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THE SPORTSMAN'S PRAYER

“Let me shoot clean, kill clean; and if I can't kill clean, please Lord, let me miss clean.”

—Bob Nichols

MONTANA STATE FISH AND GAME DEPARTMENT

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Holmes, Allen T., Billings, Box 244
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Staunton, Fred T., Livingston,
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Weaver, J. A., Lewistown

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Morgan, Harry N., Ovando
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Elmer G. Phillips, Superintendent, State Fisheries
Ann Crinmins, Stenographer

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STATE GAME FARM

J. F. Hendricks, Superintendent, Warm Springs
J. R. Wells, Assistant Superintendent



GREAT STRIDES TAKEN IN GAME MANAGEMENT IN MONTANA

By **KENNETH F. MacDONALD**

State Fish and Game Warden and Secretary of Commission



THE administration of the fish and game program the past two years in Montana may well be compared with the administration of any active business or industry of the same period in that, prevailing conditions necessitated in some cases, permitted in other cases, a radical departure from the more or less conventional manner in which such activities had been administered for many years previous. Studying these changes and comparing conditions existing previously lead us almost to believe that the economic depression which wrought such hardships and distress may have been a blessing in disguise.

Prior to this period it was almost impossible to interest any large group or legislative body in the wildlife program—it being quite generally accepted that “there was water in the well, so why worry.” Life went on with man’s greed and indifference to the future needs, each day seeing the valuation of this important resource dropping at an alarming rate. This period, however, caused the public to pause and reflect upon the deplorable condition of the natural resources. Inventories were taken individually and by organized groups and not until then did it come into full realization that a most drastic change in the nation’s program was necessary if it was hoped to protect the very resources upon which the nation depends for its existence—basic assets such as soil, water, timber, grasses and other products of the soil.

It appeared as though nature took advantage of the opportunity and crystallized attention on this need through the drought and dust storms. Agencies have been since set up to safeguard these important assets from further damage. These agencies, in addition to setting in motion the machinery for recovery of losses did another service in moulding public opinion to overcome prejudices, misunderstandings, thoughtlessness, and ignorance which had been seriously hampering the constructive programs for years proposed by individuals and agencies whose work and interests enabled seeing the picture as it really was and permitted visualizing the only possible outcome if remedial measures were not inaugurated. It looks as if nature herself set the stage through the havoc wrought and when the show was over an enlightened public demanded that something be done.

Wildlife is essentially a product of the soil and water. While any plan designed to protect or rebuild these assets, to some extent improve conditions for wildlife, it is necessary that the plans be properly correlated if the full benefits are to be derived. This necessitates broadening the scope of the activities of the Fish and Game Commission which is charged with the responsibility of administering the wildlife program in this state. Readjustments are being made in rapid-fire order and the need for keeping before the public the value of the wildlife resources was never greater.

Public domain lands, lands reverting back to the state and counties for taxes, reservoirs, and sloughs are sought for various and sundry purposes

and it behooves the sportsmen to see that wildlife interests are considered and protected. In practically every case, dual use of such lands is possible with both interests being amply provided for.

The Fish and Game Commission is not unmindful of its responsibilities to secure to this and future generations an economic and recreational resource of no small moment. This report will carry a full and detailed account of the activities, finances, programs and recommendations which it is hoped will be of some value in emphasizing the enormity of the task, the responsibilities of all interested in Montana's welfare and the benefits which will accrue with realization and accomplishments of the wildlife program.

In order to properly administer the affairs of the Department, the Commission this year set up five divisions—Administrative, Fisheries, Game Farm, Game Bird and Animal and Enforcement. A budget was made with every consideration given to the importance and duties of each unit. This, it is expected will make for better operation and properly protect the development of one phase of the program at the possible expense of another—the interests of the angler, bird hunter and big game hunter developed on an even keel.

Following is a review of the activities of each division during the biennial period, with the recommendations to be treated collectively in a separate report to permit more comprehensive appreciation of their needs.

Administration

This division embraces the general administrative activities and to this is charged all costs of operations of a general nature not a proper charge against any one of the other divisions. In July, 1935, the office was remodeled in order to better utilize the inadequate space in which the large volume of business is transacted. While some improvement resulted, it is yet far from meeting the requirements. The Fish and Game Commission holds regular monthly meetings in the Department offices when the activities of the various divisions are reviewed and suggestions and recommendations from the employees, and sportsmen are carefully considered.

To properly protect the Department funds and to put the administration upon a more business-like basis, the Commission, early in 1936, made a ruling requiring that all license dealers be bonded. Some dealers resented this, at first believing it a direct reflection upon their honesty and integrity but when fully explained the majority appreciated the value of this and cooperated by complying with the ruling.

For the fiscal year ending June 30, 1936, the Department through its dealers sold more fishing and hunting licenses to both residents and non-residents than in any previous year in the history of the Department. However, the marked decrease in the number of trappers licenses sold was responsible for the net revenue being somewhat lower than that of previous years. With more persons enjoying the out-of-doors, its fishing and hunting, there is a heavier demand on fish and game, necessitating a corresponding increase in the activities and costs of operation. The revenue derived from the sale of licenses, fines and confiscations is the limiting factor controlling the operations—the Department being dependent entirely upon this income for its operations.

In the report will be found a statement of the assets and liabilities to permit a better understanding of the value of the property owned by the Department, also a detailed report as to receipts and disbursements covering the biennium.

Fisheries Division

A full report of the activities of this division appears in a separate article in the report by Elmer G. Phillips, Superintendent of State Fisheries, the importance of this work necessitating treating it separately to permit a full and detailed account of the activities, program and recommendations.

Game Farm

As with the fisheries report, J. F. Hendricks, Superintendent of the State Game Farm, has prepared a report on the activities, program and recommendations of this division, which will appear in a separate article.

Game Birds—Game Animals

Under the Montana game laws the following birds are classed as upland game birds: sharp-tailed grouse, prairie chicken, sage hen or sage grouse, fool hen or Franklin grouse, ruffed grouse, quail, Mongolian pheasant, Chinese pheasant, Hungarian partridge, ptarmigan and wild turkey. The Fish and Game Commission makes a distinction between the native and exotic species, classifying the native birds as the native upland and the Mongolian and Chinese pheasants and Hungarian partridges as pheasants and partridges.

Despite the fact that the advance of civilization has materially decreased the extent of the former habitats of the native upland birds and despite the fact that these birds, without exception, apparently lack the power of self-preservation, so far as man is concerned, Montana may boast a reasonably good supply of each species with the exception of the wild turkeys. Ptarmigan are found only in limited numbers in the higher elevations.

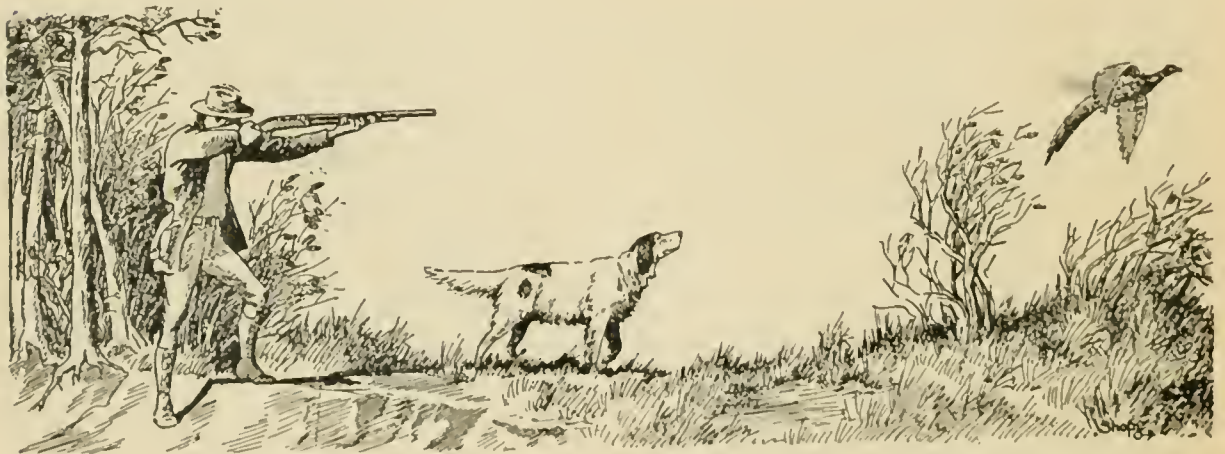


A pen of colorful Chinese pheasants ready for liberation from the State Game Farm at Warm Springs. Once in their native habitat they become the warriest bird in the field, the greatest thrill in the pheasant season, the top prizes of any hunter's bag.

Considerable time has been devoted by the present and past Commission for the welfare of these valued game bird species, but due to the limited means by which any appreciative improvement may be effected, it has necessitated confining such control and protective measures to regulations of open seasons.

Each year requests are received from sportsmens' organizations to open or close certain areas. It is gratifying to note that by far the greater number of such requests express concern for the future of the birds. For several years previous to 1935 the season had been declared open in checker-board sections where it was known that a reasonably abundant supply of these birds were to be found, closing other areas for further protection and as an aid to reproduction. This plan while not by any means satisfactory was reasonably successful until the improved roads and means of travel made it quite possible for the hunter of even moderate means to travel several hundred miles on a trip to the open areas. This, obviously, made the plan impractical as the heavy concentration of hunters reduced the bird population in the open areas to mere skeleton colonies.

While the Commission has never subscribed to an opinion held by many that the days of these native birds are numbered due to inroads by predators, humans and diseases, and that, this being true, the sportsmen might as well make some use of the remaining numbers, it has been felt that no serious harm results from short open seasons. This it is thought tends to scatter the birds, mixing the colonies, thereby improving the breeding stock (there is no definite proof however, to substantiate such a claim).



In 1935, to provide a short open season and at the same time prevent any heavy concentration of hunters in limited open areas the entire state was declared open for a short period with observations made by sportsmen interested in the perpetuation of these birds and by the deputy game wardens.

Reports received indicated that a surprisingly abundant number of birds were found with little damage done because the hunters were so widely distributed over the state. It was felt possible to provide a similar regulation for 1936, but with the severe drought, in addition to the damage caused by grasshoppers and Mormon crickets, which forced the birds to water areas (small springs, reservoirs and creeks), where both food and water were available and where they would be easy prey to hunters and predators; to the many requests from farmers that the season remain closed on account of the valuable work the birds were doing in the control of the insect pests and on account of the danger of fires caused by hunters in the timbered areas, the Commission declared the entire state closed to the hunting of all native upland birds with the exception of Lincoln county where a four-day open season was declared on Blue and Ruffed grouse only.



In the days to come Chukar cocks like this will provide keen sport for part-ridge hunters in the semi-arid regions of Montana.

There was no danger of appreciably reducing the birds in this county by a concentration of hunters due to its location in the extreme northwestern part of the state. Travel was most difficult due to the heavy road construction program under way at that time. Too, the nature of the area, heavily timbered, provided ample protection to the birds, and not being suitable for Chinese pheasants or Hungarian partridges which are thriving so splendidly in other sections of the state, the Commission felt the sportsmen of Lincoln county who were unable to travel the long distances for "Chink" and "Hun" shooting should be considered and a short open season declared. No harmful effects resulted. However, with the road program showing definite progress in that territory, it will undoubtedly be inadvisable to again single out this one county for the native bird season.

Heretofore little progress has been made in the artificial propagation of the native species but recently in some of the eastern states, where means are available to permit extensive research studies, some fair progress is being made along this line. It is the sincere wish of all sportsmen that a practical plan will be developed to assure the perpetuation of these most valued of our game birds.

ELK !

Montana's elk each year attract more attention. Not only is this applicable to the non-resident, but to the increasing number of residents who are becoming interested in this form of big game hunting. It stands to be one of the major recreational attractions, next to the fishing, that we have to develop and offer the sportsman.



Bull Elk

Were it not for the fact that this wonderful game animal has the ability to adjust itself to almost any condition, its present status would not present a very attractive picture. Primarily a range animal, it has been forced into the timbered mountain areas by civilization and through several generations has been able to survive and build up resistance against the new factors presented in this totally different environment.

Due to the lack of control over the many factors so closely linked with the elk management, this stands out as one of the major problems for the Commission. When Montana was admitted to the Union there was a land grant to the state for the express purpose of securing revenue for the maintenance of schools and colleges. Such a step indicated plainly enough the far-sightedness of those responsible. How regrettable some one could not have visualized the need of land for wildlife, especially the big game animals. It is true that a large percentage of Montana is within national forests and every credit is due those responsible for such action, but the fact remains that prior to the time of the creation of the national forests by far the majority of the worth-while lands had passed into private ownership, leaving the less desirable lands for the national forest. It is thus apparent that we cannot rightfully expect maximum efficient use of public lands for game animals when they are only partially adapted to provide for these animals.

It is generally agreed even by stockmen that the timbered areas should be reserved for the purpose they can best serve—that in the primitive, native state where the true and first values lie in the protection of water sheds, habitat for game and for recreation. While timber is yet a most important

product of the forest and a human necessity, the substitution of manufactured materials, more substantial and durable than wood, leads us to believe the time is not far distant when the timber value of forest lands will decline in favor of other beneficial uses. Man has proven, most visibly, his ability to seriously damage valuable land areas through thoughtlessness and misuse. There are many outstanding examples of that in Montana all of which has served to transform once valuable range land into waste lands forcing the domestic stock into timbered areas where they are in direct competition with the big game animals.

Programs now underway appear most encouraging for the restoration of these plains lands and their subsequent return to grazing values. Until that is a realization, however, the economic demand will require use of the public lands for domestic stock, but with proper management and use of these lands for that purpose there need be no serious competition between the domestic and big game animals. Grazing may be so regulated as to protect the grasses and browse to the extent natura' re-seeding is possible. Land management is being studied and put into practice as fast as proven plans are effected and with private owners realizing the importance and the necessity of intelligently managing this, heretofore neglected phase of the program, with public officials making definite progress toward that end, coupled with the keen interest taken by the general public which has been aroused to the necessity of immediate action, the future now appears promising.



Migrating Out.

There are four major elk herds in Montana—Northern Yellowstone, Gallatin, Sun River and the Flathead, with smaller but important herds in the Belt mountains and in the Bitterroots. Records of the Fish and Game Commission, U. S. Forest Service and the National Park Service will show that for many years complex problems have arisen relative to the proper management of these elk. With these agencies vitally interested with sportsmen in the wildlife program, a plan was inaugurated during the spring of 1936 whereby the three agencies cooperated in a count of the elk in the Northern Yellowstone herd. A program was mapped out with groups representing each agency covering

the several areas embraced in the territory in which all of the elk were concentrated. The work was conducted in such a way as to prevent any duplications and only the elk actually observed were counted. All agreed as to the number, 10,281—the first time that there were not differences of opinions—not between the agencies so much, but between the agencies and sportsmen. Just prior to the elk count the Fish and Game Commission made a survey trip through the area both within and outside the Park and was convinced beyond doubt that a drastic reduction of the elk herd was necessary in order to permit the range conditions to rebuild to the former and normal level.

Following the Yellowstone count, Deputy Game Wardens, Forest Rangers and Park Rangers made a similar count in the Gallatin area where 2,218 elk were counted.

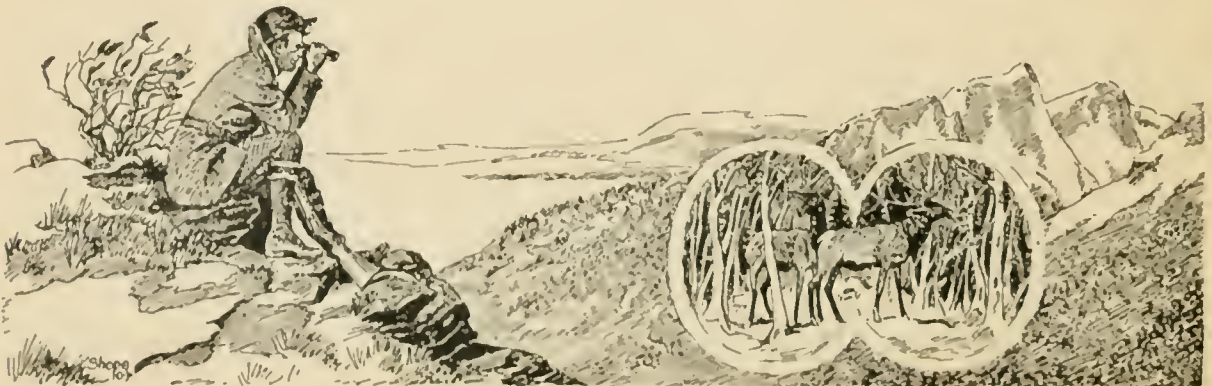
With conditions not favorable for counts in the Sun River and Flathead areas until later in the spring, the work was discontinued until early in May, when Deputy Game Wardens, Forest Rangers and representatives of the sportsmen made a count of the Sun River herd and settled arguments of long standing with 3,098 elk being counted and all participating being in full accord as to the accuracy of the count.

Time or conditions would not permit a count of the Flathead herd, although two Deputy Wardens, Archie O'Claire and Bruce Neal made a 13-day snowshoe trip through the South Fork to observe the range conditions following a most severe winter.

In order to gain further information concerning the range conditions in the Gallatin and Sun River areas, a group representing the Fish and Game Commission, sportsmen, Forest Service, Park Service, Northern Pacific Railway, which company owns considerable land in the Gallatin area, and stockmen made a survey trip through the Gallatin early in September and came to a common understanding as to the program necessary to adopt regarding use of grazing lands by game and domestic stock.

Immediately following the Gallatin survey, a similar trip was made through the Sun River with the same interests, except the Park Service and Northern Pacific Railway, represented. Again it was agreed by all interests as to the definite action to be taken in order to properly protect the game and range.

Such cooperative work makes for a common understanding of the problems and in order to satisfactorily administer the management of this important phase of the wildlife program it is essential that all interested see the problems from the same viewpoint. It is planned to continue with the spring counts and fall range surveys, with all agencies represented, in order that accurate information may be available to the Commission and make possible a sound game management program.



DEER !

The deer population in several sections of the state is showing a most definite increase—in other sections sportsmen report a shortage. The Fish and Game Commission in 1935 declared a buck law over the entire state with the exception of the western portion of Ravalli county and a small area just west of Glacier park in Flathead county. A state-wide "buck law" was declared in 1936.

While some big game hunters question the value of this regulation, it is generally agreed by sportsmen in areas where the buck law has been in effect for a few years that it is without question, beneficial. An outstanding example of the value of the "buck law" is to be found in the Belt mountains where no does have been killed for years; the fawn crop now is above normal and the kill of bucks showing a steady increase each year.

It is admitted that no reason can be given at this time for the apparent shortage of deer in some sections. There are many factors which may be responsible and it is planned to study the situation to determine definitely whether there is a shortage and if so, the cause.

There is no question but what the severe winter of 1935-36 was responsible for a heavier-than-normal loss. Predators, at such times are most active, with deer being the food most easily available. It is too easy to accept some theory as to what is responsible for apparent fluctuations in game populations and in most cases, with time and revenue permitting an extensive study of conditions, it will be found that such theories or accepted ideas have no foundation, and that the cause, if any, is due to some other reason far removed from the one advanced and accepted previously. By this, it is not intended to question and doubt reports and ideas advanced by individuals but it is intended to point out that a study of all related factors should be made before stating definitely the suspected cause. It is only through following such a plan that proper steps may be taken to correct the condition.

Through the winter game studies being made under the supervision of the Forest Service much valuable data will be gathered relative to winter ranges, migrations, diseases, predators and other factors most closely associated with the welfare of our big game animals. It is regretted that funds will not permit a more active participation by the Fish and Game Commission in this work but it is hoped that funds will be available during the 1937-38 season to make this possible.

