L.	Portage	50	37	9	700.00	540	396.81	42	95.35
Allen, Clarence	Green Bay							1	
Apel, Edw. E.	Eau Claire	56	49	7	250.00	660	329.71	18	75.65
Apel, Harold	Menomonie	18	15	3	200.00	240	54.68	39	18.75
Baie, A. A.	Marinette	50	44	5	1,125.00	334	185.00	39	52.40
Baker, Chas. E.	Park Falls	3	2	1	1.00		3.00		1.00
Barnard, W. D.	Friendship	3	2	1			13.40	1	10.40

Barnes, A. E.	New Auburn	3	2	1				1	
Boldon, Aron E.	Oshkosh	6	3	3			4.53	1	2.00
Boomer, I. H.	Park Falls	6	6		100.00		7.30	10	
Borkenhagen, John	Merrill	7	7		10.00	270	5.00	5	1.60
Bosworth, E. F.	Mauston	20	15	3	65.00	120	41.34	4	1.65
Button, Percy E.	Oshkosh	23	18	4	150.00	270	60.35	32	24.26
Chase, A. C.	Park Falls	4	4		720.00	150	63.17	30	2.40
Clawson, W. P.	Pardeeville				45.00		8.25	1	9.35
Colburn, Roland	Wisconsin Rapids	37	32	5	450.00	380	177.72	1	38.40
Cole, W. A.	Madison							13	
Coleman, O. L.	Viroqua	5	4	1	100.00	30	11.20	15	2.65
Curtis, P. S.	Amberg	16	15	1	310.00	30	147.04	9	34.30
Dahl, H. R.	Waterloo	3	2	1			9.86	7	4.00
Dallman, Royce	Madison								
Danielson, H. T.	Merrillan	1	1		50.00		4.68	5	3.40
DeBow, M. M.	Webster	14	12		150.00	361	15.91	23	6.80
Devine, Barney	Spooner								
Devine, Thos.	Oostburg	1	1					1	
DeZoute, Jas.	Milwaukee	9	7	2	225.00		7.50	1	4.20
Diedrich, Peter	Baraboo	12	8	4	275.00	60	31.24	63	8.43
Dockham, F. A.	Oshkosh	26	22	2	475.00	390	32.70	14	21.10
Dunham, Al	Sheboygan	31	25	6	400.00		93.37	39	1.95
Edick, James	Manitowoc	8	6		150.00	150	226.86	28	45.74
Egan, John	Whitewater	79	70	1	2,015.00	740	14.52	37	
Elliott, W. P.	Madison	33	21	10	50.00	30	567.09	22	241.85
Fess, Edw.	Oconto	38	27	10	350.00	360	41.70	21	10.46
Fisher, Fred	Tomahawk	22	15	7	100.00	370	59.35	21	67.60
Fosnot, J. B.	Rhinelander	6	6		30.00		101.06	6	9.95
Freund, Henry	La Crosse						16.16		6.25
Frereichs, Julius	Fountain City	13	9	4	150.00	210	6.75	2	1.85
Giesen, Louis	Eagle River	8	7	1		150	10.15	18	
Gould, Leo J.	Milton	75	69	1	1,700.00	950	489.85	18	198.35
Gray, Robt.	Madison							5	
Grimmer, Wm. F.	Westfield	2	2		100.00				
Hackman, E. W.	Darlington	13	8	2	250.00	60	66.91	36	24.51
Hall, A. W.	Elton	1	1				4.95	1	.95
Hall, Clyde R.	Ladysmith	84	80	3	475.00	2,550	109.95	56	35.56
Hanson, Allen	Iron River	6	5	1	50.00	150	19.99	3	.95
Hanson, John E.	Iron River	2		2				21	
Happle, Max	Eagle River	52	47	4	1,020.00	910	157.34	22	69.00
Hayner, S. W.	Park Falls	14	12	2	60.00	120	11.18	3	24.87
Hayward, Lloyd	Tomah	4	4		100.00	105	55.70	3	
Hilliker, Earl E.	Madison	1	1					12	
Hall, Chas.	Hammond	30	21	5	470.00	1,200	109.34	21	23.47
Hope, Lawrence	Stevens Point	25	15	2	50.00	330	77.70	16	8.55
Hornberg, Frank									

