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Montana State Fish and Game Department
Biennial Report - 1933-1934

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MONTANA STATE FISH AND GAME DEPARTMENT



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BIENNIAL REPORT

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THE SPORTSMAN

Said a five-inch trout as he scampered back,
"Not all of the human race is black."
I've just met a sportsman in a boat,
A fearful man in a leather coat.
I fought for my life, but his line was strong,
And I couldn't get loose from the hook's sharp prong.
And I shivered with fright as I saw him grin
With terrible glee as he drew me in.
Then the hook came out and his line grew slack,
As he petted my sides, and threw me back.
And I heard him say as I dove down deep,
"Good luck to you, lad, you're too small to keep."
"Yes," said the wise fish, "now and then,
The human family does breed men!"

—Edgar A. Guest.



To His Excellency,
The Hon. Frank H. Cooney,
Governor of Montana,
Helena.

The State Fish and Game Commission herewith respectfully submits the biennial report of activities of the department, setting forth achievements during the years 1933 and 1934.

MONTANA STATE FISH AND GAME
COMMISSION

W. P. Sullivan, Chairman
William Steinbrenner Ray G. Lowe
William F. Flynn W. C. Keil

J. W. Carney,
State Fish and Game Warden
and Secretary of Commission.

MONTANA STATE FISH AND GAME DEPARTMENT

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WILLIAM STEINBRENNER, Missoula RAY. G. LOWE, Glendive
WILLIAM F. FLYNN, Anaconda W. C. KEIL, Billings
JACK W. CARNEY, State Game Warden

GAME WARDEN'S OFFICE STAFF

THOMAS O. PEASLEY, Ass't. Game Warden NELLIE RAW, Secretary
WILLIAM H. VOORHIES, Cashier GERTRUDE SIMON, Stenographer

STATE GAME FARM

J. F. HENDRICKS, Superintendent, Warm Springs

DEPUTY GAME WARDENS

L. C. CLARK, Havre HARRY COSNER, Malta
THOMAS DANAHER, Gardiner W. J. DORRINGTON, Libby
W. A. HILL, Wolf Point A. T. HOLMES, Billings
WM. RAY KOHLS, Ennis E. M. KROST, Missoula
J. P. McCAFFERY, Anaconda F. R. MARSHALL, Bozeman
P. W. NELSON, Livingston A. A. O'CLAIRE, Kalispell
FRED E. PILLING, Butte C. R. PRICE, Dillon
A. D. ROUSHAR, Cut Bank H. C. SAILOR, Absarokee
J. A. WEAVER, Lewistown

SPECIAL DEPUTY GAME WARDENS

ELMER A. DeGOLIER, Polson H. B. IVES, Superior
HARRY N. MORGAN, Ovando GEORGE MUNLOW, Glendive
BRUCE NEAL, Augusta FRANK STARINA, Hardin
FRED T. STAUNTON, Roundup LOUIS MILLER, Harlowton
O. L. REED, Miles City H. R. MORROW, Geraldine

FISHERIES DIVISION

KENNETH F. MacDONALD, Superintendent of Fisheries
ANN CRIMMINS, Stenographer

FISH HATCHERIES

Anaconda, A. G. Stubblefield, Foreman
Big Timber, J. W. Schofield, Foreman
Daly (Hamilton), J. P. Sheehan, Foreman
Emigrant, J. P. Campbell, Foreman
Great Falls, Leo Gilroy, Foreman
Libby, Elmer Phillips, Foreman
Ovando, George Miller, Foreman
Philipsburg (Rock Creek), Graham Cadwell, Foreman
Polson (Station Creek), O. W. Link, Foreman
Red Lodge, Melvin Hohlund, Foreman
Somers, Eli Melton, Foreman

SPAWNING STATIONS

Flint Creek, Georgetown Lake Hebgen Lake, near West Yellowstone
Stewart Mill, Georgetown Lake Lake Ronan, near Dayton
Ashley Lake, near Kalispell Lake Francis, near Valier
Rodgers Lake, near Kalispell

POND CULTURAL STATION

J. H. Chartrand, Foreman, Miles City

GAME AND FISH OUTLOOK

By W. P. SULLIVAN
CHAIRMAN, STATE FISH AND GAME COMMISSION



W. P. SULLIVAN

WEATHER conditions in Montana for the two-year period, January 1933, to December 1934, were most unusual. Higher year round temperatures prevailed with less precipitation over most of the state than for any two consecutive years in Montana's history.

The light snowfall in the mountains and on the plains proved advantageous for big game and upland birds, but the extremely high temperatures and lack of rainfall during the last two summers brought an unparalleled drought condition with coincident suffering and loss to upland and migratory birds and game fish in the lesser trout streams of the state.

Most of the trout streams originating in the Highwood, Bearpaw, Little Rocky, Snowy, Belt and other mountain ranges completely dried up in July of this year. Local sportsmen, aided by deputy game wardens, saved many trout from pools in the drying streams, transporting them to live waters, but it was impossible to keep pace with the rapidly evaporating waters of the streams and many trout were lost.

In the administration of the business of the Montana Fish and Game department, the commission has endeavored to be fair and impartial to every county in the state in the distribution of birds and planting of fish. This policy has been followed faithfully. The distribution was based on the facilities of each county to properly conserve the products of the game farm and state hatcheries.