Antelope

This highly-prized game animal is showing a most marked increase in Montana with every indication now pointing to the possibility of an open season in one or more of the areas each year under regulated hunting. In 1935, following a close study by deputy game wardens in southeastern Montana, the Fish and Game Commission declared an open season under the "limited permit" system in Carter and Powder River counties. Two hundred permits were allotted at a "drawing" held at Broadus with 125 antelope taken during the 30 day season. This system prevents any heavy slaughter and was met with much favor by those participating. A similar plan was followed in Chouteau county in 1936 with 400 permits allotted.

The Fish and Game Commission has approved a plan to trap and transplant antelope next spring.



Before the drought struck Chouteau County, fat antelope grazed without fear but with much favor on the famous Sullivan Game Preserve near Square Butte.

There are many areas in the state ideally suited for this animal and with an abundance in several sections, it appears entirely practical to introduce the antelope successfully into selected districts.

Mountain Goats.

It is generally agreed that the season which has been open in Ravalli county for several years has actually served to improve the goats both as to number and physical condition. This is due to the average hunter seeking only

a trophy which in all cases are the older animals, permitting the younger stock to breed and produce healthier and sturdier offspring. With this illustration as a guide, the Commission, in 1935, declared an open season in a portion of Flathead county and in 1936 again opened this area and added Lewis and Clark and Teton counties. In the latter areas sufficient protection was afforded by the Sun River game preserve to prevent any undue slaughter. This animal is highly prized by residents and non-residents alike for trophy purposes but due to the strenuous effort required to reach the goat areas, but a small percentage of sportsmen care to hunt this animal. It is typical of Montana and deserves consideration and protection to assure its perpetuation.

Mountain Sheep.

While there are quite a number of sheep in the Gallatin and Sun River areas, they are not showing proper increase.

There are many theories advanced as to what is responsible for this, along which the most generally accepted is the loss of the young by eagles and predatory animals. Here again, it is felt necessary to make a study of the matter to ascertain, without question, the true cause. It is entirely possible that being confined to rather limited areas, in-breeding or the presence of older animals which are now taken only by old age, disease or predators are factors. This is important enough to warrant an extensive study which would require at least one year to be of proper benefit.



High in the mountains of Gallatin county, these two rams, pride of the peaks, are grazing. Regulatory measures are in force to allow this colorful game animal, the Rocky Mountain Sheep, to increase and retain a permanent position in Montana.

BEAR !

The bear is considered by many as one of our most valued game animals and each year is gaining in favor. The Commission, in August, 1935, declared a closed season on bear from May 15 to October 14, giving the first protection it ever had. The interest being shown by both residents and non-residents assures this game species all possible protection.

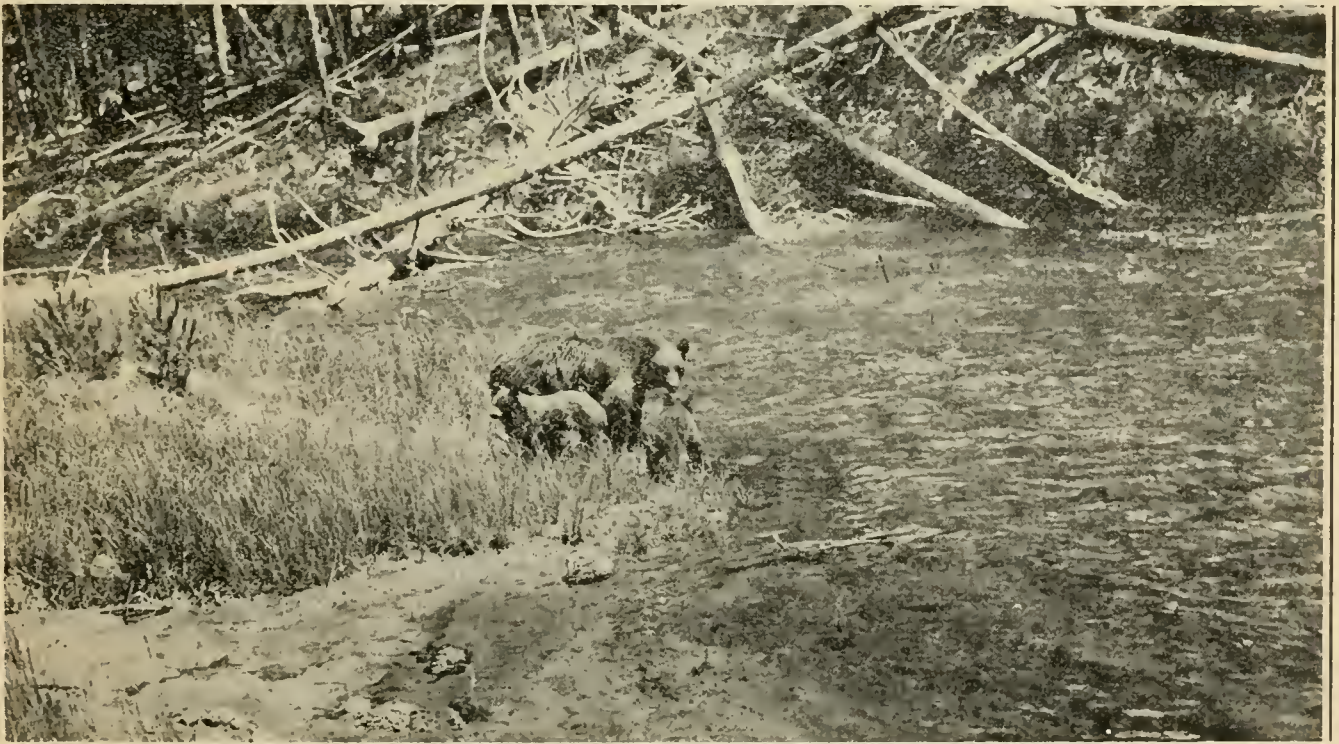
Moose.

The present outlook for the moose in Montana is encouraging with noticeable increases being noted in the Gallatin, Slough creek and Rock creek (Granite county) areas. While there are some who believe an open season under the permit system would not be harmful, the Commission feels it necessary to give this highly prized animal protection for some time yet. It is pointed out that no one is getting any benefit from them under the prolonged closed season, but the fact remains that they have a high esthetic value to the residents and tourists.

Enforcement Division.

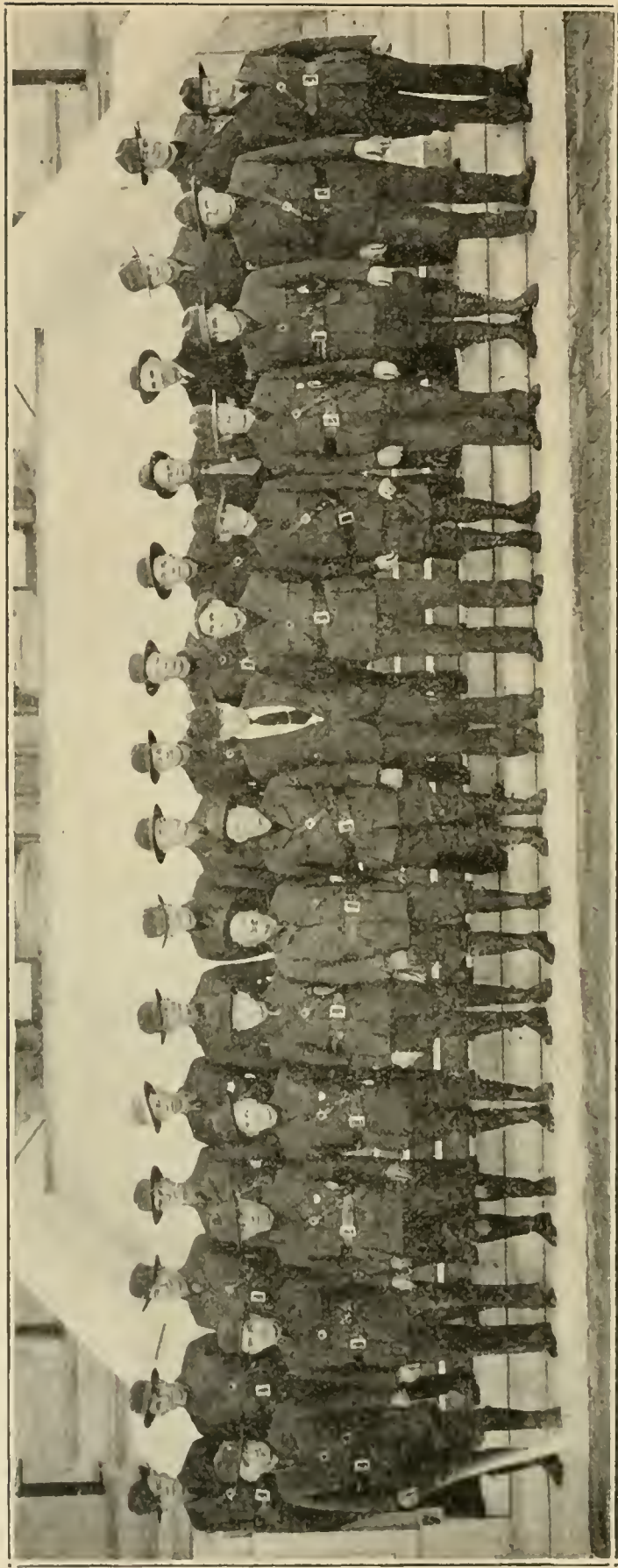
A squad of 28 deputy game wardens is employed to patrol the state. The functions of this division have undergone radical changes. While the chief function remains that of enforcement of the fish and game laws, it now is required that "Deputies" serve as agents of the Commission. To properly prosecute the duties of the office requires knowledge of fish and game laws, general law, court procedure, wildlife, people and of their district.

BRUIN KEEPS THE OLD WEST ALIVE



In the primitive, rugged fastness of the South Fork of the Flathead, this mother black bear and her two cubs, pause for a moment before dipping their noses into the cool stream for a drink.

MONTANA'S FISH AND GAME WARDENS—1935-36.



Front Row—Left to Right: John Iwen, Bainville; H. B. Ives, Helena; Allen T. Holmes, Billings; H. C. Sailor, Absarokee; Fred E. Pilling, Butte; Harry N. Morgan, Ovando; Harry Cosner, Malta; Kenneth F. MacDonald, State Fish and Game Warden; Wm. J. Dorrington, Libby; J. P. McCaffery, Anaconda; Chas. R. Price, Dillon; Elmer A. DeGoller, Polson; A. A. O'Claire, Kalispell; J. H. Chartrand, Chief Deputy Fish and Game Warden.

Back Row—Left to Right: Carl Benson, Red Lodge; Louis W. Miller, Bozeman; Len J. Rensch, Miles City; Frank Starina, Hardin; Fred T. Staunton, Livingston; W. A. Hill, Harlowton; Bruce Neal, Augusta; E. M. Krost, Missoula; Dale T. Shook, Plains; George Muxlow, Glendive; L. C. Clark, Havre; Wm. Ray Kohls, Ennis; A. D. Roushar, West Yellowstone; J. A. Weaver, Lewistown; Frank E. Marshall, Great Falls.

In July, 1935, a resolution was passed by the Fish and Game Commission requiring that deputies wear uniforms. The Commission feels that inasmuch as the greater majority of sportsmen are sportsmen in every sense of the word, the policies should be built to best serve this group. It has been said that 85 per cent of the sportsmen abide by the fish and game laws and the unwritten "Sportsmen's Code," 10 per cent comply with the 'Code' if they feel there is any probability of their being checked, with the remaining 5 per cent having no respect for the laws or the Code.

The deputies are anxious that the sportsmen derive all possible benefits from the out-of-doors and stand ready and willing to render every reasonable service. This best may be done through uniformed agents who may readily be identified and who the sportsmen feel free to call upon for information. Some sportsmen were of the opinion such a regulation would seriously handicap a deputy in the performance of his duties but records show plainly that the reverse is true.

Through the contacts with sportsmen and through observations made while in the field, the deputies are in excellent position to render valuable service to the Commission. The Fisheries Division is unable financially to employ men to check results of fish plantings or general conditions concerning streams and lakes.

Information now is furnished by the deputies in weekly reports showing number, size and species of fish in possession of the angler when checked, name of the stream and location on the stream where the angler was checked and a general report of conditions related to this phase of the fish and game program. Such reports are checked against the fisheries distribution records and from the interpretation of facts a general idea is gained as to the success of the plantings from which the future programs are formulated. If it is shown that certain waters are not producing the expected returns, one of the fisheries men is detailed to make a thorough scientific investigation, and if within the power to remedy, improvements are made.

A somewhat similar plan is used in furnishing information relative to the game birds distributed from the State Game Farm through the deputy reports showing the areas well or sparsely populated by these birds with comments as to probable cause of failure or success in developing such areas.

Being in the field and primarily interested in the wildlife program and through training and experience, the deputies are qualified to make recommendations to the Fish and Game Commission which are given careful consideration when fishing or hunting regulations are made. Such recommendations must embody consideration for the future supply of all wildlife species and the season or bag limit, the control to safeguard this supply.

To develop and maintain the proper respect for the fish and game laws, requires that a deputy treat every one alike. It is true that game laws are violated unintentionally and at times intentionally. It cannot be expected that a deputy should determine which. If intentional, it is just a gamble with the individual losing the bet, and no resentment should follow the deputy fulfilling his duties; if unintentional, it should be charged to experience with a resolve to prevent a recurrence.

HOW THEY LOOKED IN 1909.



In October, 1935, and again in October, 1936, a meeting of all deputies was held in the Fish and Game offices in the capitol for the purpose of discussing the many problems which confront these men in the performance of their duties. Such meetings have proven beneficial through the exchange of ideas, through the legal advice made available by the attorney general's office, and through discussions of the policies and programs of the Commission.

It is the desire of the Commission that the public consider the deputies as its agents, ready and willing to render service. The work is one which requires being in the field in all kinds of weather, holidays and week-ends when the public is free to enjoy the out-of-doors. To fulfill these duties requires a keen interest in wildlife supported by ambition and willingness to serve. The support of the public would be of material assistance and would net rich returns in wildlife values.

This report shows a picture of the warden force in 1909, and a picture of the force in 1936. The comparison, in several ways, is indicative of the growth of the Fish and Game Department during the past quarter of a century.

Of the present employees, many have given the best years of their lives to this work. Following are the names and length of service with the Montana Fish and Game Commission:

P. W. Nelson of Livingston, is the oldest employee in the Department,

having served continuously since 1907. In 1935 he was transferred to the Fisheries Division at Big Timber.

Serving 20 years or more: Harry Morgan, Ovando; Fred Pilling, Butte.

Serving 15 years or more; Kenneth F. MacDonald, Helena; Wm. J. Dorrington, Libby; W. A. Hill, Harlowton; Frank R. Marshall, Great Falls; A. A. O'Claire, Kalispell; Allen T. Holmes, Billings; J. P. McCaffery, Anaconda; J. A. Weaver, Lewistown; Harry Cosner, Malta.

Serving 10 years or more: J. H. Chartrand, Helena; E. M. Krost, Missoula; Chas. R. Price, Dillon, and A. D. Roushar, West Yellowstone.

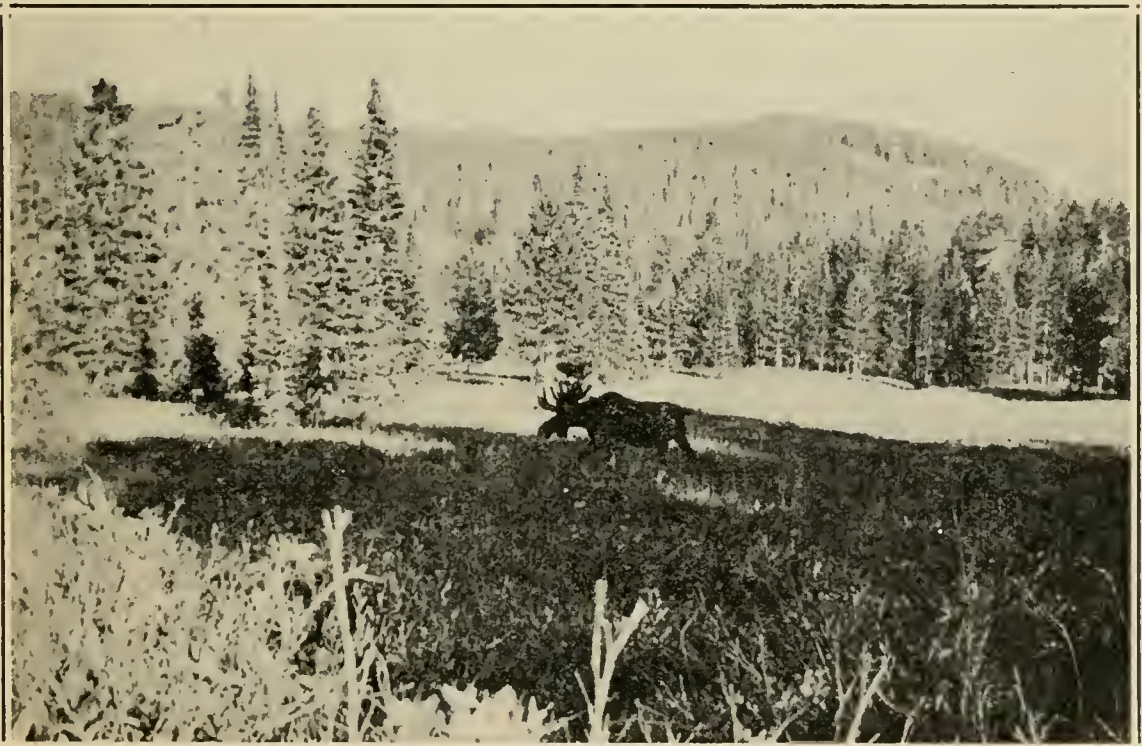
Serving five years or more: Frank Starina, Hardin; George Muxlow, Glendive; Wm. Ray Kohls, Ennis; H. C. Sailor, Absarokee; L. C. Clark, Havre; Bruce Neal, Augusta; and Fred Staunton, Livingston.

Serving less than five years: E. A. DeGolier, Polson; H. B. Ives, Helena; Louis W. Miller, Bozeman; Carl Benson, Red Lodge; John Iwen, Bainville; Leonard J. Rensch, Miles City, and Dale T. Shook, Plains.

Game Preserves.

Properly functioning, game preserves are of great value to the development and maintenance of wildlife. The character of these areas is or should be such that proper food and cover is available and with the protection afforded, conditions approximate the ideal. To serve the best purpose requires control of predators, serious thought to the requisites, food, cover, extent of area and location with reference to adjacent game country.

MAY HIS NOBLE TRIBE INCREASE.



One of Montana's increasing number of moose. This giant bull was snapped in Gallatin county, where he had drifted from the confines of Yellowstone National Park.

Creation of preserves are prompted by a desire to protect certain species of game birds and game animals. Records show that certain of these areas have been set aside for a specific purpose—such as temporary protection for a certain species introduced into the territory or for the purpose of protecting and assisting a species already present in limited numbers, to gain a “foothold.” To properly administer such areas requires close observation and study, with every effort being made to obtain the desired results.



With their horns in velvet, this band of deer graze in the Little Belts out of Lewistown.

It is known that some preserves have proven and continue to prove most valuable, and it is also known that some preserves are not serving their best purpose due to changes which have taken place or due to improper consideration of requisites at the time they were created or to their having served their purpose. It is hoped that beginning in the spring of 1937 a complete survey may be made of each preserve to determine its present and future value and what, if any, changes are needed.

During the past two years, the following game preserves have been created or abandoned:

Augusta bird preserve in Lewis and Clark county was created by the Commission at a meeting held April 23, 1935.