INDIVIDUAL WARDEN RECORDS—1931–1932—Continued

Warden	District	Cases	Won	Lost	Fines	Jail sentences	Costs	Seizures	Fees
Hosford, H. M.	Medford	30	27	3	$560.00	450	$103.48	21	$59.80
Hougen, H. O.	Loretta	69	59	6	575.00	1,380	225.08	70	15.90
Jakoubek, K. C.	Phillips	36	23	13	675.00	336	92.12	19	54.98
Jeske, Louis	Appleton	7	7		130.00	30	24.98	11	7.30
Johnson, George	Richland Center	12	8	3	250.00	60	38.41	38	26.60
Johnson, T. J.	Whitehall	31	18	10	450.00	210	204.71	9	72.80
Jonas, J. W.	Spooner	13	12	1	50.00	240	39.17	11	6.00
Jones, L. D.	Ashland	29	21	8	210.00	270	19.61	28	16.70
Keeler, J. G.	Fennimore	31	24	7	770.00	240	156.40	6	41.20
Keeney, Robt. A.	Wis. Rapids	3	1	1	50.00		7.85		2.85
King, Alfred E.	Merrill	2	2			30			
Kirkpatrick, A. B.	Crandon	12	11	1	40.00	75	53.85	7	11.40
Kramer, Emil	Antigo	34	31	3	350.00	590	62.86	18	30.70
Lake, R. J.	West Bend	13	11	2	400.00	150	55.82	129	31.78
Lange, Elmer	La Crosse	14	11	3	75.00	300	10.15	23	6.50
Lanning, B. P.	Black River Falls							1	
Lee, Albert	Luck	56	35	13	200.00	1,035	34.40	5	12.60
LeMay, Neil	Draper	1	1			10			
Linn, Ervin	Barron	2	2		50.00	60	8.25	1	4.75
Long, Frank	Spooner	28	25	3	400.00	270	64.65	34	23.55
Long, John	Mellen	35	34	1	660.00	680	110.94	21	72.48
McDonald, P. A.	Spooner	4	4		35.00		42.49		.75
McKeague, Harley	Rhinelander	34	27	4	300.00	625	26.47	14	12.70
McNaughton, Jas.	Superior	23	20	3	730.00	150	24.00	38	23.20
Matysek, Tony	Sayner	3	3			60		1	
Meharg, Wm.	Dunbar	3	3		10.00		3.50		
Mentz, Gilbert		7	3	4		15	14.50	3	6.00
Minor, Fred	Iron River	22	16	5	50.00	540	2.58	25	3.00
Moeller, Ira J.	Kewaunee	18	18		500.00	120	93.56	9	20.97
Mossberg, F.	Mauston	3	3			30	7.03	13	2.66
Mullaney, Hy	Spooner	6	6		40.00	180	20.60	4	3.60
Nixon, R. A.	Florence	41	33	2	200.00	270	114.65	36	49.68
Omernik, Anton	Grantsburg	10	10		40.00		17.10	4	12.30
Oshesky, Louis	Three Lakes	73	68	5	840.00	890	246.95	35	91.90
Otto, Chas.	Argonne	29	24	3	200.00	210	165.31	9	73.55
Ozburn, Wm. A.	Kenosha	18	9	9	300.00	60	82.86	97	25.72