Broadwater bird and game preserve in Lewis and Clark county was created by the Commission at a meeting held October 28-29, 1935.

An extension was made to the Stillwater game preserve in Flathead county at a meeting held September 24, 1935.

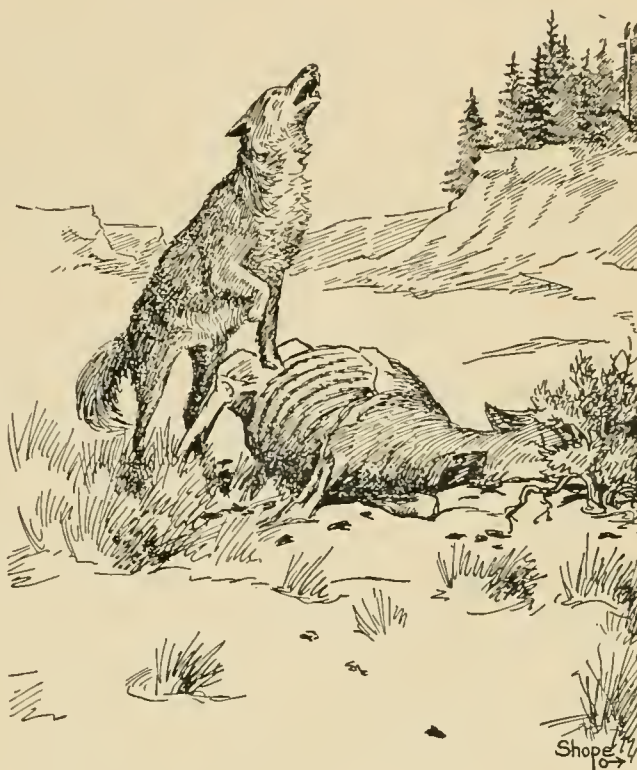
The following were abandoned when it was shown their purpose had been served: Albert Wood game preserve in Missoula county; Carbon county game preserve in Carbon county; Spotted Bear game preserve in Powell and Flathead counties.

Predatory Animal Control.

During the biennium the Fish and Game Commission has been actively engaged in the control of predatory birds and animals. During this period \$17,370.70 has been spent in such work which includes \$15,000.00 transferred to the Bounty Fund.

Man has seriously upset nature's balance through seeking and taking only preferred species of wildlife. It is obvious, then, that control must be exercised over the less desirable or predatory species of bird and animal life.

In addition to the coyote bounties paid by the bounty fund, the Commission has cooperated with 4-H clubs, sportsmen's organizations and individuals in the crow and magpie control; has paid \$25.00 bounties on wolves and mountain lions and \$2.00 bounties on bobcats.



RECOMMENDATIONS

Administrative Division.

To permit efficient handling of the large volume of business transacted by the Commission, more office space is needed. Limited now to two rooms, the work is handled under serious handicaps. Some idea of the volume of correspondence handled may be had from the fact that an average of 115 letters are received daily.

It is hoped that some day in the not too distant future a Fish and Game building will be erected, providing suitable quarters for the administration activities, Commission meetings, display of wildlife specimens native to Montana with an aquarium and rooms for proper scientific study and research.

Fisheries Division.

Recommendations for improvements to existing hatcheries to increase efficiency and production are as follows:

Anaconda: Dwelling for assistant and erection of building equipped with refrigeration plant to take care of Georgetown sucker collection.

Big Timber: Dwelling for assistant and combined garage and food room; concrete floor in hatchery.

Daly: Dwelling for assistant and additional rearing ponds of semi-natural type.

Emigrant: Additional circular ponds and at least four additional semi-natural rearing ponds and landscaping.

Great Falls: Dwelling for assistant; new supply tank.

Lewistown: Dwelling for assistant; rearing ponds.

Libby: Dwelling for assistant; combined garage and food room; 12 circular ponds; six semi-natural ponds.

Polson: Additional circular ponds.

Red Lodge: New hatchery and combined garage and living quarters.

Salish: Hatchery with quarters for assistant; dwelling; garage and food room; 12 small circular ponds; nine large circular and nine semi-natural rearing ponds.

Somers: New pipe line and small rearing ponds.

Game Farm.

In addition to the erection of the new game farm at Billings, there is need for considerable field study and development of areas to provide needed feed and cover for the birds. Funds are also in demand for the purchase and distribution of grain for bird feeding during extended critical periods as was experienced the winter of 1935-36.

Game Birds and Animals.

To perpetuate the native game birds, it is very important that studies be made and funds be available to carry on the protection and development program. From the information now at hand, it is believed most important to acquire through lease, purchase or the Taylor Grazing act, suitable areas for nesting and development of feed and cover for the sage hens and pintail grouse. Every protection during the nesting period and control of predators is required for the valued ruffed and blue grouse.

In many cases the big game populations are limited entirely by the extent of the winter range. The Commission now leases for deer winter range, lands in Sanders, Missoula and Powell counties. Summer range is now ample in practically all game areas, but with the winter weather forcing the game to the lower elevations and, in most cases, on to privately owned lands, it results in the private owners, either corporations or individuals, providing the feed during this critical period or the game population must be restricted to the number of animals able to subsist on the feed available on public lands during this period. There are many places in Montana where elk or deer could be transplanted and provide hunting and other values to the local residents if winter range were available. Before such programs are ever considered, however, it is most important that steps be taken to provide for game animals now found in scattered herds over the state and sorely in need of winter range. In several cases the future of these herds depend upon the Commission acquiring lands within the immediate future. One area, outstanding in this respect is that above Utica in the Little Belts, where the deer are increasing steadily and the elk population necessarily limited due to lack of winter feed on public lands. Another area near Roy presents a similar problem in order to provide for elk range. In practically every county where big game is found today such need is apparent.

Funds should be provided to permit purchase of such areas, the acquisition to be in order of importance with the plan to protect and provide for the existing and important herds receiving the higher priority listing.

Funds should be available to permit a study of the Mountain Sheep and this species developed to the full extent. Montana now occupies an enviable position as regards this animal and its welfare should be given every consideration.

Areas should be acquired for the protection and development of the antelope which are rapidly becoming one of Montana's favorite big game species.

To enable the Commission to have accurate and complete information on the amount of fish, birds and big game taken each year, it is recommended that a questionnaire be provided with each license with the applicant being required to list total fish, birds or animals taken under previous license.

Such information would be of great value in regulating seasons, formulating restocking programs or adopting necessary measures to develop and maintain the wildlife supply at the highest possible point.

A financial statement has been prepared for this report which contains all the information likely to be required in regards to the financial condition of the Department. A more detailed report in the Fish and Game offices will enable furnishing further information on any of the activities. During the year ending June 30, 1936, more hunting and fishing licenses were issued than in any other year in the life of the Department, but the total receipts were below 1931 for reason of decline in revenue received from trappers. A greater number of non-resident fishing licenses were purchased with the income below that of former years and previous to the reduction in price of this license.

When it is considered that approximately \$2,000,000 and this a most conservative figure, is spent each year by sportsmen in Montana, when consideration is given to the possibilities for further developing this important economic and recreational resource and that less than ten per cent of the amount spent by sportsmen is put "back into the business" (maintaining the Fish and Game Department), it is immediately apparent that the business is not receiving the proper support by its owners, the general public. Wildlife may easily be developed to its full extent without disrupting or interfering in any way with any existing industry. It behooves all interested in Montana to support any measure for the betterment of this progress to the end that the potential possibilities may be developed and permitted to yield the rich returns so easily within reach.

Acknowledgements.

The Fish and Game Commission is not at all unmindful of its obligations to Montana sportsmen and the general citizenry. The cooperation received from the people is deeply appreciated as is the assistance and cooperation extended by the Federal Agencies such as the Forest Service, Park Service, Bureau of Biological Survey, Bureau of Fisheries, Soil Conservation, C. W. A., F. E. R. A. and W. P. A., State University, State College, State Planning Board, State Park Board, Northern Pacific and Great Northern Railways, Montana Power Company, Anaconda Copper Mining Company, Butte Anglers Club, Montana Wildlife Federation; Cascade County Commissioners; Great Falls Park Board, the newspapers and the many individuals who have given so generously of their time and money to advance the wildlife program in Montana.

* * *

MONTANA ARTIST

The cover and pen sketches in this report are the work of Irvin Shope, "Montana's own" artist. They are not only outstanding for the artistry, but bear every evidence of a keen interest and thorough understanding of our wildlife and its habitats.

ENABLING LEGISLATION NEEDED FOR MONTANA

By **IRA N. GABRIELSON**
Chief of U. S. Bureau of Biological Survey
Washington, D. C.

(Note: No more poignant or significant message to Montana sportsmen could have been received than that from Mr. Gabrielson titled, "An Open Letter To the Sportsmen and Conservationists of Montana," which was volunteered in order to present an exact picture of the restoration battle now being waged by the Bureau, with the co-operation of states and their sportsmen, in behalf of migratory waterfowl.)

"I wish to thank you first of all for your splendid cooperation in connection with this year's migratory bird regulations. Sportsmen have generally accepted the situation with good grace, and the cooperation in Montana and throughout the States was excellent.

"The shooting regulations for 1936 were drafted out of exigencies that have to be met if the sport of wildfowling is to be perpetuated, or, in fact, if the birds themselves are to be preserved. We ask the public to realize that the condition of the birds and their relative abundance or scarcity is the factor which determines whether open seasons may be short or extended and whether bag limits may be small or large. This consideration must take precedence over the wishes of the individual sportsman who does not always comprehend the extent of the decrease and may ask for more shooting than the resources can stand.

"Thanks to the support which the sportsmen have given in bringing about a reduction of the total kill of birds, we have a real gain in the restoration battle. But reduced bag limits and seasons are not enough if we are going to perpetuate the recreation. Regulations, no matter how well respected and enforced, will not, in themselves, bring back the numbers of ducks and geese and swan in sufficient abundance to provide a margin of safety against the several factors which, in recent years, have threatened many species with extinction.

"I submit to you—the conservationists and sportsmen of Montana—that the only sure-fire way by which the much desired restoration can be accomplished is by setting aside and properly developing adequate refuges on the flyways, the wintering grounds, and within the hereditary breeding ranges of the birds which migrate to the northlands each spring. Small scale, incubator methods will not do it. In addition to sensible shooting regulations, suitable protected breeding grounds are needed in which waterfowl may, in complete safety, exercise the tremendous reproductive capacity with which nature has endowed them.

"We already have a good start on the job. Your waterfowl restoration program is today a reality—not merely a bundle of abstruse theories but an



already established and working proposition. Since 1933, arrangements have been made for the securing and developing of 142 new refuges totaling two and three-quarter million acres of land. Three of these splendid refuges have been established and are now being developed in your state.

“Last May, I passed through Montana and had the pleasure of seeing more ducks on the recently improved Medicine Lake Refuge than that region had seen—according to local observers—in many years. I estimated that there were twelve or thirteen thousand of them. On the same trip, I saw other places—particularly in the Sun River country and in the Flathead Valley—where by relatively simple restoration meas-

ures the same and even better refuge conditions could and should be created.

“There is but one obstacle in the way. We have the funds and the knowledge of the requirements. The citizens of Montana can furnish the man power. But here is the rub. The funds available at the present time can be used for the purchase of lands in only those states which, by law, have consented to such purchases. It is to Montana’s need for this permissive legislation that I desire here to invite your consideration.

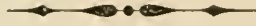
“It is not within my province to recommend for or against the enactment of laws by the Legislature of Montana. I desire only to state the facts very briefly and to leave whatever action may be taken entirely to your judgment.

“An overwhelmingly large percentage of the waterfowl which breed in the United States nest in the comparatively small area of North Dakota, South Dakota, Montana, Minnesota, and Nebraska.

Our field studies and observations make it increasingly clear to us that Montana possesses physical and biological characteristics and hereditary attractions to the birds that make it potentially one of the nation’s greatest duck hatcheries. But “potentially” is not enough. It should be an actuality and I am convinced that such would be the case if it were not that the absence of Enabling Legislation at this time makes it impossible for us to consider the

purchase and development of any of Montana's potentially great duck breeding areas.

"It appears to me that in an emergency, such as is still facing the national waterfowl resource, there exists the opportunity for the State of Montana, through the enactment of Enabling Legislation, to perform a signal service to conservation and to itself."



MONTHLY GAME MAGAZINE IS PUT OUT BY DEPARTMENT.

Feeling the need of some sort of a publication to bring before the sportsmen of the state the actual work being done by the Fish and Game Department with respect to propagation, conservation and maintenance of fish and game, the Commission, at its December, 1935 meeting, authorized the publication of a monthly bulletin.

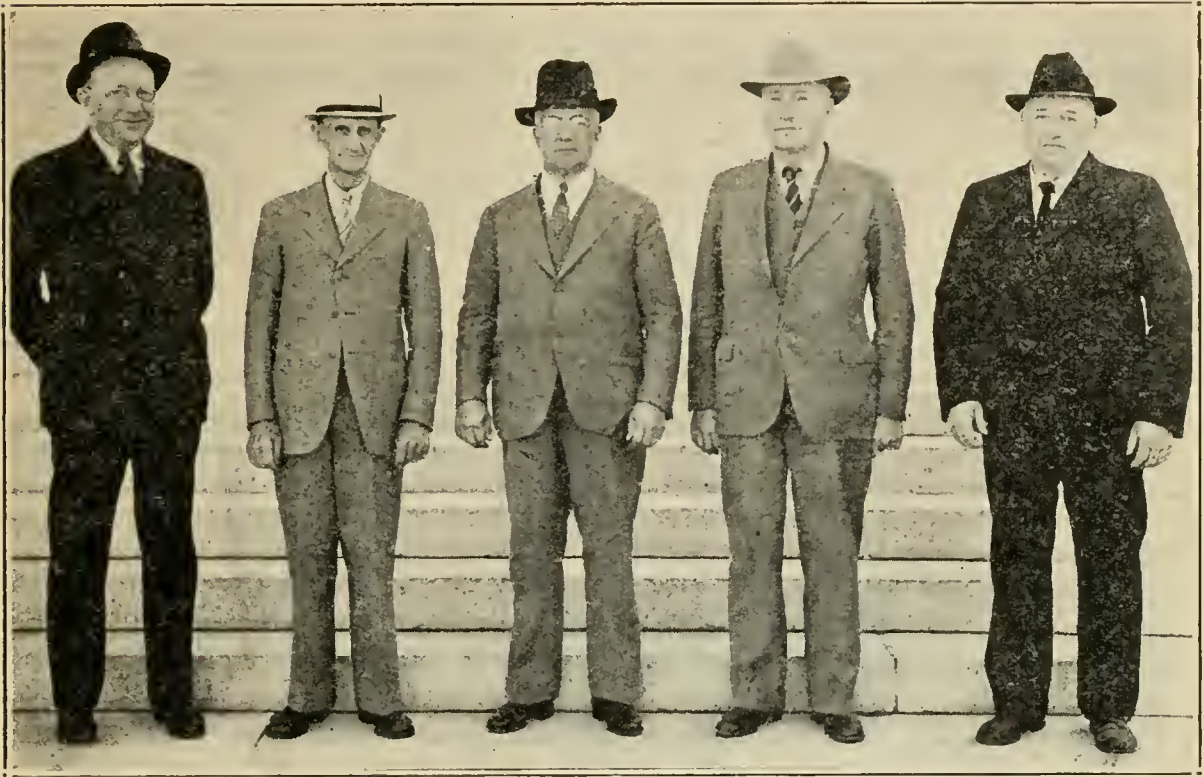
Hundreds of sportsmen in Montana had urged the Commission to publish a regular pamphlet, telling of the work of the Department, and the progress being made in the conservation of wild life. There was a great need for such a publication to explain the various, and often complicated, regulations and restrictions governing the taking of fish and game.

The little magazine first was published in January, 1936, and has made its appearance each month since. It was necessary at the beginning to mimeograph the magazine because of inadequate funds in the Department treasury. It was the idea of the Commission to have the magazine printed at the first opportunity.

After nine months of mimeographing, during which time the magazine gained in favor and popularity, as well as in subscriptions, the Commission authorized its printing. The October, 1936 issue was printed and the Commission hopes that it may be continued. Numerous letters are on file with the Department, commending the officials for the splendid work being done in connection with the magazine.

Work of compiling and publishing the magazine is done by the Fish and Game Department's personnel. For the most part, cuts made when the Montana Wildlife magazine was in existence, are utilized. These cuts are the property of the Department, ordered several years ago.

MONTANA FISH AND GAME COMMISSION



Reading from left to right the commissioners are: W. C. Keil of Billings; P. G. Gutensohn of Whitefish, Ray G. Lowe of Glendive, chairman; J. J. Harper of Anaconda, and A. C. Baumgartner of Great Falls.

During the past biennium the Montana Fish and Game Commission has been faced with the difficult task of keeping the fish and game resources of the state at a higher level than the increasing demands upon them by sportsmen and tourists.

Montana is not only known over the United States as a great game area, but one where progressive practices of fish and game management are in force and where game officials are striving earnestly to maintain the great wealth in fish and game.

The Montana Fish and Game Department was one of the first to fall in line with the New Deal policies of rehabilitation, sensing the need of broad and long-time programs for building up and maintaining fish and game populations. Under this commission game problems were and are being served in a scientific manner with but one end in view—the interests of the sportsmen.

BEHIND THE SCENES WITH MONTANA'S PROGRESSIVE FISH PROGRAM

By **ELMER G. PHILLIPS**
Superintendent of Fisheries



MONTANA'S thousands of miles of fishing waters, the envy of virtually every state in the union, are well fortified for they have behind them splendid facilities for propagation and scientifically-trained men to handle them.

The activities of the Fisheries Division are essentially that of providing fish for stocking and restocking the public waters of this state. Some are obtained by rescue or salvage but the many millions required to keep pace with Montana's increasing number of fishermen are hatched and reared in state hatcheries.

This biennium has been one of unusual activity as the problem of maintaining a fishing yield in the face of heavy and growing demands and, at the same time, insufficient revenues, requires application of all that can be learned along lines of protective measures, propagation, and environmental factors influencing production and growth.



Seven and a half pounds of fighting Rainbow trout taken with light tackle out of the Stillwater river near Columbus.

The aim is not only to maintain but to increase this important natural resource wherever possible. Important progress has been made in the various phases of this work, including improvements in the technique of artificial propagation and distribution which will be described in more detail further on in this report.

Some progress has been made in the broader problem of fisheries management as related to stream and lake which determine future stocking policies. Much remains

to be done but it is intended to complete surveys of all major watersheds as fast as possible to determine prevailing temperatures, chemical analysis, food conditions, fertility of surrounding terrain, pollution, if any, and many other factors which will have a bearing on trout growth and will assist in accurately estimating the rate of growth that can be expected and the numbers the particular lake or stream can be most advantageously stocked with to obtain the best results for the sportsmen.

Considerable improvement to several of the physical plants has been made possible through the Works Progress Administration. However, most of the plants are badly in need of additional housing facilities for the assistants and too much stress cannot be laid upon the importance of this requirement. As conditions now exist the hatchery and ponds are unattended should the foreman be called away after working hours. In these hatcheries and ponds are probably millions of small trout representing many thousands of dollars of the sportsmen's money, some act of vandalism or stoppage of the water

supply for a few brief moments is sufficient to wipe out the hatchery contents and the sportsmen's investments and convert the hatchery into idleness until the following year, with housing facilities for the assistants on the premises this condition would be overcome as the plants would never be left unattended.

Most of the hatcheries also are in need of increased facilities for rearing trout to fingerling size. A majority of the plants have an ample supply of water to take care of the necessary expansion and as soon as sufficient funds are available these plants should be developed to the full limit of their water supplies.

Fisheries Management Course

With the cooperation of the State College at Bozeman and under the capable instruction and guidance of Dr. C. J. D. Brown of the Zoology Department, a short course in fisheries management was given to the personnel of the State fisheries, and interested members of the U. S. Forest Service and U. S. Bureau of Fisheries. A class of fifteen was in attendance. This makes the first attempt of this nature in Montana and which proved to be exceptionally successful, much of the course was given to the study of the many plants and animals which live in the water and their relation to the fish population. The use of the microscope as an aid in determining the diseases, and also ages of fish and classifying the many microscopic plants and animals that exist in any body of water proved to be a valuable part of the session. However, equally important was the instruction given on the methods of procedure in taking the gas analysis of water with relation to the water being a suitable environment for fish life. This included tests for dissolved oxygen, carbon dioxide, PH and total alkalinity, these being considered as the most significant. As a result of this course the hatchery men will be able to go into the field and determine with a much greater degree of accuracy the suitability of the waters for fish life which they wish to stock.

Butte Anglers Maiden Rock Hatchery

One of the most outstanding projects designed to cooperate in the restoration and maintenance of Montana's fishing is the fish hatchery operated by the Butte Anglers Club of Butte, Montana, which is under the able leadership of William Carpenter, president.

Mr. Healea is in charge of operations at the hatchery. The State Fish and Game Department cooperates by supplying the number and species of trout eggs best suited for the waters to be stocked in that locality. The eggs are hatched and the fry reared and distributed under the sponsorship of the Butte Anglers Club. The degree of fishing to be found in the waters of that locality is ample evidence of the effectiveness of this institution, and the Butte anglers are deserving of much credit for their constructive activities.

Rental of Private Hatcheries for State Use.

As the spawning season of 1936 at Georgetown Lake progressed it became apparent that the State hatcheries would not be capable of handling the "take" of Native eggs and steps were immediately taken to acquire the use of such private hatcheries, whose water supply was found to be satisfactory. Two hatcheries with favorable water conditions were located, one near Kalispell and the other near St. Ignatius. A total of 1,279,096 eggs were allotted to these hatcheries, from which they were distributed after hatching. It is hoped that additional funds can be acquired which will permit the State hatcheries

to be enlarged sufficiently to properly care for Montana's game fish egg collections.

Eggs

Montana is indeed fortunate in having looked into the future and realized that certain bodies of water must be developed and held exclusively for the taking of millions of trout eggs necessary to supply the hatcheries and maintain them at full production. Without them the Department would be compelled to purchase eggs from outside sources. This would involve the expenditure of many thousands of dollars now used for rearing and distribution.

There are five outstanding spawning fields available to the Department: Georgetown lake, Ashley lake, Hebgen lake, Rogers lake and Alvard lake.

Georgetown lake, maintaining a position of prominence over the entire United States, showed a heavy decrease in 1935 because of extreme low water in the Flint creek drainage and because of over-fishing by anglers. The Montana Fish and Game Commission, realizing that immediate action was necessary to conserve the trout population, has barred ice fishing entirely in the lake and restricted the summer fishing to Saturdays and Sundays and legal holidays.

The result of this action has been a marked improvement in egg collections in the spring of 1936, which were made under more favorable weather conditions. The increase was about 100 percent above the 1935 take.

Heavy inroads have been made on the sucker population of Georgetown, which have been present since 1926 and for a time threatened to deplete the trout due to competition for natural food. However, the constant use of fyke nets during the spawning seasons has served to limit the number of suckers to such a degree that favorable conditions for trout again exist.

The development of Ashley lake in the Kalispell district, to augment the supply of native trout eggs from Georgetown, has been progressing in a satisfactory manner. Egg collections for the spring of 1936 showed a healthy gain over 1935 with a total of 1,618,000 eggs collected.

Improvements of a permanent nature have been completed on the traps and a new hatchery has been built to take care of the increased egg take. This building is a log structure which harmonizes with the surrounding landscape and is of sufficient capacity to handle anticipated future egg collections.

The Rainbow and Loch Leven spawning field at Hebgen lake is one of the Department's most valuable assets and with continued heavy plantings in the Madison, Gibbon and other waters tributary to Hebgen lake, it is expected that egg collections can be further increased. In the fall of 1934 a total of 5,735,040 Loch Leven eggs were collected and in the spring of 1935 the Rainbow egg take totaled 12,447,936.

Very few Loch Leven eggs were collected in the fall of 1935 because of a severe cold wave which formed large quantities of slush ice in the river and swept away a portion of the traps soon after operations commenced.

Floating steel rack sections since have been installed which will allow the floating ice to pass over without damage to the traps. This will prevent a recurrence of the unfortunate trick played by nature in the fall of 1935.

A total of 12,540,909 Rainbow eggs were collected from this station in the spring of 1936.

A four-room log cabin has been erected to serve as quarters for the

Hebgen crew. The erection of a combination garage, workshop and hatchery also has been completed and in this building is housed the newly developed egg eyer, capable of eyeing 12,000,000 eggs in the same space as was formerly used to hatch 250,000. This makes possible the starting of spawning operations at this station early in the spring, long before the roads are passable for automobiles. The crew is transported there by an airplane equipped with skis.

The large lake formed by the Hebgen dam of the Montana Power Company is to a great extent responsible for the excellent fishing that exists in the lake and in the Madison river above and below the lake.

However, the heavy demand for irrigation water and electrical energy at Fort Peck has compelled the power company to use a large portion of its flood storage waters held in Hebgen lake, thus lowering the shore line and exposing large areas of vegetation with a consequent loss of the natural food supply to the trout. To just what extent this will effect the fish population for the next few years cannot be ascertained but it is certain to have a marked adverse reaction. It is hoped that with the completion of the Fort Peck dam the Montana Power company again will be able to maintain Hebgen lake within the minimum fluctuation ranges.



The Libby fish hatchery is typical of the modern trend in propagation work. Here are hatched and reared Native and Rainbow trout and the up-and-coming Grayling for liberation in sporty waters of the state. This hatchery now is being further developed.

Alvord lake near Troy has been developed the last three years as a spawning field for Eastern Brook trout. Present indications show that the Department's efforts have been rewarded and sufficient eggs for stocking any waters suitable to this species now are being gathered from this source.

Rogers lake in the Kalispell vicinity is used exclusively for the taking

of Grayling eggs. This species is assuming increasing importance in Montana. As they are one of the most beautiful and sporty of Montana's native game species every effort has been put forth to increase their numbers.

In the spring of 1935 a total of 12,806,720 Grayling eggs were collected and in the season of 1936 the take amounted to 12,773,270 eggs. The solution of practical and successful propagation of this species promises to contribute greatly to the perpetuation of this beautiful fish.

Sockeye Salmon

The Sockeye salmon population of Flathead lake has received considerable publicity and each fall the shores of the lake are lined with enthusiastic fishermen. The principal spawning areas are situated on the east shore of the lake, where many of the mountain streams end the last of their tumultuous journey by flowing through large gravel beds along the shores.

It is here that the salmon congregate in large numbers to complete their spawning activities, which concludes the life cycle of this specie.

Concentration of these fish attract fishermen from every section of the state. It was estimated in the fall of 1935 that approximately 100 tons of these fish were removed from the lake. It can be readily seen that their economic value is high and in addition they have provided a great deal of pleasure and sport for the angler.

Measures have been taken by the Commission limiting the catch and possession limit and also confining the hours of fishing from daylight to dusk. Presence of the salmon in the lake will contribute much to improve food conditions for the native trout existing there and it is hoped that the regulatory measures now in force will be sufficient to guarantee the perpetuation of this valuable species.

Distribution Unit

Every man on the fisheries personnel is constantly striving to develop new methods which will increase the efficiency of their stations and as a result of these efforts a new type of an aeration unit and tank has been developed.

The aeration unit consists of a small auto generator rewound to a six-volt motor with a current consumption of 25 amperes. This motor is connected to a small rotary gear pump tapped for half inch pipe. The motor is fitted with a manually operated switch located on the dash and derives its power from a car storage battery which is of 150 ampere hour capacity.

The pump draws the water from the bottom of the tank through a screened intake and returns it to the top of the tank where it is forced through a number of small jets at relatively high pressure. This high pressure spray effectively maintains a safe oxygen content in the tank and has been instrumental in lowering distribution costs and delivering the fish from the hatcheries to the streams and lakes, regardless of distance, in perfect physical condition.

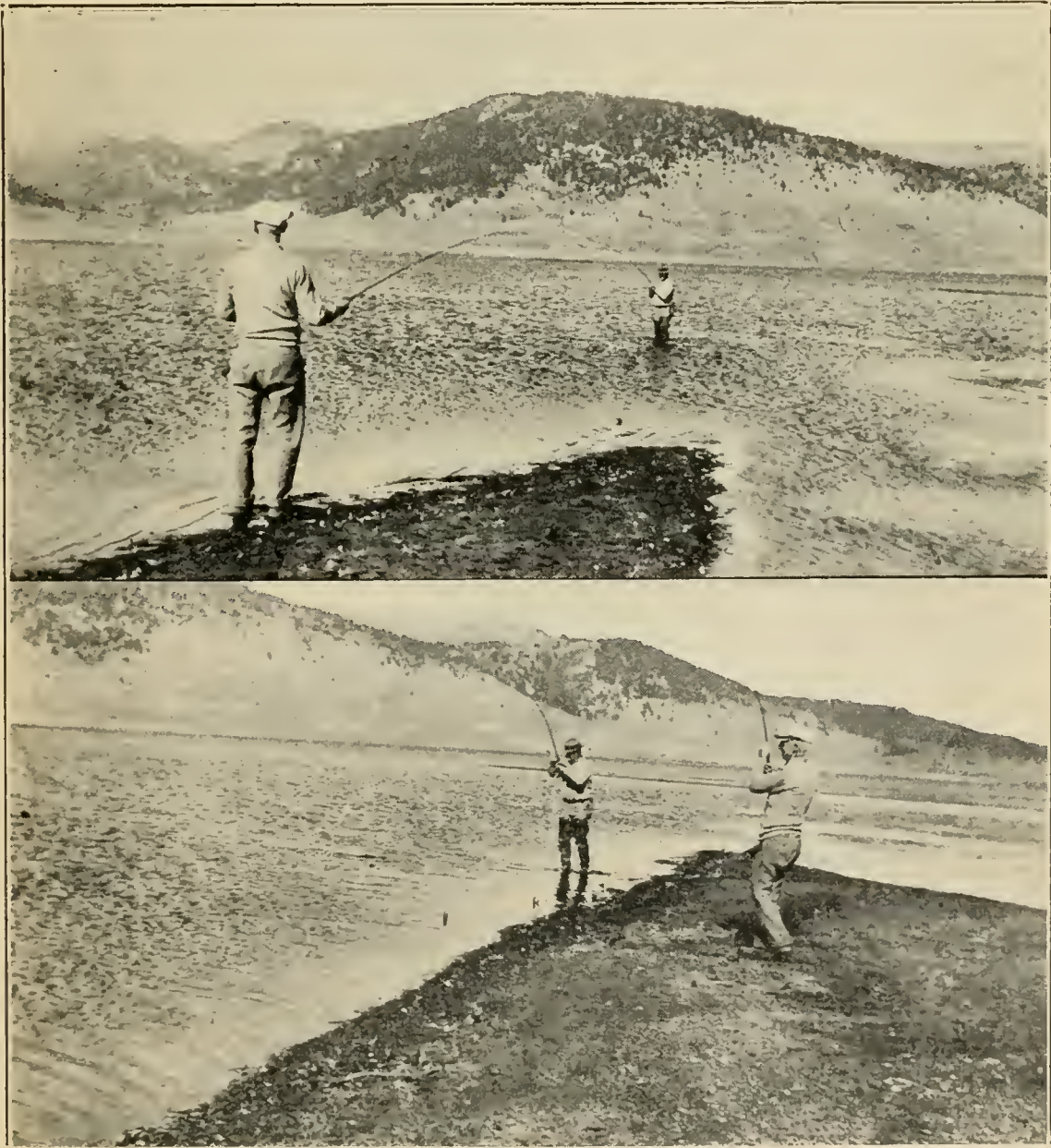
The tank measures 42 by 48 inches and is 26 inches deep. It carries, under average conditions, approximately 50 gallons of water. This unit is installed on a light pick-up truck and is capable of hauling as many fish as could be taken previously in 75 ten-gallon fish cans, requiring a truck of several tons capacity.

It is planned to construct any new tanks that will be required from aluminum alloy, thus reducing the excess of dead weight to allow for additional trout.

Pond Improvements

The personnel of several of the hatcheries has carried out a number of experiments with a view to lowering water temperatures and to break up the sun's rays in the circular, outside ponds now proving so successful. A system of spray jets has been devised which, when supplied with water at a pressure of approximately 20 pounds to the square inch, reduces the temperature more than seven degrees Fahrenheit, besides giving ample coverage over the surface from the sun's rays and greatly aiding the available oxygen content of the ponds. This allows a greater number of fish to be carried without over-crowding.

ANTICIPATION—REALIZATION



Dr. Howard Welch and Dr. J. R. Parker, both of Bozeman, having one of those moments in the thrilling waters of Hebgen lake.

Egg-Eyer

A radically different method of handling trout eggs up to the "eyed" stage recently has been developed and thoroughly tested and now is installed at the Hebgen lake spawning station. It has resulted in a decrease of infertile eggs, less trouble with fungus and the possibility of eyeing 12,000,000 on the same floor space as 250,000 previously were eyed.

This new system does not use as large a volume of water as is necessary when hatching eggs in the conventional manner. In appearance the eyer resembles a long rack or filing cabinet. It is about six feet high, 16 inches wide and 20 feet long. Standard egg trays, 14 inches square, are used as fillers. Each tray holds 32 ounces of eggs and each stack within this cabinet contains 72 trays and is supplied with a stream of water no larger than a lead pencil. The small volume of water required to operate this unit is derived from a small well and is delivered to the eyer with a centrifugal pump and a small air-cooled one horsepower motor.

The method promises to be of great value at the Hebgen station as it generally is impossible to transport the spawn to the hatcheries at the time of egg collections in the early spring because of adverse weather conditions and blocked highways. It usually is a matter of almost a month after spawning operations are started before this station can be contacted by truck or car; the crew operating there being taken in by a ski-equipped airplane.

Floating steel rack sections have been devised by the personnel. These racks are hinged on the bottom to the foot log or mud sill. To the upper portion of the racks are attached a series of wide boards so inclined that the current flowing around them produces a lifting effect which in turn holds the upper portion of the steel racks above the surface of the water. Floating ice or other debris coming in contact with the racks submerges the upper portion allowing the ice or debris to float past without injury to the trap structure. This feature is of considerable value during periods of severe cold weather when there is a quantity of slush ice running.

HATCHERIES.

Anaconda and Georgetown

With the cooperation of the WPA, considerable improvement has been made at Flint creek which undoubtedly increased the effectiveness of the traps. This work consisted of creating a new channel for the creek below the traps to the lake and resulted in an increased current or water movement to attract the spawning native trout.

Major improvements were made to the Anaconda hatchery dwelling, among them being the construction of concrete walks on the grounds. The large earth ponds were re-diked and rock-faced. Concrete runways were laid in the bottom of each to facilitate the rescue of fingerling trout for distribution.

Improvements also were made to the outlet piping system of the hatchery and considerable painting was done. This station is in need of a dwelling for the assistant and has sufficient water to warrant the installation of at least 12 circular wood ponds of eight-foot diameter. These have proven highly successful at other stations.

Big Timber

Improvements of a permanent nature were made to the hatchery building by the station personnel. These consisted of tearing out the badly rotted

wooden floors in the old portion of the hatchery and laying concrete in their stead. Steel columns to support the roof were substituted for the wooden ones and improvements to better control the outlet water from the hatchery were made.

STARTIN' YOUNG



While his daddy, Deputy Game Warden William Ray Kohls, is patrolling his district, this youngster is trying his skill for some trout in one of the abundant streams near Ennis.

Several of the circular wood ponds, eight feet in diameter. The results of these trials have been very favorable and the installation of a number more is contemplated.

Considerable tiling, ditching and other improvements are needed at the source of the water supply. There is an urgent need for additional, large semi-natural rearing ponds to increase the output of fingerling trout. Land has been acquired for this purpose during the present year. A dwelling is needed for the foreman.

Emigrant

Satisfactory progress has been made at this station through the cooperation of the WPA. A combined garage and workshop is virtually completed. Major improvements also have been made to the dwelling for the assistants and painting of the hatchery is finished. The installation of a ram and the construction of large concrete reservoirs on elevated ground will give greater efficiency to the existing water system and provide sufficient pressure for fire protection. The water supply will justify the installation of several of the circular ponds and the construction of at least four additional semi-natural rectangular ponds for the rearing of fingerling trout appears as a necessity. A general landscaping program should be initiated.

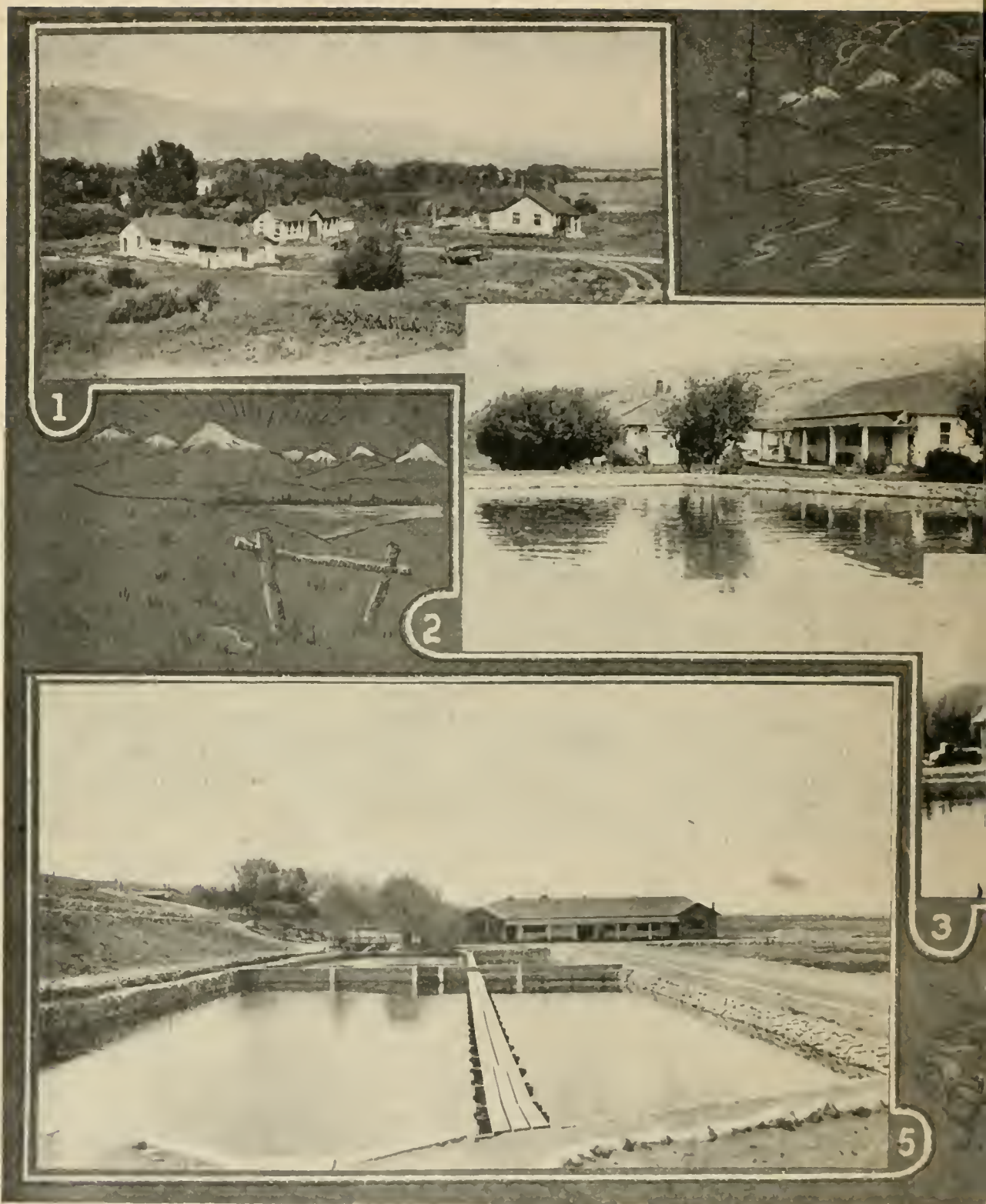
Great Falls

The value of this station has been greatly increased by the construction of two additional concrete circular ponds of forty feet diameter which now brings this station to the limit of its pumping capacity. Since all the water needed to supply this station must be pumped from the Giant Springs, the development of a high-pressure spray system for these ponds has greatly increased their carrying capacity and efficiency.