Perry, Lea M.	Wausau	38	31	2	650.00	490	78.16	21	34.64
Peterson, A. J.	Racine	42	37	5	845.00	720	123.40	19	72.43
Piper, Leslie C.		26	26				30.42		
Powell, A. W.	Bayfield	9	6	2	50.00	120	10.10	90	5.60
Raeth, Val	Milwaukee	4	2	2		30	6.65	57	4.35
Ralph, Harry	Antigo	4	4		7.00	2	19.47		1.20
Randall, Frank	Waupaca	8	4	4	50.00	60	12.00	22	
Reabe, Wm.	Horicon	25	24	1	475.00	210	127.49	12	43.98
Reed, Clifford	Minocqua	22	17	5	425.00	180	42.75	18	19.50
Rheaume, I. C.	Mercer	46	42	4	850.00	750	132.85	25	96.90
Robinson, A. J.	Rhinelander	66	60	5	1,925.00	940	383.00	36	144.26
Rowe, Hallie	Sturgeon Bay	29	15	14	550.00	40	159.70	23	85.60
Ruegger, Sam	Holcombe	6	6		150.00	150	7.43	1	1.43
Sampson, Andrew	Stoughton	30	25	5	190.00	60	88.18	10	33.95
Schwalbe, Otto	Fond du Lac	13	8	5	150.00	30	46.80	10	10.70
Scolman, Jas. T.	Rice Lake	17	16		200.00	615	77.19	11	11.15
Seymour, Lewis	Reedsburg	3	3				4.37		4.00
Small, Geo. R.	Tomahawk	1	1				7.25	9	4.00
Smith, Ira G.	Green Bay	7	6		100.00	30	57.21	10	29.96
Steiro, Leif	Hayward	3	3		10.00		156.15		5.22
Stiglbauer, F. A.	Oconomowoc	74	67	7	1,175.00	270	158.92	21	88.58
Swift, Ernest	Hayward	69	57	9	775.00	1,575	60.85	58	103.07
Tic, Arthur	Shawano	44	42	2	775.00	540	101.21	11	24.30
Tiedeman, H. C.	Thorp	34	31	3	355.00	240	92.30	22	33.90
Tourtillott, R.	Wabeno	42	29	8	220.00	570	114.41	25	40.40
Trainor, Dan	Horicon	32	24	6	800.00	120	145.64	19	52.85
Tutor, Garrett	Washburn	1	1		50.00		7.36		4.36
Uphoff, A. J.	Wausau	7	7		150.00	160	5.98		1.20
Vanderwall, E. J.	Brule	13	13		50.00		24.11	1	6.60
Waskow, B. J.	Two Rivers	5	5			180			
Weaver, Harry	Phillips	13	5	8	150.00	30	10.00		2.00
West, Myron	White Lake	8	8		30.00	30	20.45		
White, Lynn	Sheboygan	3	3				10.50	7	
Williams, Russel	Ladysmith	2	2		50.00	30	7.43		1.43
Winkler, Lester	Florence	4	4						6.92
Wolfe, Steve		5	4	1	150.00	90	11.10	18	5.60
Worden, J. D.	Plainfield	25	22	1	585.00	120	47.02	25	11.37
Younghauer, Thos.	Elcho	1		1					
		2,458	2,032	329	$34,053.00	30,168	$8,435.85	2,111	$3,019.62

Note: 85 cases open. 10 left country before trial. 2 died before trial.

SEIZURES 1930–1931

Article	Number Seized	Number Sold	Proceeds From Sale	Other Disposition
Automobiles*				
Model T. Ford truck (poor)	1	1	$ 15.00	
Nash sedan (fair)	1	1	59.20	
Studebaker sedan	1	1	200.00	
Ford sedan	1	1	250.00	
Durant coupe (poor)	1	1	17.00	
Ford roadster	1			
Ford truck	1			Held for fisheries division use
Deer				
Carcasses	666	612	10,956.75	35 destroyed** 16 held 1 albino to Milwaukee Museum 2 stolen
Skins	32	16	13.50	15 held 1 destroyed**
Venison	442 lbs.	357 lbs.	96.80	85 lbs. destroyed**
Deer heads	3	2	1.50	1 held
Unborn fawns	2	2	1.00	
Live deer	15	10	215.00	3 to game farm 1 returned 1 released
Fish				
Commercial	11,125 lbs.	11,100 lbs.	2,724.09	25 lbs. unsalable
Game	3,057 lbs.	2,508 lbs.	170.12	225 lbs. destroyed** 324 lbs. unsalable
Rough	13,259 lbs.	13,033 lbs.	119.25	195 lbs. given away** 31 lbs. destroyed**
	18 boxes (poor cond.)	18 boxes	50.25	
Fishing Equipm't				
Fish traps	26			26 destroyed**
Nets	99	3	25.00	44 destroyed** 36 held 15 returned 1 to fisheries division
Rod and reels	7	2	5.50	5 held
Set lines	477			384 destroyed*** 93 held
Snag lines	43			42 destroyed*** 1 held
Spears	44			23 destroyed*** 21 held
Miscellaneous (including snag-line, hook wgts., dip net poles, throw lines, pound net crib, etc.)	69	1 item	5.00	68 destroyed***
Fur				
Badger	4			4 held
Beaver	221	15	190.99	205 held 1 destroyed**
Bobcat	21			21 held
Coyote	34			34 held
Ferret	2			2 held***
Fox	40	33	212.96	4 held 3 destroyed**
Mink	82	12	120.86	69 held 1 destroyed**
Muskrat	1,375 skins 5 live	281 2	315.60 3.00	1,094 held 3 liberated
Raccoon	41	19	81.50	21 held 1 destroyed**