Re-shingling of a portion of the hatchery dwelling has been started. Both hatchery and the dwelling were repainted. The remaining half of the hatchery floor is in need of replacement by concrete and the need for a combined garage, storeroom and workshop is paramount at the present time.

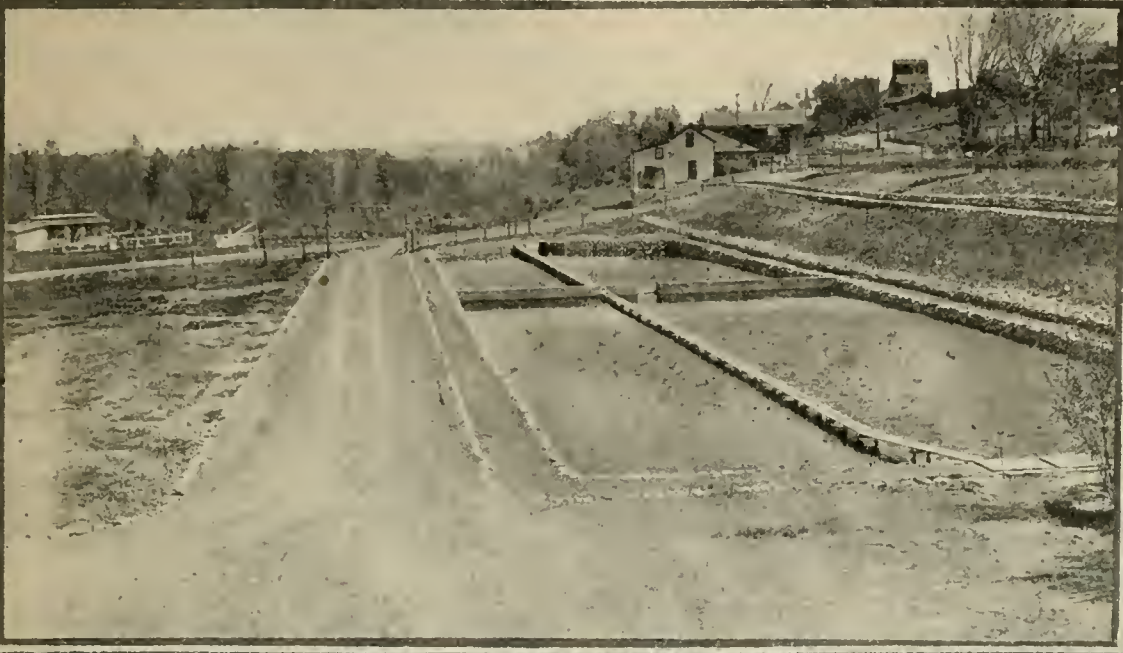
Daly Hatchery (Hamilton)

A combined three-car garage, workshop and storeroom has been built at this station by the hatchery personnel. Improvements to the outside ponds also have been made. This station was selected to try out the installation of several



(1) The Emigrant hatchery and dwelling and beyond the hill to the left are located the
 reared in these properties at Big Timber. (3) A portion of the big Anaconda plant, s
 hatchery in the beautiful Bitter Root valley where great numbers of Natives, Ra
 plant, showing the hatchery and dwelling. (6) Showing the value of federa
 were built and landscap

6



ring ponds. (2) Rainbow, Native, Loch Leven and Eastern Brook trout are hatched and wing one of four of the large semi-natural rearing ponds. (4) The Daly (Hamilton) ow and Brook trout are raised for distribution. (5) A portion of the Lewistown ssistance in the development work at the Big Timber hatchery where ponds ; done by the old CWA.

There is urgent need of a dwelling house for the assistant, and the large elevated tank which supplies the hatchery is badly in need of repairs. A more permanent and sightly arrangement would be to locate one of concrete on the high ground adjacent to the hatchery. The circular ponds are now being enclosed with steel netting to prevent encroachment and loss of fingerling trout by the thousands of wild ducks concentrating at Giant Springs during the severe cold weather.

WHERE FIGHTIN' TROUT ARE HARD AND FIRM



One of hundreds of lakes of the Beartooth plateau in the Red Lodge-Cooke City territory. Fed by glacial streams, these lakes have opened up a new "fishing paradise." Because of the low temperature of the water, such new species as Albino and California Golden trout now are being planted there.

Lewistown

Aside from some improvements done to the grounds very little construction was started owing to shortage of funds, until this summer, when the hatchery building was extended to allow workshop space and storage room. The proposed plan which has been under advisement for some time to remove the dwelling house and remodel it has been started and will be completed in the near future. This station is also in need of living quarters for the assistant and additional rearing pond facilities.

Libby

Due to shortage of funds it was found impossible to undertake the proposed improvements necessary at this station. Three circular wood ponds were installed, and their successful operation warrants the installation of an additional number. This station at the present time is using less than one-third of its available water supply, and in view of the large territory which it serves it should be expanded as rapidly as possible by the construction of a

number of the semi-natural ponds, for which ample space and water are available. A dwelling for the assistant with combined garage and living room are necessary. Also much landscaping remains to be finished.

Miles City

This station has not undergone any major improvements during the last two years. However, a recent WPA project makes possible the repair of injuries to the wood ponds caused by the action of ice in winter. With these improvements completed more satisfactory rescue work of the warm water fish will be possible.



On the summit of the Beartooth plateau, this pack string of horses has taken new species of game trout for planting. Grand days are ahead with rod and reel.

the heavy expansion at Anaconda which serves the same territory.

Ovando

The old wooden ponds at this station were torn out, and a dirt pond created in their place. This has proved a great deal more satisfactory. However, the small supply of water available at this station has limited development, and it is hoped that funds will be made available to allow moving it to a more desirable location.

Philipsburg

No improvement work was undertaken at this hatchery due to

Polson

Major improvements were made to the garage, and two more wood rearing ponds were constructed. All buildings were repaired. This station usually operates during the summer months, but is being called upon to assist in hatching salmon this winter.

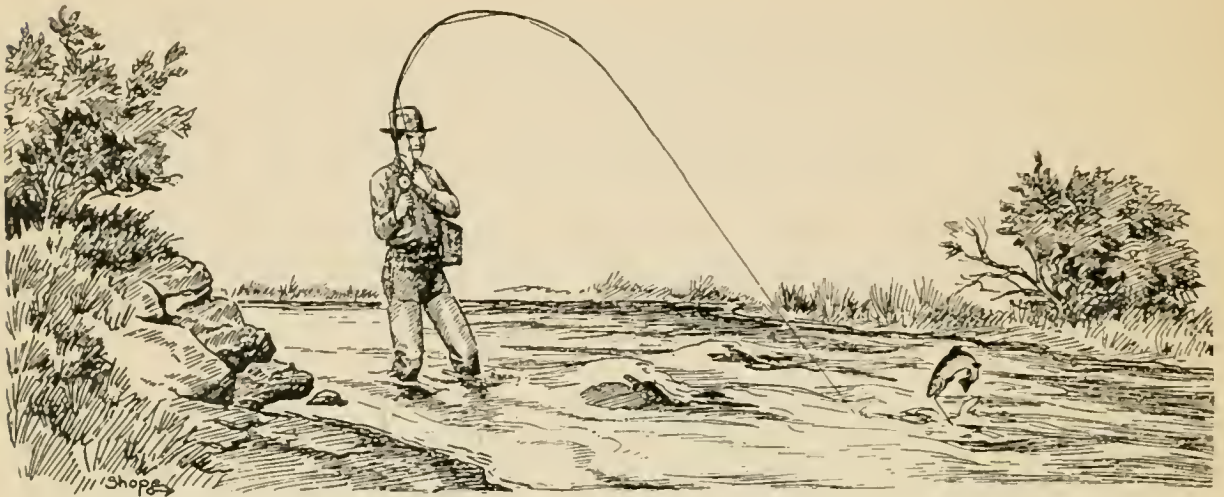
Red Lodge

This hatchery is instrumental in stocking many of the lakes and streams lying in the Red Lodge-Cooke City region. A recently approved WPA project will allow dismantling of the old building, and construction of a larger one of logs.

Salish

This hatchery is located approximately midway between Arlee and Ravalli and has access to a very large volume of water which is sufficient to develop this site to one of the largest in the Northwest. This station is strategically located to stock one of the heaviest fished sections of the State and one which contains some of the most beautiful fishing waters to be found.

Very little has been undertaken up to date due to shortage of funds which prevented the extensive development necessary to properly take care of the large territory which it will serve. As outlined the plans call for a dwelling for the foreman, a hatchery building of 120 trough capacity with quarters for the crew and combined garage and feed rooms. The rearing facilities call for the construction of nine rectangular ponds, 50x150 of the semi-natural type, nine circular concrete ponds of 30-foot diameter and twelve circular concrete of 10-foot diameter. With the development of this station and the improved



distribution facilities several of the small hatcheries now operated only during the summer months can be absorbed thus reducing operating costs.

Somers

Improvement work at this station has been confined to that of a minor character, but it is hoped that funds will soon permit improvements to be made to the pipe line at the head of the water supply since much of the present pipe has rotted through.

WHERE THE WARM WATER FISH ARE RAISED.



One of the big brood ponds at the Pond Cultural station at Miles City, operated jointly by the Montana Fish and Game Department and the U. S. Bureau of Fisheries. The state receives one-half of the fish rescued from the ponds. Here begin the bass, perch, sun fish and other warm water varieties of game fish.

(Continued from page 26)

The small magazine is distributed over all parts of Montana for the benefit of the thousands of sportsmen. It is the hope of the Commission that through the modest magazine, "Montana Fish and Game Notes", greater cooperation may be reached between sportsmen in the state and the Department.

Because the State Fish and Game Department operates upon its own receipts and receives no tax benefits as other departments, the Commission is expending as little as possible in getting the publication before the public. Copies are sent to license dealers, sportsmens' clubs, newspapers and others. Many of the articles appearing in the magazine have been reprinted, while there has been considerable favorable comment upon the project of the magazine itself.

GAME LAWS OF MONTANA SHOULD BE ENFORCED

By OSCAR PROVOST
Assistant Attorney General

Justice imposes a two-fold obligation upon the state—(1) to distribute equitably its burdens and benefits among all of its citizens—to give everyone an "even break"—and (2) to protect the rights of generations yet to come by protecting its natural resources from exploitation and unnecessary depletion.

There is no better example of this obligation than the control by the state of its fish and game.

Since the earliest times it has been recognized that the ownership of wild animals—*ferae naturae*—is in the state for the benefit of all the people, and laws protecting fish and game have become an integral part of the jurisprudence of all civilized nations.

Early in its history, the State of Montana recognized its obligation to protect the abundance of fish and game with which this territory was blessed and, happily, subsequent legislative assemblies have adopted wise and salutary measures with the commendable view of "promoting the greatest good for the greatest number."

By giving the State Fish and Game Commission, charged with the administration of the laws, the power to make necessary rules and regulations to meet any new condition that may from time to time arise and by recognizing that in a state so vast as Montana, conditions vary in different sections and localities, the legislature has given us a law which is as flexible, fair and orderly as it is possible to promulgate. Through the establishment of fish hatcheries and game farms, as well as careful regulation of open seasons, the people are assured that nature's supply shall not be exhausted and that even our "children's children" shall be able to enjoy the bounty of a happy hunting ground in the years to come.

In view of the foregoing policy of the state, it follows logically that it is a fundamental obligation of good citizenship to obey the fish and game

laws and to cooperate in every way with public officers charged with their enforcement.

Unfortunately, those familiar with the problem have observed a definite disposition on the part of some citizens, and even some officials, to avoid this duty. These few seem to think that the laws do not apply to them and with complete disregard of the rights of others feel no restraint in breaking down the orderly processes of government.

Good citizens cannot sympathize with the "sportsman" who inexcusably refuses to pay his fair share by first buying a license, who wilfully ignores the closed season laws and deliberately exceeds his bag limit.

Yet too often such a fellow finds influential and venal sympathizers who, regardless of the detrimental effect their activities in a particular case may have on the general morale, exert every effort to help him avoid his just punishment and defeat the purposes of the law.

Far too frequently county attorneys succumb to the importunities of their political supporters and either refuse entirely to prosecute the miscreant or assume an attitude of indifference that brings the law into disrepute. Again, it is not uncommon for justices of the peace to take the law into their own hands and often, when the culprit pleads guilty, impose a minimum fine and without any legal authority suspend its payment.

Such practices are subversive of good government and give basis for the argument that local governments have so badly broken down and disintegrated that only the strong arm of the federal government has strength enough to cope with the problem.

Every citizen worthy of the name knows it is his duty to obey every valid law. Every public officer, every peace officer, county attorney and justice of the peace has taken a solemn oath to enforce the fish and game laws honestly and fearlessly. Every sportsman knows that there can be no disputing about the duty of the state to regulate and protect fish and game and all are agreed that political considerations do not warrant any deflection from that policy.

It is in this matter of law enforcement, particularly at this time, that every true sportsman and every active Rod and Gun club can render effective service. Let all frown upon any attempt to evade the law and cooperate wholeheartedly with the game wardens who are simply doing their duty for the benefit of all the people.

Sales of Confiscated Articles Held by Department

The Montana Fish and Game Department conducts an auction sale each year to dispose of articles confiscated from game law violators.

The state game laws provide that equipment used in violating the statutes may be confiscated and subsequently sold at public auction to the highest bidders.

Money received from the sale of such property is deposited to the credit of the Fish and Game Fund.

During the fiscal year July 1, 1934 to June 30, 1935, 40 guns and several fish rods, reels and lines were confiscated and sold at auction. This yielded the Department's fund a total of \$307.25.

The sale of game fish, game birds, deer and elk, which were confiscated at the time the game law violators were apprehended, amounted to \$835.36 in the same period.

During the fiscal year July 1, 1935 to June 30, 1936, 49 guns, 31 rods with reels and eight fish baskets were seized and sold at auction for \$379.60. The sale of game fish, game birds, and deer and elk totaled \$1,149.40 in the same fiscal year.

Confiscated furs, which included beaver, muskrats, raccoon and mink, came to \$866.40. From the sale of beaver skins taken by the state, \$563.25 was received, making a grand total for the biennium of \$4,101.26.

There is a moral to all this. If you have a friend who wishes to borrow your gun or fishing tackle, first make sure that he has a proper license in his possession before giving your consent. Also be reasonably assured that he does not intend to violate any of the fish and game laws.

The Fish and Game Commission has taken a firm stand on this. It will not return confiscated articles, even if they had been borrowed. Several guns and fly rods confiscated the last two years were borrowed property. This caused the owners considerable embarrassment by losing their favorite guns and rods. So beware!

Fur-Bearing Animals Are Rich Montana Resource

"There's gold in them thar' mountains" and no little part of it is represented by the pelts of Montana's fur-bearing animals.

Few people stop to realize the value of Montana raw furs. This year the Fish and Game Department has issued more than 600 trappers' licenses which include general and land owners' permits. These allow the holders to take muskrats, mink and fox.

The value of these furs should be greater this year than in the 1935-36 season as the demand is brisk with prices ranging higher.

Among the early settlers of Montana were people primarily interested in furs. Rugged trappers penetrated the northwest in search of beaver and they

found that this territory had a great abundance of this valuable fur-bearing animal.

Montana still has a large number of beaver. This has been made possible by the foresight of men who were interested in the future of the state—the first conservationists. The Montana Fish and Game Department for several years past has issued permits to land owners to trap beaver only where it has been shown that property damage is being done.

These permittees are allowed to take only a specified number which is determined after an inspection is made of the property upon which the beaver are located. These inspections are made by an employee of the Department, usually a deputy game warden.

In 1935 there were 6,156 beaver skins shipped out of the state. In 1936 the total was 5,724. These skins returned to the shippers \$97,000.

From figures compiled at the Fish and Game Department's offices in Helena, it was conservatively estimated that raw furs returned to Montana trappers in 1935, based upon pre-

vailing minimum prices a total of \$129,875, while in 1936, \$119,250.

These totals represent the returns made on fur-bearing animals almost exclusively. There are no accurate figures available for the amounts received for the skins of predatory animals.

The Fish and Game Commission is conducting a study of game and fur-bearing animals over the state with the assistance of deputy game wardens and others who are familiar with game conditions. When this information is compiled it will enable the Commission to set proper dates and make suitable regulations covering the taking of game and fur-bearing animals.



The Commission, in shortening the trapping season 30 days this year, took the position that it would do much to take care of the increases of fur-bearing animals which, for the most part, have their young in the spring of the year.

BIRD HUNTING IN MONTANA ENTER- ING NEW ERA

By J. F. HENDRICKS
Game Farm Superintendent



MORE each year, the hunting of Chinese pheasants and Hungarian partridges becomes popular. Thousands of hunters take advantage of the open seasons to swing their shotguns to their shoulders and go out in quest of the brilliant game birds, noted as much for their wariness and cunning as for their table deliciousness.

It is almost unbelievable that but six years ago the hunting of Chinks and Hungarians was negligible. Even ardent conservationists had little idea that the sport would reach a glorious height in such a brief time. Today, it is the leading sport of the field.

The young as well as the old enjoy the sport, walking through the bottom lands, some fortunately with dogs, waiting for the thrilling explosion of color that is the cock Chinese pheasant, or the swift, dazzling take-off of its little neighbor of the field, the Hungarian partridge.

More than 60,000 birds have been liberated in Montana counties since the game farm at Warm Springs was established. The farm was created by the Montana Fish and Game Commission in 1929 and construction commenced in October of that year. As unbelievable as it may sound, the first crop of birds was liberated in June of 1930, only nine months after the first pens were built.

Montana's bird life, depleted by seasons without supervision and years without restocking, started to hit the "come-back trail," and at the same time to have added to it new species for the sportsmen and new romance to the fields and brush.

The initial crop consisted of 6,442 Chinese pheasants. All of these birds were set free from June to late in the fall of 1930. The brood stock consisted of 250 birds, brought to Montana from private dealers in the state of Washington. From this inconspicuous beginning, Montana's outstanding field sport, the delight of virtually every sportsmen in the state, took on major league proportions.

Since the first liberation, the output steadily has increased as the farm developed. The industry went from the bush league into the minors and then the majors. The brood stock has increased from 250 birds to 475. The last birds, liberated in 1936, totaled 10,572 pheasants and 182 Valley quail.

To gain an accurate picture of the remarkable development of this type of bird life it is necessary to follow the distributions made each year. The 1931 output was 8,792 pheasants, released in the various counties of the state. The next year's figure was smaller, amounting to 4,900. For the reason of the decrease from the previous year was the unusual activity at the site of the pens, including the construction of the new highway. The birds continuously were disturbed.