SEIZURES 1930–1931—Continued

Article	Number Seized	Number Sold	Proceeds From Sale	Other Disposition
Skunk	119 skins	89	95.50	29 held 1 destroyed**
	38 live	14	32.00	24 liberated
Weasel	51			51 held
Wolf	7			7 held
Game				
Bear	9 carcasses	8	109.12	1 held
	6 skins	4	26.00	2 held
	3 live			2 to game farm 1 to state reformatory
Beaver	33 live	16	598.88	13 liberated 2 to game farm 2 to Milw. zoo
	1 carcass			1 held
Elk	16 carcasses	16	886.54	
Game birds (Upland)	61 carcasses	24	15.75	32 held 5 to schools for mounting 3 liberated
Waterfowl	48 carcasses	3	1.50	38 destroyed** 1 held 6 for scientific purposes
	2 live			1 to game farm 1 to U. S. Supt. Wild Life Refuge
Rabbit	50 carcasses	40	7.06	10 destroyed**
Raccoon	11 carcasses	10	63.50	1 destroyed**
	47 live	28	155.40	6 held, 5 to Fond du Lac Park 5 liberated, 3 to state reforma.
Squirrel	5 carcasses			5 destroyed**
Guns				
Pistols	3	2	4.05	1 returned
Rifles	110	74	812.40	29 held 7 returned
Shotguns	93	75	671.85	13 held 5 returned
Miscellaneous				
Batteries	4	1	3.00	3 held
Boats	16	4	47.50	10 held 2 returned
Caviar			28.00	
Corks and leads			7.00	
Decoys	39			17 returned 22 held
Dogs	4	1	2.00	3 killed
Eagle	1			Given to Milw. Museum
Lights	25	5	10.50	18 held 1 returned 1 destroyed***
Packsack	1	1	.50	
Sturgeon eggs	1¼ quarts	1¼ quarts	1.00	
Traps	1,102	485	52.11	617 held
Axes, pails, blankets, cans, etc.	24			23 held 1 destroyed**
Total	33,151	28,934	$19,481.03	

* Sale price of cars based on Blue Book valuation of second hand cars. Costs of cases subtracted from gross proceeds.
** Unsalable.
*** Public nuisance.

SEIZURES 1931–1932

Article	Number Seized	Number Sold	Proceeds From Sale	Other Disposition
Automobiles*				
Chevrolet coupe (fair)	1	1	$75.00	
Chevrolet coupe	1	1	324.42	
Oldsmobile sedan	1	1	155.51	
Chevrolet coupe	1	1	93.37	
Ford coupe, Model A	1	1	172.75	
Ford coupe, Mod. T (junk)	1	1	5.00	
Dodge sedan, Model 19	1	1	30.00	
Ford coupe, Model T (poor)	1	1	10.00	
Ford sedans	2			Returned
Chevrolet tour.	1			Held
Cadillac coach	1			Held
Chevrolet coach	1			Held
Hudson truck	1			Held
Ford coupe, Model T	1			Held
Buick coupe	1			Held
Deer				
Carcasses	207	163	2,586.89	25 held 5 unsalable 14 destroyed**
Venison	1,337 lbs.	858 lbs.	186.43	299 lbs. destroyed** 180 lbs. unsalable
Hides	59	36	39.00	19 held 4 destroyed**
Heads & horns	4	2	4.50	2 held
Live	19	6	98.50	1 held, 1 to park 1 released, 10 to game farm
Fish				
Commercial	21,978 lbs.	21,706 lbs.	2,367.53	257 lbs. unsalable 15 lbs. destroyed**
Game	3,693 lbs.	2,986 lbs.	208.62	420 lbs. unsalable 287 lbs. destroyed** 22 pickerel released
Rough	1,778 lbs.	655 lbs.	9.20	1,058 lbs. unsalable 65 lbs. destroyed**
Fishing Equipm't				
Nets	180	3	6.00	42 destroyed*** 54 held, 74 returned, 4 to game farm, 1 to fish hatchery, 2 U. S. Bureau Fisheries
Rods and reels	11	7	15.25	3 held 1 returned
Set lines	414	1	1.00	367 destroyed***
Snag lines	14			46 held 11 destroyed***
Spears	73			3 held 35 destroyed***
Traps	62			38 held 56 destroyed***
Miscellaneous (including hooks, net poles ice fishing frame, etc.)	18			6 to game farm 12 destroyed*** 6 items held
Fur				
Badger	2	1	.25	1 held
Beaver	316	1	6.00	315 held
Bobcat	14	1	4.00	13 held
Coyote	24			24 held
Ferret	1			Given to Museum
Fox	19	4	69.00	15 held
House cat	1			1 held

SEIZURES 1931–1932—Continued

Article	Number Seized	Number Sold	Proceeds From Sale	Other Disposition
Mink	80	4	23.65	76 held
Muskrat	2,267	10	6.25	2,254 held
				3 destroyed**
Otter	1			1 held*
Rabbit	1			1 held
Raccoon	24	1	3.00	23 held
Skunk	80	62	55.85	18 held
Squirrel	20			20 held
Weasel	52	1	.50	51 held
Wolf	9	3	19.25	6 held
Game				
Beaver	12			1 held
				11 released
Bear	20 carcasses	16	199.82	1 destroyed**
				2 held
				1 to rendering co.
	3 hides	2		1 held
	11 live	2	25.00	8 to game farm
				1 to state reformatory
Game birds (Upland)	127	84	71.64	23 destroyed**
				9 held, 10 unsalable
				1 mounted
Waterfowl	8			4 destroyed, 1 held, 3 to museum
Rabbit	45	40	3.55	4 unsalable
				1 destroyed**
Raccoon	52 live	18	118.50	34 released
Squirrels	8	2	.50	5 destroyed**
				1 unsalable
Guns				
Pistols and revolvers	5	4	15.50	1 held
Rifles	130	108	1,114.50	9 held, 10 returned, 2 stolen, 1 to forestry div.
Shotguns	98	88	613.85	4 held
				6 returned
Miscellaneous				
Batteries	7	1	1.00	6 held
Boats	31	10	60.85	20 held
				1 destroyed
Caviar			8.00	
Christmas trees	430	50		104 unsalable
				276 held
Decoys	43	21	10.00	22 held
Dogs	1			1 killed
Hunting knives	3	1	.75	2 held
Lights	43	1	.50	19 held
				2 destroyed***
				1 stolen
				1 to warden div.
				1 to fisheries div.
				18 to forestry div.
Loon	1 live	1	1.00	
Mounted loons	2	2	20.00	
Packsacks	5			4 held
				1 destroyed**
Swan	1 live			Released on refuge
Traps	1,148	563	52.07	577 held
				8 given away**
Axes, sled, ice chisels, snares, sack, etc.	21			10 destroyed
				10 held
				1 returned
Total	34,931	27,545	$8,893.75	

* Sale price of cars based on Blue Book valuation of second hand cars. Costs of cases subtracted from gross proceeds.
** Unsalable.
*** Public nuisance.

WARDEN RECORD TOTALS

Year	Cases	Won	Lost	Fines	Costs	Seizures	Jail Sentences (days)	Per cent Cases Won	Per cent Seizures to Cases Won	Average Fine Per Case Won
1926–27	1,210	1,121	89	$ 50,885.00	$ 7,023.48	893	4,235	92.6	79.6	$45.39
1927–28	1,438	1,365	73	57,068.50	8,623.82	941	8,310	94.9	68.9	38.95
1928–29	1,556	1,385	171	54,475.00	11,048.76	1,257	7,790	89.1	90.7	39.34
1929–30	2,085	1,874	211	71,960.00	15,140.31	1,688	11,551	89.9	90.0	38.40
1930–31	2,212	*1,921	290	56,733.65	10,112.83	2,183	18,309	86.8	88.0	29.54
1931–32	2,458	**2,032	329	34,053.00	8,435.85	2,111	30,168	82.6	96.2	16.75
	10,959	9,698	1,163	$325,175.15	$60,385.05	9,073	80,363			

* Outcome unknown in one case

** 97 cases open.

Necrology

Hugh E. Percy — June 1931
District Forest Ranger

Thomas Devine — September 1931
Conservation Warden

Max Happle — October 1931
Conservation Warden

William Reabe — January 1933
Conservation Warden