The following year, however, the output jumped to 10,162, as propagation and distribution entered into the home stretch. In 1934, the distribution

figure was 10,086. The next year, 1935, the yield amounted to 9,275 birds. This latter decrease was natural in bird propagaation on such a large scale. As stated before, the 1936 liberation was 10,572 birds.

Because it was operating at more than its capacity, the State Fish and Game Commission has authorized the construction of a second farm, four miles north of Billings. This farm, which will enhance Montana game bird life and raise it to new levels, will be completed in 1937.

It is expected that the first birds to be liberated from the new game farm will be ready in the summer of 1937. The new farm is being constructed along the same lines as the Warm Springs plant, containing all modern equipment for the propagating and raising of Chinese pheasants and other game birds.

The new farm, however, will commence on a small scale similar to that employed at the first farm near Warm Springs. One of the principal objects of the new farm will be the raising of Chukar partridges, a new bird in the Northwest and one that promises keen sport for hunters in the years to come.

This bird was brought to Montana from California three years ago. The Chukars will be raised on a larger scale than what has been attempted at the Warm Springs unit because of the more favorable conditions prevailing in the Billings area. The Valley quail, also from California, will be raised at the new farm at Billings for the same reason.

There is little reason not to believe that Chukars and quail will, in the years to come, become "natives" of Montana and provide as much sport as do now the brilliantly plumed Chinese pheasant and the "brown bombers," those darting Hungarian partridges.

INTRODUCING A NEW MONTANA FAMILY.



This fluffy brood of young Chukar partridges, now at the State Game Farm at Warm Springs, will be transferred to the new game farm at Billings for raising and liberation in the summer months, and subsequently will provide new hunting thrills for Montana sportsmen.

One of the difficulties at the Warm Springs farm is the shortness of the season due to climatic conditions. All members of the quail and partridge families are late breeders. As a result it was impossible for any great number of these species to be matured in the fall and be in readiness to withstand the rigorous winter weather.

The partridge family is a stury, hardy race and there is great hope for it in Montana. The birds are able to live without water for long periods and can survive on very little vegetation. The Chukar has gained the characterization of "the bird that lives on nothing." As there is a considerable amount of semi-arid land in the state, there is no reason to believe that they will not become as numerous as our first friend, the Hungarian partridge.

While the Billings farm will be in the nature of an experiment station, Chinese and Mongolian pheasant propagation will continue at the Warm Springs unit and as many will be liberated from the pens there in the future as have been in the past.

With the Warm Springs output and the additional bird yield of the Billings farm, the outlook for Montana bird hunting looks exceptionally bright. The two farms should yield a sufficient number of birds to satisfy even the most disgruntled of sportsmen. Happy days are indeed ahead for Montana bird hunters!

Montana, with as many varying types of weather as there are colors in a cock pheasant, presents at times, almost insurmountable obstacles in the raising and distribution of these birds.

Because of drought conditions in northern, northeastern, eastern and central sections of the state, liberation of birds necessarily was discontinued in 1936. Lack of water and feed conditions made this action mandatory. If birds had been planted there they would have perished.

However, more birds were liberated in counties adjoining the drought districts in 1936 than in previous years, so that when normal conditions return they will migrate into those sections. In addition, when normal conditions return the drought counties will receive heavier plantings of birds, the object being to give each county a fair share and an even break.

As the years go by it is becoming more apparent that distribution must be made as conditions warrant rather than by strict county planting. Before the birds are liberated now a survey is made by competent persons and it is definitely and scientifically determined if the surroundings, available feed and environment are of such a nature as to prove advantageous for the birds.

To aid territories where feed and cover are in abundance, the Commission next spring will obtain Caragana plants from the University of Montana at Missoula and plant them on farm lands with the permission of the owners. This project will be of great benefit to bird life and will subsequently prove its value to Montana sportsmen.

Because of the severe winter of 1935-36, climaxed by the late February blizzard of 1936, the State Fish and Game Commission authorized the construction of self-feeders and shelters for the winter feeding birds. Approximately 250 of these automatic feeders have been placed in suitable spots over the state where the birds congregate and feed in winter. These locations are designated by deputy game wardens after careful surveys. Heavy loss of birds in the future will be avoided by this practice.

Much credit must be given to sportsmen of Montana, who, as a result of close and whole-hearted co-operation with the Commission, have given valuable assistance in bird work in the state. A fine and very commendable example is the splendid work done by sportsmen last winter in feeding game birds which otherwise would have perished.

The State Fish and Game Commission is in constant touch with bird problems over the state due to the vigilance of its deputies and the cooperative spirit of sportsmen.

HIGHWAYS SPOIL FISHING? WHERE DO YOU GET THAT STUFF?

By **BOB FLETCHER**

Planning Engineer, Montana Highway Department.



HERE are still a grist of fireside fishermen bemoaning the march of progress, which they claim has ruined the good old days. These lugubrious gents carol a dirge entitled, "Those happy times have gone forever." About one out of hundred of these oracles can tell one kind of trout from another. A large percentage can talk glibly about the merits of reels, tapered lines and agate guides but they are plumb ignorant regarding the details of a trout's home life, appetite and habits.

These phony Ike Waltons recall the era when the number of trout they snaked out of a riffle was solely dependent upon the number of flies that dangled from their leader—one fly, one trout; two flies, two trout, and ad lib. They scoff at the softness of the younger generation and narrate tales of rising before the uneasy crow to sally forth on a ten-mile fishing trip in the family phaeton. They gloat over the discomforts and uncertainties attending a jaunt in the pioneer motoring period of stem winding cars.

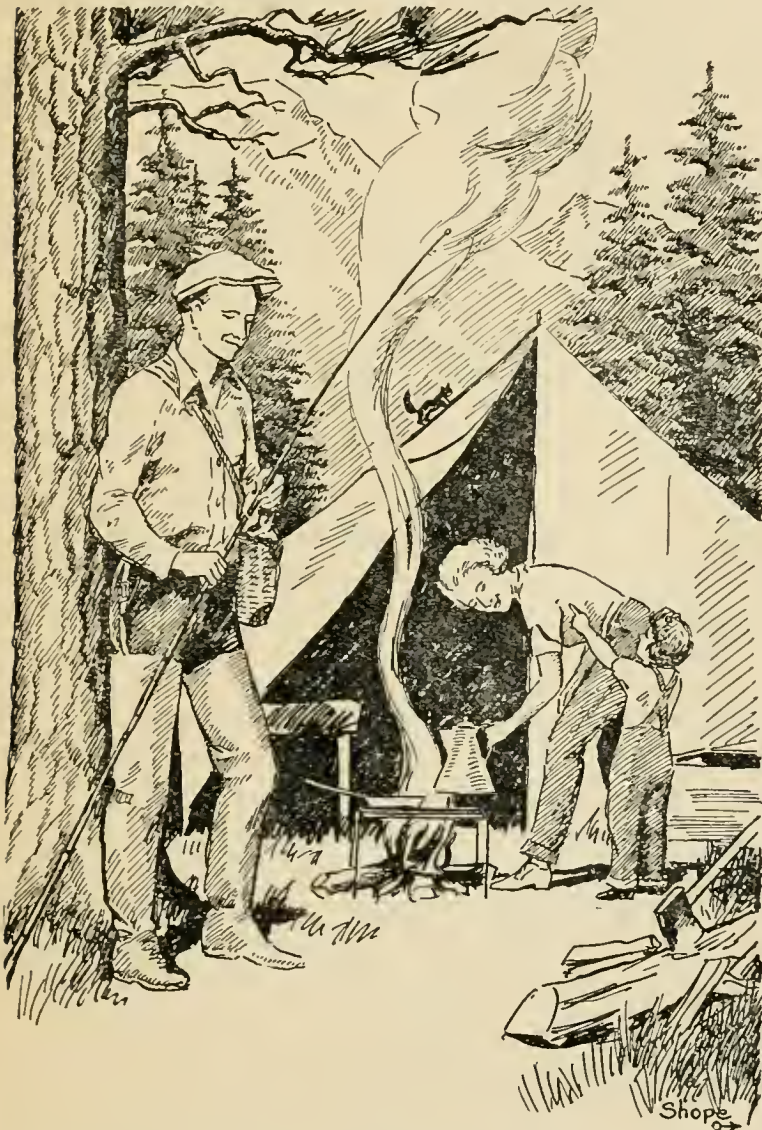
These enthusiasts likewise used to take the Sunday fishing train when they wanted to be real sporting. Based on that sound adage "the farthest fields are greenest," the railroad drummed up a nice little volume of extra business transporting piscatorially inclined parties far afield to streams not one jot or tittle nor even half a whit better than those right at home. They played on that well known male weakness, the yen for an occasional change of pasture.

Now the particular feature in the march of progress which these slipped pantaloons deplore is the construction of modern highways that give motorists a two hundred mile radius from which to choose their Sunday fishing grounds. They complain that no more can a man skid on a slick rock in mid-stream and wade out with his boots full of fish. They lay this alleged dearth of brain food to the new highways.

Well, brother, it is undoubtedly true that you can nowadays dip a drink of crystal clear mountain water out of a stream without having to strain the fish out of it but it isn't because there are no fish left. There are perhaps not quite as many as there used to be but the finny denizens that now disport

themselves amidst the rocks and rills where highways reach, have made some progress too. No longer are they weak-minded enough to mistake a piece of feather duster tied with a raveling from grandpaw's red flannels for a delectable, delovely fillet of grass-hopper.

The poor fish of today are educated, which makes matching wits with them much more interesting. So from a sporting point of view the fishing is better than ever. You don't hear about record catches any more because the trout are wiser and the old timers find it easier to wail about the highways ruining the fishing than to improve their technique to the point of becoming real fishermen. Every community has a few experts who can and do play around the so-called fished-out streams with amazing results. But these fellows don't do much bragging and advertising.



Modern highways and transportation have made the beauty, glory and tonic of the stream banks and forest glades practical for the entire family. Mother may be the kind who doesn't like ants in her pants and potato salad, but most women, if they get a chance to go with any degree of comfort, enjoy the outdoors as much as the men. As for the kids, what could be sweeter? No, this squawk that emanates from some selfish, witless old fogey to the effect that cars and highways have ruined the outdoors is short-sighted and un-reasoning bunk.

There remain in Montana vast primitive areas where roads will never be built. You travel through them by saddle horse or by hand. For the boys who feel an annual, atavistic urge for back country, there she lies. thousands of acres of mountains and forests, stream-lined with rivers and creeks plumb full of game but uneducated trout. Those are the places where the real sportsmen use barbless hooks. It takes a little time and efforts to reach these places. The highways take you to the border land where the trails begin. But let me tell you something,—in spite of all the sobbing from "the good old days" advocates, the trails are not congested with any of their ilk.

SCIENTIFIC SOURCES UTILIZED . . . !

Montana's Fish and Game Department is utilizing every possible scientific source for the purpose of obtaining information that will be of benefit to its fish and game management plan.

Members of the Fisheries Division, during the slack season, have attended Montana State college at Bozeman and participated in a short course in fish culture, bacteriology and water analysis, which training they combine with their routine work. The cost amounted to approximately \$5 per man, including printed instructions and materials used.

During the past year, game wardens as well as fisheries men, held separate "schools" in Helena, at which outstanding men in their fields have appeared and lead discussions on pertinent problems respecting the work of the two divisions. The attorney general's office has co-operated in this venture and has sent one of the assistants to explain many of the legal aspects of law enforcement work.

Some idea of the scope of these meetings may be ascertained by the 50 topics discussed at the last meeting of the 26 deputy game wardens, held prior to the beginning of the big game season. These topics included:

Present districts, patrolling of district, contacting license dealers, contacting rod and gun club members, relations with farmers, deer and elk tags, set-line fishing, justice courts and county attorneys, confidence of public, department activities in relation to newspaper articles, information requests from Helena office, observations and notes made in the field, information on violators, when to confiscate devices, juvenile cases, approaching a sportsman in the field, basis used in arresting and passing arrest, public opinion of game laws, public opinion of amount of fish and game, beaver permits, making reports, expense accounts, letters to sportsmen or others asking for information, letters to Helena office, rating of deputies, rescuing fish in dry streams, fish screens, habits of game birds, buck law, head law on elk, mountain goats, cooperation with federal agencies, transplanting of elk into small areas as against developing large areas, patrol of Gardiner area, suggestions relative to Montana Fish and Game Notes, patrol of Sun River area, value of checking stations, duck stamp and plugged guns, pheasant damage to crops, deer and elk damage to crops, shipping permits, permits to hold pets, need for conservation of migratory waterfowl, limits on fish, minnow fishing, coyotes, magpies and crows, non-residents with resident licenses, game preserves, posted streams and areas, contact with fisheries men, search warrants, case reports, forwarding confiscated devices, and elk counts.

But the Department is going even further than that, it is having investigations conducted by outside agencies in connection with several of the state's fish and game problems. At the present time Dr. Howard Welch of the veterinary science department of Montana State college is determining whether Chinese pheasants are harmful to crops out of proportion to their benefits.

Receiving complaints from farmers in the Billings area that the pheasants were damaging their crops, including corn and sugar beets, the Fish and Game Commission decided to check the situation and Dr. Welch agreed to conduct the

tests. As the investigation covers a full year's cycle, results will not be known until the latter part of June, 1937.

In agreeing to do the work for the Commission, Dr. Welch placed at the disposal of the Department one of the finest veterinary science departments in the West. Pheasant specimens were sent to the college at regular intervals, the crops and gizzards opened, the contents weighed, and seeds, worms and bugs are identified. Weed seeds are segregated from the grain seeds and accurate records are kept.

An accurate check is made of the planting and harvesting periods in that section, and this is used in the determination of the findings. By keeping a full years' record of these investigations an accurate report will be available on the question of whether a Chinese pheasant damages crops in any appreciable amount or whether as a game bird, feeding on insects and weed seeds, he is not more beneficial than harmful to the farmer.

Through the University of Montana at Missoula, which has made successful investigations of foliage plants for bird life, the Department this spring will have available a large number of Caragana plants. These will be of invaluable importance in the raising of Chinese pheasants in Montana.

DEPUTY GAME WARDEN ARE ACTIVE IN FIELD.

While fishing and hunting in Montana have steadily increased in popularity and custom, it is safe to say that no more game violations took place in 1936 than in any other previous year.

Deputy game wardens, however, are more active than they have been since 1930, which was the peak of violations in the state. In that year there were 514 arrests made as compared with 509 for 1936.

The most common violation is shown to be fishing without a license. Following that comes shooting game birds out of season. Hunting without a license takes the third berth.

Park county headed the list for violations in 1936 with 40 arrests. Lewis and Clark, Yellowstone and Cascade counties were not far behind with 39 violations each. Carbon county was in third place with 37 arrests while Madison county was fourth with 27 violations.

All of these counties have excellent hunting and fishing, which attributed to the large number of violations. The number of arrests, however, should not be construed to cast any reflections upon such counties. A large percentage of the violations were made by persons who were residents of other counties in the state.

There were a number of counties which in 1935 and 1936 apparently were free from game law infractions. These were:

In 1935—Carter, Glacier, Liberty, Pondera, Powder River, Prairie and Sheridan counties.

In 1936—Daniels, Fallon, Garfield, Judith Basin, Liberty, McCone, Petroleum, Prairie, Rosebud, Teton, Treasure and Wheatland counties.

NATIONAL FORESTS IN MONTANA OF GREAT VALUE.

By PERCY E. MELIS
Acting Assistant Regional Forester.

The national forests throughout the nation comprise a net area of 165,978,691 acres, and contain a wide variety of public resources, all of which are owned, protected, and developed by the federal government for the use and benefit of the people. In Montana, the net area of national forest land is 16,187,260 acres, and one of the major resources consists of wildlife. This wildlife resource includes game and fur-bearing animals, food and game fish, birds, and in fact, all the creatures that inhabit the area. The forest service directs its efforts toward maintaining and developing this resource and making it available for the continuous use and enjoyment of the people.

It has been estimated that national forest lands furnish 85 per cent of the forage for the big game animals of the state of Montana. During the summer period an even larger percentage use the national forest ranges, but during the winters, there is a migration of game to lower elevations, resulting in some of the animals leaving the forests during a part of the year. This situation requires very close cooperation and harmony between the forest service and the State Game Department in their joint endeavors, directed toward game conservation and wildlife management.

To many people the idea of wildlife management means only game wardens and closed seasons, bag and creel limits; bounties on coyotes and cougar; streams closed to fishermen and game preserves closed to hunters. The very first steps in game management consist, in fact, very largely of prohibition and restrictions. But years of experience now indicates that modern wildlife management includes a far broader field of endeavor. It comprehends such problems as maintaining and improving the environment of the animals, maintaining a proper balance between numbers and the available feed, securing desirable utilization, as well as making provision for a continuous supply.

Game studies have now been conducted on the national forests over a period of years, and although the work of game management is still in its infancy, much useful information has been obtained and constructive action is being directed toward improved management practices. The loss from predators, starvation and disease has been checked for several seasons, as well as the annual kill by man. Forage conditions in the winter range areas and the concentrations of game in these areas have been studied. As a result of these studies, salting recommendations have been made to the State Game Department and large quantities of salt have been distributed by forest service packers in order to secure better distribution and improve the vigor of game animals.

The winter game studies have shown conclusively that the principal limiting factor in the production of big game is the small amount of winter range in comparison with the vast areas of available summer feed. The original

home of most of our big game was on the prairies, and in the valleys which have now been fenced, pastured or plowed. Wild game has been forced into the mountains, which, on account of heavy snows, furnish but little winter forage. During severe winters only a very small percentage of the national forest areas can be used as winter feeding grounds, and as a result the game is heavily concentrated on these limited areas and much of it is forced to adjacent lands already heavily used for other purposes. The winter loss is accordingly heavy.

In order to alleviate this situation as far as possible, domestic stock has been removed from the winter range areas of all national forest lands, except in a very few instances where private lands are intermingled to an extent that makes separate management impracticable. In addition, the control of over 200,000 acres of privately owned winter rangeland has been acquired by the forest service by purchase, and exchange of grazing privileges, and this area made available for the exclusive use of game animals.

In spite of these efforts, snow conditions reduce the amount of usable winter range to less than ten per cent of the area available to them during the summer period. An active program of further land acquisition and exchange is now being fostered in an effort to provide seriously needed additional winter grazing areas, but accomplishment is badly handicapped by the inadequacy of funds which can be made available for this use.

Pioneer conditions can never be restored, the agricultural valleys and plains cannot be returned to the unrestricted use of the buffalo and their former associates. In fact, very few of even the most ardent sportsmen would desire to return to frontier days and give up our farms, fields, and industries which have been developed from the resources that once supported countless wild animals. On national forests, however, big game is on the increase, and during the last twelve years the number of game animals has increased approximately 100 per cent. Carefully planned management and a better distribution of game will make it possible to further increase these numbers as rapidly as winter range areas can be provided for their use.



GAME ADOPTIONS DANGEROUS !

The Montana Fish and Game Department has taken an active stand against the adoption of game foundlings, found, apparently abandoned, in the woods.

Such adoptions constitute a questionable practice unless it is definitely determined that they have been abandoned and are lost and, without the protection of a human being, would die or fall victim to a predator.

Once adopted, they often prove dangerous playmates for children. There are several instances of youngsters being trampled by their hoofs. Insofar as they must be released eventually, domesticity often renders them unable to cope with natural conditions and they become the easy prey of hunters or predators.

BOTTLE BABE



But the danger in adopting them is of the greatest importance. Deputy Game Warden Elmer DeGolier reported to the Department this year of an unfortunate case near Polson. A fawn had been found away from its mother and adopted. Some time later it was necessary for the father of the little boy to shoot the fawn when he found it trampling the youngster with its sharp hoofs. The child might have been killed.

Of course, there is the story of "Betsy" of Anaconda, the prize foundling of the year. The adoption of this awkward baby moose was the only human thing possible to do. On May 31, she was saved from drowning in the Wise river, by Charles L. Foster of Butte, who turned it over to Lester Barton, an active member of the new Rocky Mountain Sportsmen's association, who in turn placed it in the custody of A. G. Stubblefield, foreman of the state fish hatchery in Washoe park.

"Betsy," as she was baptized when found in the Wise River was discovered marooned on a pile of drift wood in the middle of the "drink." She either strayed from her mother, got too near the bank and fell in, or else she was the weaker of twins and in crossing the river with her mother and twin, was swept down the stream.

At any rate, "Betsy" is the only bottle-fed moose now roaming the swampy lowlands on the Hazelbaker ranch in Beaverhead county, fully protected.

But the stand of the Commission on all game adoptions is—be careful, and report the case to your local deputy game warden as soon as possible.

STATISTICAL REPORTS

SHIPPING PERMITS ISSUED FROM JULY 1, 1934 to JUNE 30, 1935

Kind of Skins	Permits Issued from Helena No. of Skins	Permits Issued by Wardens No. of Skins	Total
Muskrats	24,447	2,606	27,053
Beaver	6,144	12	6,156
Mink	3,167	82	3,249
Fox	1,286	711	1,997
Marten	534	12	546
Weasel	532	17	549
Raccoon	445	5	450
Skunk	158	....	158
Coyote	138	1	139
Badger	53	....	53
Ermine	27	....	27
Bear	6	....	6
Lynx Cat	6	....	6
Fisher	1	....	1
Otter	1	....	1
	36,945	3,446	40,391

JULY 1, 1935 to JUNE 30, 1936

Kind of Skins	Permits Issued from Helena No. of Skins	Permits Issued by Wardens No. of Skins	Total
Muskrats	29,604	....	29,604
Beaver	5,724	....	5,724
Mink	2,310	3	2,313
Fox	1,436	15	1,451
Marten	641	26	667
Raccoon	512	....	512
Otter	13	....	13
Bear	14	3	17
Weasel	239	....	239
Skunk	65	....	65
Coyote	21	....	21
Badger	14	....	14
Lynx Cat	3	....	3
	40,596	47	40,643

VIOLATIONS BY COUNTIES

	July 1, 1934 to June 30, 1935	July 1, 1935 to June 30, 1936
Beaverhead	10	18
Big Horn	18	23
Blaine	3	5
Broadwater	2	
Carbon	9	37
Carter		1
Cascade	4	39
Chouteau	2	4
Custer	10	1
Daniels	1	
Dawson	4	7
Deer Lodge	12	5
Fallon	2	
Fergus	22	15
Flathead	10	16
Gallatin	16	20
Garfield	1	
Glacier		1
Golden Valley	4	1
Granite	6	9
Hill	3	2
Jefferson	4	5
Judith Basin	5	
Lake	38	39
Lewis and Clark	13	9
Liberty		
Lincoln	12	22
Madison	18	27
McCone	1	
Meagher	2	5
Mineral	10	14
Missoula	16	13
Musselshell	4	3
Park	15	40
Petroleum	7	
Phillips	3	2
Pondera		2
Powder River		1
Powell	9	8
Prairie		
Ravalli	11	6
Richland	9	3
Roosevelt	11	6
Rosebud		
Sanders	15	22
Sheridan		1
Silver Bow	3	5
Stillwater	6	17
Sweet Grass	1	4
Teton	1	
Toole	1	6
Treasure	5	
Valley	3	4
Wheatland	1	
Wibaux	1	2
Yellowstone	27	39
Totals	391	509

FISH AND GAME LAW VIOLATIONS

	July 1, 1934 to June 30, 1935	July 1, 1935 to June 30, 1936
Buying untagged beaver skins	1	
Transferring license	3	
Allen in possession of firearms	11	8
Catching more than five fish under 7 inches	5	8
Destroying evidence of sex of deer	5	
Fishing without a license	101	151
Fishing through the ice	1	1
Fishing in closed waters	15	23
Fishing in closed season	2	1
Fishing with more than one pole and line		17
Seining	2	2
Hunting without a license	22	15
Hunting on game preserve	9	7
Illegal possession of beaver skins		2
Killing moose	2	1
Killing elk out of season	4	2
Killing deer out of season	17	13
Killing grouse or pheasants out of season.....	36	45
Killing doe deer		4
Killing more than one deer or elk	3	7
Killing antelope unlawfully	3	2
Killing fawn	4	1
Killing deer by use of spotlight	1	
Making false affidavit or statement to secure license.....		25
Opening muskrat house	3	1
Possession of seine without license.....		4
Fishing with salmon eggs or spawn	14	16
Shipping furs out of state without permit.....	4	6
Shooting ducks before and after hours	16	6
Shooting ducks after season closed	10	1
Shooting from public highway.....	16	14
Shooting swan	1	1
Trapping fur-bearing animals out of season	1	4
Trapping fur-bearing animals without a license	16	18
Trapping beaver without a permit.....	15	7
Trapping on game preserve without a license		
Killing pheasant hens	10	8
Selling game animals or game fish	2	6
Guiding without a license	2	
Failing to tag big game	5	8
Failing to keep a record of fur sales		1
Operating without a fur dealers license	5	1
Catching over limit of game fish	8	21
Snaring game birds	1	
Using fish traps to take game fish	2	1
Illegal possession of venison	10	13
Illegal possession of elk meat	2	4
Spearing game fish	2	3
Possession of more than legal limit of game birds.....		9
Refusing to show license		1
Unlawful use of set line		3
Disturbing the peace		1
Hunting in closed areas		4
Shooting game animals during closed season		6
Failing to tag beaver skins		2
Illegal possession of live beaver		1
Conducting taxidermist business without a license		1
Possession of gill net		1
Shooting fish with a rifle		1
Total	391	509

DISTRIBUTION OF FISH BY HATCHERIES—

JULY 1, 1934 to JUNE 30, 1935

HATCHERY—	Black Spotted	Rainbow	Grayling	Brook	Salmon	Loch Leven	Calif. Gold Trout	Shiners	Sockeye Salmon	Steel-head	Pike	Totals
Anaconda	2,289,700	1,191,030	7,080,000	242,720	1,483,000	1,047,910	.....	.....	.....	.....	.....	12,286,450
Big Timber	670,500	1,277,350	.....	.....	.....	.....	.....	.....	.....	154,000	.....	3,149,760
Daly (Hamilton)	1,631,000	1,027,750	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,658,750
Emigrant	541,842	114,258	.....	86,840	38,681	287,600	.....	.....	.....	131,280	.....	1,200,501
Great Falls	1,102,143	512,024	.....	298,863	136,000	129,000	.....	.....	.....	.....	.....	2,178,030
Lewistown	230,000	705,825	.....	120,000	.....	.....	.....	.....	.....	.....	.....	1,055,825
Libby	854,000	460,150	.....	350,000	165,000	.....	.....	.....	.....	.....	.....	1,829,150
*Miles City	.....	.....	.....	.....	.....	.....	.....	28,025	.....	.....	.....	391,670
Ovando	692,492	109,940	.....	.....	.....	.....	.....	.....	.....	.....	.....	802,432
Polson (Station Creek)	455,928	311,960	.....	.....	.....	.....	.....	.....	.....	.....	.....	767,888
Red Lodge	556,110	.....	.....	71,938	.....	.....	2,000	.....	.....	.....	.....	628,048
*Somers	513,816	1,027,904	2,940,960	452,600	51,200	.....	.....	.....	1,436,477	.....	.....	6,517,542
Havre	.....	78,931	.....	.....	.....	.....	.....	.....	.....	.....	.....	163,457
Ashley Lake	503,000	.....	84,526	.....	.....	.....	.....	.....	.....	.....	.....	303,000
Phillipsburg	733,440	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	733,440
	10,573,971	6,817,122	10,955,044	1,622,961	390,881	2,948,510	2,000	28,025	1,436,477	285,280	.....	34,665,943

*Miles City total includes 127,905 Bass, 91,233 Sunfish, 53,600 Crappies, 5,804 Perch, 85,103 Catfish.

*Somers total includes 90,085 Bass, 4,500 Sunfish.

DISTRIBUTION OF FISH BY HATCHERIES—Continued

JULY 1, 1935 TO JUNE 30, 1936

HATCHERY—	Black Spotted	Rainbow	Grayling	Brook	Salmon	Loch Leven	Calif. Gold Trout	Albino Brook	Sockeye Salmon	Steel-head	Pike	Totals
Anaconda	1,110,570	1,476,411	7,420,000	396,130	43,200	240,120	.....	.....	.....	.....	300,000	10,986,431
Big Timber	463,000	1,124,000	.....	48,500	62,185	1,020,000	.....	.....	.....	.....	.....	2,717,685
Daly (Hamilton)	988,000	711,100	.....	126,000	136,500	.....	.....	.....	.....	.....	.....	1,961,600
Emigrant	442,820	514,728	.....	338,940	8,261	115,200	.....	.....	.....	.....	.....	1,419,949
Great Falls	444,472	276,500	.....	11,763	.....	684,000	.....	.....	.....	12,624	.....	1,429,359
Lewistown	229,300	564,400	.....	225,500	.....	.....	.....	.....	.....	.....	.....	1,019,200
Libby	569,500	648,000	.....	365,000	110,500	.....	.....	.....	.....	.....	.....	1,693,000
*Miles City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	327,450
Ovando	480,912	406,794	.....	.....	.....	.....	.....	.....	.....	.....	.....	887,706
Philipsburg	713,671	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	713,671
Poison	445,390	335,007	.....	.....	.....	.....	.....	.....	.....	.....	.....	780,397
Red Lodge	293,968	162,810	.....	.....	11,800	.....	2,000	1,500	.....	.....	.....	585,863
*Somers	845,380	566,280	3,535,044	91,320	97,771	.....	.....	.....	3,308,330	.....	.....	8,516,672
Hayre	.....	.....	.....	79,008	.....	.....	.....	.....	.....	.....	.....	79,008
Ashley Lake	508,896	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	508,896
	<u>7,535,879</u>	<u>6,786,030</u>	<u>10,955,044</u>	<u>1,795,946</u>	<u>470,217</u>	<u>2,059,320</u>	<u>2,000</u>	<u>1,500</u>	<u>3,308,330</u>	<u>12,624</u>	<u>300,000</u>	<u>33,626,887</u>
Transfers—Big Timber to Red Lodge.....	.....	.....	.....	114,000	54,000	.....	.....	.....	.....	.....	.....	.....
							2,000					

*Miles City total includes 168,194 Bass, 32,276 Sunfish, 49,032 Crappies, 56,568 Perch, 13,660 Catfish.

*Somers total includes 72,547 Bass.

GAME FISH EGGS COLLECTED AT STATE SPAWNING STATIONS, AND ACQUIRED THROUGH COOPERATIVE

AGREEMENTS—JULY 1, 1934 TO JUNE 30, 1935.

STATION—	Natives	Rainbow	Grayling	Loch-Leven	Eastern Brook	Sockeye Salmon	Totals
Georgetown Lake	11,247,984		1,170,000				12,417,984
Lake Francis		1,001,932					1,001,932
Hebgen Lake		12,447,936		5,735,040			18,182,976
Conley's Lake					630,152		630,152
Rodger's Lake			12,806,720				12,806,720
Bitterroot Lake	130,646	352,848					483,494
Ashley Lake	1,500,576						1,500,576
Flathead Lake						1,625,064	1,625,064
Cooperative:							
Bureau of Fisheries				1,901,000			1,901,000
Alvord & Kilbrennan					1,459,695		1,459,695
Totals	13,881,138	12,800,784	13,976,720	7,636,040	2,089,847	1,625,064	52,009,593

GAME FISH EGGS COLLECTED AT STATE SPAWNING STATIONS, AND ACQUIRED THROUGH COOPERATIVE

AGREEMENTS—JULY 1, 1935 TO JUNE 30, 1936

STATION—	Natives	Rainbow	Grayling	Loch-Leven	Eastern Brook	Sockeye Salmon	Totals
Georgetown Lake	20,251,440		1,280,420				21,531,860
Lake Francis		730,652					730,652
Hebgen Lake		12,333,943		601,440			12,935,383
Lake Ronan		331,584					331,584
Conley's Lake					123,358		123,358
Rodger's Lake			12,773,270				12,773,270
Ashley Lake	1,618,764						1,618,764
Flathead Lake						3,838,462	3,838,462
Bitterroot Lake		402,336					402,336
Cooperative:							
Bureau of Fisheries				1,969,096			1,969,096
Alvord & Kilbrennan					2,346,790		2,346,790
Totals	21,870,204	13,798,515	14,053,690	2,570,536	2,470,148	3,838,462	58,601,555

LIBERATION OF PHEASANTS.

County—	1935	1936
1—Beaverhead	200	225
2—Big Horn	000	000
3—Blaine	150	100
4—Broadwater	200	200
5—Carbon	000	000
6—Carter	000	000
7—Cascade	312	500
8—Chouteau	200	200
9—Custer	300	300
10—Daniels	125	150
11—Dawson	300	300
12—Deer Lodge	200	250
13—Fallon	000	000
14—Fergus	300	600
15—Flathead	300	500
16—Gallatin	350	250
17—Garfield	000	000
18—Glacier	100	100
19—Golden Valley	200	9
20—Granite	200	324
21—Hill	200	125
22—Jefferson	150	275
23—Judith Basin	200	200
24—Lake	000	375
25—Lewis and Clark	250	275
26—Liberty	100	100
27—Lincoln	100	75
28—Madison	300	250
29—McCone	100	110
30—Meagher	200	175
31—Mineral	000	000
32—Missoula	205	225
Musselshell	200	000
34—Park	300	400
35—Petroleum	150	000
36—Phillips	200	200
37—Pondera	200	200
38—Powder River	000	25
39—Powell	200	200
40—Prairie	200	125
41—Ravalli	200	275
42—Richland	200	200
43—Roosevelt	200	275
44—Rosebud	25	125
45—Sanders	300	215
46—Sheridan	150	125
47—Silver Bow	50	200

48—Stillwater	000	164
49—Sweet Grass	200	325
50—Teton	200	200
51—Toole	150	150
52—Treasure	000	100
53—Valley	200	200
54—Wheatland	308	275
55—Wibaux	200	200
56—Yellowstone	200	200
	<hr/>	<hr/>
Totals	9,275	10,572

VALLEY QUAIL.

Yellowstone	6	80
Missoula	6	....
Lake	24	....
Big Horn .....	....	30
Granite .....	....	40
Lewis and Clark .....	....	32
	<hr/>	<hr/>
Totals	36	182
Stillwater (Chukars) .....	....	8

OPERATION OF FISH AND GAME FUND

July 1, 1934 to June 30, 1935—

Balance in fund July 1, 1934	\$12,953.15	
To Receipts July 1, 1934 to June 30, 1935.....	178,745.75	
		\$191,698.90
By Disbursements, same period	172,960.62	
Transfer to Bounty Fund	7,500.00	
		\$180,460.62
Balance June 30, 1935		\$ 11,238.28

July 1, 1935 to June 30, 1936—

Balance in fund July 1, 1935.....	\$ 11,238.28	
To Receipts July 1, 1935 to June 30, 1936	212,875.62	
		\$224,113.90
By Disbursements, same period	\$185,902.14*	
Transfer to Bounty Fund	7,500.00	
		\$193,402.14
Balance in fund June 30, 1936		\$ 30,711.76

*Includes \$497.72 drawn by the State Purchasing Department and \$804.54 to the State Insurance Fund, in accordance with the appropriations set down by the 24th Legislative Assembly.

ASSETS AND LIABILITIES OF THE FISH AND GAME DEPARTMENT

June 30, 1935

ASSETS:

Land and Land Improvements.....	\$ 23,722.00	
Buildings and Attached Fixtures.....	122,712.75	
Machinery and Appliances.....	26,666.57	
Hand Tools and Petty Equipment.....	1,816.45	
Furniture and Fixtures.....	18,443.62	
Building Supplies	62.50	
Surplus Material	182.55	
Rearing Ponds and Pipe Lines.....	72,104.98	
		\$265,711.42
Balance in Fish and Game Fund		11,238.28
Revolving Fund		100.00
1935 Accounts Receivable	\$122,007.00	
1934 Accounts Receivable	1,268.50	
1933 Accounts Receivable	130.50	
1932 Accounts Receivable	139.80	
		\$123,545.80
Commissions—Dealers' Fees		9,059.90
Disbursements and Appropriations.....		172,960.62
Transfer to Special Bounty Fund.....		7,500.00
TOTAL ASSETS.....		\$590,116.02

LIABILITIES:

Surplus		\$278,764.57
1935 License Revenue.....		157,195.00
1934 License Revenue.....		132,614.50
1933 License Revenue.....		353.50
1932 License Revenue.....		260.80
Other Licenses and Permits.....		13,966.50
Miscellaneous Revenue		6,961.15
TOTAL LIABILITIES.....		\$590,116.02

ASSETS AND LIABILITIES OF THE FISH AND GAME DEPARTMENT

June 30, 1936

ASSETS:

Land and Land Improvements.....	\$ 23,080.00	
Buildings and Attached Fixtures.....	122,409.50	
Machinery and Appliances	22,502.22	
Hand Tools and Petty Equipment.....	1,918.69	
Furniture and Fixtures.....	17,597.59	
Rearing Ponds and Pipe Lines.....	91,235.60	
Fish Traps	200.00	
Miscellaneous Supplies and Material.....	141.85	
		\$279,085.45
Balance in Fish and Game Fund.....		30,711.76
Revolving Fund		100.00
1936 Accounts Receivable.....	\$131,544.50	
1935 Accounts Receivable.....	3,230.00	
1934 Accounts Receivable.....	620.00	
1933 Accounts Receivable.....	107.50	
1932 Accounts Receivable.....	77.00	
		\$135,579.00
Commissions—Dealers' Fees		11,081.50
Disbursements and Appropriations.....		185,902.14
Transfer to Special Bounty Fund.....		7,500.00
TOTAL ASSETS.....		\$649,959.85

LIABILITIES:

Surplus	\$290,423.73
1936 License Revenue.....	181,970.00
1935 License Revenue.....	153,083.50
1934 License Revenue.....	1,178.00
1933 License Revenue.....	130.50
1932 License Revenue.....	139.80
Other Licenses and Permits.....	12,202.50
Miscellaneous Revenue	10,831.82
TOTAL LIABILITIES.....	\$649,959.85

LICENSE SALES BY COUNTIES

From July 1, 1934 to June 30, 1935

	Bird and Fish	Big Game	Sportsman	Non-Res. Fish	Non-Res. 15 Da. Fish	Non-Res. Bird	Non-Res. Big Game	Alien Fish	Total
Beaverhead	1,121	581	.....	126	8	.....	.....	2	1,838
Big Horn	571	120	1	15	.....	1	.....	.....	708
Blaine	402	50	.....	.....	.....	.....	.....	.....	452
Broadwater	423	308	.....	.....	.....	.....	.....	.....	731
Carbon	1,425	265	.....	28	3	.....	.....	3	1,724
Carter	34	19	.....	.....	.....	.....	.....	.....	53
Cascade	4,764	1,731	4	45	.....	1	3	5	6,553
Chouteau	433	165	.....	.....	.....	.....	.....	.....	598
Custer	407	85	.....	1	.....	.....	.....	.....	493
Daniels	173	22	.....	.....	.....	.....	.....	.....	195
Dawson	660	216	.....	5	.....	.....	.....	.....	881
Deer Lodge	1,483	705	1	17	.....	.....	.....	3	2,209
Fallon	101	29	.....	.....	.....	.....	.....	.....	130
Fergus	2,326	956	2	17	2	1	1	.....	3,305
Flathead	4,436	2,536	3	124	3	.....	10	5	7,117
Gallatin	2,952	1,522	3	625	41	10	10	1	5,164
Garfield	10	.....	.....	.....	.....	.....	.....	.....	10
Glacier	702	128	.....	22	.....	.....	.....	.....	852
Golden Valley	172	70	.....	.....	.....	.....	.....	.....	242
Granite	535	188	.....	9	.....	.....	.....	1	733
Hill	867	125	.....	7	.....	.....	.....	2	1,001
Jefferson	569	314	.....	6	.....	.....	.....	.....	889
Judith Basin	498	424	.....	4	.....	.....	.....	.....	926
Lake	1,486	762	2	111	4	2	1	.....	2,368
Lewis and Clark	3,058	2,116	8	76	4	5	10	7*	5,284
Liberty	86	13	.....	.....	.....	.....	.....	.....	99
Lincoln	1,542	1,132	.....	82	16	.....	.....	.....	2,772
Madison	1,204	563	1	256	1	.....	1	.....	2,026
McCone	25	1	.....	.....	.....	.....	.....	.....	26
Meagher	430	457	.....	8	.....	.....	.....	.....	895
Mineral	496	427	.....	37	.....	3	1	.....	964
Missoula	3,854	2,301	6	116	8	2	6	12	6,305
Musselshell	561	232	2	2	.....	.....	.....	.....	797
Park	2,075	1,651	4	68	.....	.....	5	5	3,808
Petroleum	78	10	.....	.....	.....	.....	.....	.....	88
Phillips	409	26	1	3	.....	.....	.....	.....	430
Pondera	657	208	.....	.....	.....	.....	.....	.....	865
Powder River	22	10	.....	.....	.....	.....	.....	.....	32
Powell	1,014	506	.....	12	.....	.....	5	1	1,538
Prairie	53	16	.....	.....	.....	.....	.....	.....	69
Ravalli	1,706	1,067	1	44	1	.....	1	.....	2,820
Richland	560	346	.....	.....	.....	.....	2	.....	908
Roosevelt	337	153	.....	.....	.....	.....	.....	.....	490
Rosebud	266	18	.....	.....	.....	.....	.....	.....	284
Sanders	1,307	888	.....	78	.....	.....	5	9	2,289
Sheridan	381	88	3	3	.....	2	1	.....	481
Silver Bow	5,841	1,877	6	50	1	3	.....	13	7,791
Stillwater	1,008	314	.....	60	.....	.....	.....	1	1,383
Sweet Grass	528	322	.....	58	.....	.....	.....	.....	908
Teton	480	242	.....	5	.....	.....	1	.....	728
Toole	644	87	.....	4	3	.....	.....	.....	738
Treasure	65	9	.....	.....	.....	.....	.....	.....	74
Valley	615	41	.....	5	.....	.....	.....	.....	661
Wheatland	813	393	.....	4	.....	.....	.....	.....	1,210
Wibaux	91	33	.....	2	.....	.....	.....	.....	126
Yellowstone	4,483	840	3	77	.....	.....	6	4	5,413
Idaho	8	1	.....	514	19	3	.....	.....	545
Washington .....	.....	.....	.....	148	6	1	.....	.....	155
TOTALS	61,241	27,709	51	2,874	120	36	69	74	92,174

*Includes 2 Alien Bird Licenses

LICENSE SOLD BY COUNTIES

July 1, 1935 to June 30, 1936

	Bird and Fish	Big Game	Sportsman	Non-Res. Fish	Non-Res. 15 Da. Fish	Non-Res. Bird	Non-Res. Big Game	Alien Fish	Total
Beaverhead	1,541	603	3	51	233	.....	.....	2	2,433
Big Horn	566	198	3	4	26	.....	.....	.....	797
Blaine	384	40	.....	.....	.....	.....	.....	.....	424
Broadwater	514	320	.....	.....	5	.....	.....	.....	839
Carbon	1,576	292	5	19	77	.....	.....	2	1,971
Carter	99	89	.....	.....	.....	.....	.....	.....	188
Cascade	5,612	1,976	3	7	116	.....	3	4	7,721
Chouteau	467	222	.....	5	.....	.....	.....	.....	694
Custer	555	187	2	1	4	.....	.....	.....	749
Daniels	166	20	.....	.....	.....	.....	.....	.....	186
Dawson	591	64	.....	1	4	.....	.....	.....	660
Deer Lodge	2,196	640	1	7	58	.....	2	4	2,908
Fallon	120	59	.....	.....	.....	.....	.....	.....	179
Fergus	2,262	1,202	3	6	38	1	.....	.....	3,512
Flathead	5,192	2,778	8	52	240	.....	8	13	8,291
Gallatin	3,942	2,017	1	283	1552	4	5	5	7,809
Garfield	18	2	.....	.....	.....	.....	.....	.....	20
Glacier	910	178	.....	15	31	.....	.....	5	1,139
Golden Valley	192	95	.....	1	2	.....	.....	.....	290
Granite	552	287	.....	8	27	.....	.....	3	877
Hill	1,181	138	1	.....	12	.....	.....	4	1,336
Jefferson	674	336	.....	4	10	.....	.....	.....	1,024
Judith Basin	569	492	.....	1	8	.....	1	.....	1,071
Lake	2,323	786	1	20	147	5	.....	.....	3,282
Lewis and Clark	4,656	1,820	15	33	167	4	5	9*	6,709
Liberty	67	14	.....	.....	.....	.....	.....	.....	81
Lincoln	1,766	1,250	1	41	291	.....	8	1	3,358
Madison	1,544	633	2	75	335	.....	2	.....	2,591
McCone	31	4	.....	.....	.....	.....	.....	.....	35
Meagher	553	365	.....	4	4	.....	.....	.....	926
Mineral	593	299	.....	38	59	.....	1	.....	990
Missoula	4,802	2,397	8	65	287	8	10	8	7,585
Musselshell	642	245	.....	.....	7	.....	.....	.....	894
Park	2,894	1,756	3	37	149	.....	8	5	4,843
Petroleum	72	18	.....	.....	.....	.....	.....	.....	90
Phillips	464	26	6	1	2	.....	.....	.....	499
Pondera	845	240	.....	.....	6	.....	.....	.....	1,091
Powder River	86	94	.....	.....	.....	.....	.....	.....	180
Powell	1,092	671	.....	18	65	2	6	6	1,860
Prairie	38	10	.....	.....	.....	.....	.....	.....	48
Ravalli	2,354	1,145	.....	12	96	.....	3	.....	3,610
Richland	479	45	.....	.....	.....	.....	.....	.....	524
Roosevelt	392	53	.....	.....	.....	2	.....	.....	447
Rosebud	353	78	.....	.....	.....	.....	.....	.....	431
Sanders	1,562	899	1	20	192	.....	2	2	2,678
Sheridan	233	12	.....	.....	.....	.....	.....	.....	245
Silver Bow	5,761	1,787	10	20	157	.....	.....	14	7,749
Stillwater	1,980	573	1	43	81	.....	6	.....	2,684
Sweet Grass	751	409	.....	27	70	.....	1	.....	1,258
Teton	854	246	.....	6	19	.....	.....	.....	1,125
Toole	526	82	.....	.....	4	.....	.....	1	613
Treasure	52	5	.....	.....	.....	.....	.....	.....	57
Valley	1,049	75	.....	.....	.....	.....	.....	.....	1,124
Wheatland	493	461	.....	1	10	.....	.....	1	966
Wibaux	72	.....	.....	2	.....	.....	.....	.....	74
Yellowstone	5,366	966	2	39	172	4	10	5	6,564
Idaho .....	.....	.....	.....	571	216	8	.....	.....	795
Washington .....	.....	.....	.....	59	268	.....	.....	.....	327
TOTALS	74,624	29,699	80	1,597	5,238	38	81	94	111,451

*Includes 2 Alien Bird Licenses.

RECEIPTS FOR YEAR OF JULY 1, 1934 TO JUNE 30, 1935.

Hunting and Fishing Licenses and Shipping Permits:

Res. Bird and Fish.....	61,241	@	\$2.00	\$122,482.00
Res. Big Game	27,709	@	1.00	27,709.00
Res. Sportsman	51	@	5.00	255.00
Non-Res. Fishing	2,874	@	3.50	10,059.00
Non-Res. 15 day Limit Fishing.....	120	@	1.50	180.00
Non-Res. Bird	36	@	10.00	360.00
Non-Res. Big Game.....	69	@	30.00	2,070.00
Alien Fishing	72	@	10.00	720.00
Alien Bird	2	@	30.00	60.00
Shipping Permits	1,568	@	.50	784.00

TOTAL\$164,679.00

Less Dealers' Fees..... 8,950.10

\$155,728.90

Delinquent Accounts, 1932

115.70

Delinquent Accounts, 1933

166.70

Delinquent Accounts, 1934

1,806.80

Other Licenses and Permits:

Beaver Tags	5,649	@	.50	\$ 2,824.50
Trappers License	507	@	10.00	5,070.00
Trapper—Land Owner	377	@	1.00	377.00
Beaver Permits	471	@	10.00	4,710.00
Guide's License	42	@	10.00	420.00
Taxidermists	9	@	15.00	135.00
Seining	1	@	5.00	5.00
Res. Fur Dealer.....	125	@	1.00	125.00
Res. Fur Dealer Agent	15	@	10.00	150.00
Non-Res. Fur Dealer ..	6	@	25.00	150.00

\$ 13,966.50

Misc. Revenue:

Fines	\$ 4,948.20
Confs. Sale—Rods and Guns.....	307.25
Confs. Sale—Fish and Meats.....	835.36
Game Farm—Sale Brood Hens....	448.40
Sale of Elk Study	2.00
Refunds	44.71
Other Revenue	275.23
Sale of Fish Eggs.....	100.00

6,961.15

TOTAL INCOME.....\$178,745.75

RECEIPTS FOR YEAR OF JULY 1, 1935 TO JUNE 30, 1936.

Hunting and Fishing Licenses and Shipping Permits:

Res. Bird and Fish	74,624	@ \$ 2.00	\$149,248.00
Res. Big Game	29,699	@ 1.00	29,699.00
Res. Sportsman	80	@ 5.00	400.00
Non-Res. Fishing	1,597	@ 3.50	5,589.50
Non-Res. 15-day Fishing	5,238	@ 1.50	7,857.00
Non-Res. Bird	38	@ 10.00	380.00
Non-Res. Big Game	81	@ 30.00	2,430.00
Alien Fishing	92	@ 10.00	920.00
Alien Bird	2	@ 30.00	60.00
Shipping Permits	1,588	@ .50	794.00

TOTAL..... \$197,377.50

Less Dealers' Fees 10,899.80

\$186,477.70

Delinquent Accounts, 1932.....	47.00
Delinquent Accounts, 1933.....	22.90
Delinquent Accounts, 1934.....	542.10
Delinquent Accounts, 1935.....	2,751.60

Other Licenses and Permits:

Beaver Tags	5,143	@ \$.50	\$ 2,571.50
Trapping Licenses	465	@ 10.00	4,650.00
Trapper—Land Owner's Licenses..	462	@ 1.00	462.00
Beaver Permits	325	@ 10.00	3,250.00
Guides License	55	@ 10.00	550.00
Taxidemists License	13	@ 15.00	195.00
Seining License	4	@ 5.00	20.00
Res. Fur Dealer	179	@ 1.00	179.00
Res. Fur Dealer Agent	10	@ 10.00	100.00
Non-Res. Fur Dealer	9	@ 25.00	225.00

\$ 12,202.50

Miscellaneous Revenue:

Fines	\$ 5,611.64
Conf. Sale—Furs	866.40
Conf. Sale—Guns, Rods, Etc.	379.60
Conf. Sale—Fish and Meat	1,149.40
Game Farm—Sale of Brood Hens	573.00
Sale of Elk Study .....	.50
Refunds	1,170.89
Other Revenue	59.50
Sale of Fish Eggs	125.00
Sale of Furs—State Trappers	563.25
Royalty on Fish Sold	90.00
Subscriptions to "Fish and Game Notes".....	253.50

\$ 10,831.82

TOTAL INCOME..... \$212,875.62

DISBURSEMENTS—ANALYZED AS TO SOURCE

GENERAL ADMINISTRATION	July 1, 1934 to June 30, 1935	July 1, 1935 to June 30, 1936
Operation		
Salary of Game Warden	\$ 3,591.67	\$ 3,600.00
Salary of Chief Deputy	2,450.00	2,100.00
Salary of Office Employees	6,999.67	8,590.84
Salary of Superintendent of Fisheries	3,000.00	2,375.00
Postage	410.24	1,389.17
Stationery, Record Books and Blanks	1,250.23	1,407.68
Sundry Office Supplies	276.22	301.38
Telephone and Telegraph	1,073.57	1,134.69
Freight, Express and Drayage	107.01	240.23
Rents	750.00	600.00
Auto Travel—Game Warden	533.23	480.16
Other Travel—Game Warden	298.51	529.52
Auto Travel—Chief Deputy	658.91	419.81
Other Travel—Chief Deputy	240.93	137.70
Auto Travel—Supt. of Fisheries	801.68	558.90
Other Travel—Supt. of Fisheries	654.98	289.10
Travel of Others	3.00	128.14
Printing Publications	931.50	340.15
Printing Licenses	743.63	1,291.29
Official Bonds	200.00	272.50
Legal Advertising	208.81	344.54
Industrial Accident Insurance	1,009.70	852.26
Association Dues		75.00
Legal Costs	251.80	350.74
Insurance on Autos	67.37	60.12
Maps and Surveys	245.02	45.00
Board of Prisoners		355.62
Other Field Expenses		693.13
General Supplies	624.15	390.84
Refund of Licenses	25.70	
Exposition Expenses		75.34
Auditing Expense		101.66
Rent and Lease of Land		92.50
Total Operation	\$ 27,407.53	\$ 29,623.01
Capital		
Buildings and Attached Fixtures		\$ 343.86
Machinery and Appliances	\$ 93.15	113.26
Furniture and Fixtures	1.00	161.68
Scientific Apparatus	76.84	
Total Capital	\$ 170.99	\$ 618.80
Repairs and Replacements		
Buildings and Attached Fixtures	\$ 83.22	\$ 98.89
Machinery and Appliances	46.45	433.55
Autos	1,131.32	
Furniture and Fixtures		7.91
Total Repairs and Replacements	\$ 1,260.99	\$ 540.35
Total Administration	\$ 28,839.51	\$ 30,782.16
Commissioners Expenses		
Per Diem of Commissioners	\$ 1,080.00	\$ 1,160.00
Office Supplies and Expenses	44.73	4.81
Travel	1,221.08	1,718.72
Official Bonds	30.00	
Total Commissioners Expenses	\$ 2,375.81	\$ 2,883.53

DISBURSEMENTS—(Continued)**Deputies and Special Deputies**

Salaries of Regular Deputies	\$ 27,030.95	\$ 29,534.00
Salaries of Special Deputies.....	12,204.54	13,048.71
Salaries of Special Field Workers		1,451.91
Miscellaneous Expense		469.87
Telephone and Telegraph	582.89	263.24
Travel	2,965.80	2,997.63
Official Bonds	195.00	35.39
Auto Expense	14,871.79	16,787.56
General Supplies and Expenses	575.63	1,974.78
Total Deputies Expenses	\$ 58,426.60	\$ 66,563.09

Miscellaneous

Salaries—Hunters and Trappers	\$ 61.37	\$ 357.00
Bird and Deer Food and Salt	594.89	1,366.82
Poison	19.80	247.76
Bounties	808.25	876.52
Miscellaneous	329.80	248.15
Fish and Game Notes		606.90
Total Miscellaneous	\$ 1,814.11	\$ 3,703.15

GARDINER ELK STATION**Operation**

Office Supplies		\$ 29.60
Auto Expenses		30.52
Heat, Light and Water		60.00
Subsistence		246.05
General Expense		15.40
Total Operation		\$ 381.57

Capital

Buildings and Attached Fixtures		\$ 216.53
Petty Equipment		3.26
Furniture and Fixtures		1.05
Total Capital		\$ 220.84
Total Gardiner Station		\$ 602.41

GAME FARM—WARM SPRINGS**Operation**

Salaries and Wages	\$ 6,141.00	\$ 7,075.35
Office Supplies and Expenses	185.95	118.10
Travel	192.23	267.45
Truck and Auto Expense	973.17	545.34
Heat, Light and Water	345.68	520.20
Pheasant Eggs	298.25	70.00
Bird Food	1,875.35	1,774.53
Hardware and Lumber	265.08	28.32
Insurance	21.80	18.53
Distribution of Game Birds	784.63	379.59
Other Expenses	440.90	
Total Operation	\$ 11,524.04	\$ 10,797.41

Capital

Buildings and Attached Fixtures	\$ 36.00	
Machinery and Appliances and Autos	646.70	\$ 18.91
Furniture and Fixtures	25.00	96.16
Breeding Stock	95.78	
Total Capital	\$ 803.48	\$ 115.07

DISBURSEMENTS—(Continued)**Repairs and Replacements**

Buildings and Attached Fixtures		\$ 58.31
Machinery and Appliances and Autos	\$ 11.00	202.43
Breeding Stock	1,241.00	836.00
Total Repairs and Replacements	\$ 1,252.00	\$ 1,096.74
Total Game Farm	\$ 13,579.52	\$ 12,009.22

HATCHERIES**Operation**

Salaries and Wages	\$ 31,309.31	\$ 39,789.86
Office Supplies and Expenses	2,010.59	1,412.96
Travel	767.10	981.81
Auto Expense	6,694.87	5,543.01
Heat, Light, Power, Water and Ice	1,818.67	1,343.32
Fish Food	8,262.82	7,032.37
Rents	104.15	139.25
Subsistence	1,055.58	618.45
Hardware and Sundry Supplies	687.86	503.63
Insurance	642.98	487.43
Hatchery Supplies	951.91	458.29
Distribution of Fish	907.53	105.42
General Supplies and Expenses	583.96	27.09
Total Operation	\$ 55,797.33	\$ 58,442.89

Capital

Land and Land Improvements	\$ 206.70	\$ 133.80
Buildings and Attached Fixtures	1,057.88	1,998.44
Machinery and Appliances	700.01	381.98
Autos and Trucks	2,611.45	1,035.91
Hand Tools and Petty Equipment	71.14	165.38
Furniture and Fixtures	519.51	46.72
Rearing Ponds	940.47	1,198.26
Fish Screens and Traps	1,464.05	748.30
Boats and Motors	150.00	100.14
Total Capital	\$ 7,721.21	\$ 5,808.93

Repairs and Replacements

Land and Land Improvements	\$ 4.55	\$ 73.21
Buildings and Attached Fixtures	1,135.30	791.32
Machinery and Appliances	136.39	412.87
Hand Tools and Petty Equipment	13.84	18.49
Furniture and Fixtures	71.60	9.65
Autos and Trucks	2,648.63	2,091.43
Rearing Ponds	98.56	35.40
Fish Screens and Traps	278.44	323.24
Boats and Motors	19.22	48.95
Total Repairs and Replacements	\$ 4,406.53	\$ 3,804.50
Total Hatcheries	\$ 67,925.07	\$ 68,056.32
Total Fish and Game Expenditures	\$172,960.62	\$184,599.88
Drawn by State Purchasing Dept.		497.72
To State Insurance Fund		804.54
GRAND TOTAL FISH AND GAME	\$172,960.62	\$185,902.14

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