Substantial progress has been made in the past two years in improvements at the state fish hatcheries, the game farm, and in the construction of rearing ponds. During the present year the department acquired title to the Daly hatchery at Hamilton. This hatchery was constructed by the late Marcus Daly at a cost of \$30,000. It was acquired by the department from the administrators of the estate at a cost of \$4,500.00.

Departmental revenues have decreased in Montana as well as in all other western states as a result of the nationwide depression, but every division of the department has continued to function creditably under curtailed expenses.

The game farm at Warm Springs, under the able management of Joe Hendricks, continued to produce from 10,000 to 11,000 birds for liberation each year, at a cost per bird much below the average in other states.

The state fish hatcheries under the supervision of K. F. MacDonald, have continued to operate at near maximum production, over 30,000,000 game fish being produced and planted annually in the streams, lakes and rivers of Montana. Advantage has been taken of the available relief work and many improvements of a permanent nature have been made at the department stations throughout the state. Attention is called particularly to the upbuilding of the stations

at Lewistown and Giants Springs in Great Falls where an abundant and permanent water supply will always be available.

The Montana highway department has a marvelous record of accomplishment to its credit in the past two years. The main highways across the state are practically completed and hundreds of miles of scenic highways are being extended to the beautiful mountains. Game, fish and good roads will attract an increasing number of tourists to the Treasure state in the years to come.

The commission, though heavily handicapped since last April by the controversy which every one in the state is familiar with, has proceeded with its official duties and tasks. Under this handicap and harassment, it was difficult for the commission to accomplish all that was desired, yet much good has been accomplished.

An atmosphere of mutual respect and harmony prevails between the members of the commission and the chiefs representing the federal departments and divisions in Montana. In the final co-ordination and adjustment of the federal and state game program, no serious conflict is anticipated. These adjustments can and will be made to the satisfaction of the responsible men concerned and for the permanent benefit of the people of Montana.

THERE'S A THRILL WHEN THEY BREAK



Montana's streams, abounding with fighting game trout, provide pleasure and enjoyment to the tourists passing through the state who try their skill at the sportiest of all—the flashing rainbow.

BENEFITS OF THE BUCK LAW

By RAY G. LOWE

MEMBER, STATE FISH AND GAME COMMISSION



Waiting for ma.

Sportsmen over the state disagree somewhat regarding the benefit that is derived from the buck law, but all that is necessary is to study the conditions and the situations in other states where the deer were almost extinct—and in many sections of our own state—to determine the practicability of the law.

In some parts of Montana a few years ago, it was a rare sight to catch a glimpse of a deer, but the buck law has worked out to such a degree that not one of the locations I have in mind shows anything but a healthy increase. In many regions you are allowed to enjoy your hunt through the benefits of the buck law alone.

At one time the state of Pennsylvania was almost devoid of deer. Some right-thinking man or men decided to place the buck law in operation and today that state has more deer than any other. This condition, no matter how hard it is to believe, was brought about by the buck law in a state that has more people to the area than any other game-producing state in the nation. The published articles of the state pertaining to the matter give full credit to the buck law.

These astonishing facts or results have been brought about by the protection of the brood stock. You must protect the brood stock to enable the increase to come to be of sufficient proportions to take care of the extra kill—coming each year through new roads into game territories, more sportsmen, increasing use of high-powered rifles, and easy transportation by automobile, train and bus.

A stockman who is trying to take care of his herd or is building it up, does not butcher or dispose of the cows and heifers, but he keeps and holds them back in order that his herd will increase each year. The record shows that there is approximately an equal number of does and bucks raised annually. By saving the does we will soon have as many bucks each year as we formerly had added together.

Protect the does, save them, and they will furnish you with good hunting in the years to come. While thinking of this, do not forget the boy growing up with the same instincts and love of the out-of-doors as you, the same red blood that leads him into the hills, and the same desire to be a good sportsman and a proud hunter. Give him a chance to enjoy the same things you did and never be it your lot to say to him:

“Well, son, we had the game, lots of it, but we didn’t think of you. We just killed it ourselves. I am sorry that you cannot enjoy the sport I did, the good times in the fields and streams. It is my fault, I killed the mothers, the does, the hens, and now there are none left. If the buck law and its benefits had been explained to me there would be plenty of game for you * * * It is too late now.”

PROGRESS MADE

By J. W. CARNEY
STATE FISH AND GAME WARDEN



J. W. CARNEY

THE Montana fish and game commission presents this biennial report covering a period of two years, 1933-34, feeling that despite general economic conditions and those affecting Montana's game regions, it has made marked progress and is at least on a par with its neighboring western states.

It has been no small task to keep in step with the times owing to the nation-wide depression and the drouth. The department has been able, however, to keep its head above water, to go ahead when the "going was tough" and to emerge with a financially sound state game department and a healthy condition in Montana's game life.

We were forced to face immediate problems, as other western states were facing them. Although handicapped by a decrease in license sales during the last two years, the department went on, still keeping on a cash basis, and built up defenses for general drouth attacks upon our fish, game and birds.

Streams were stocked with game fish under the supervision of Kenneth MacDonald, fisheries superintendent, and birds were planted in all the counties by Joe Hendricks, supervisor of the state game farm. Montana, despite the depression, despite even the conspiracy of the elements, went ahead instead of "keeping even" 'or going backwards. In many of our projects we were aided substantially by the civil works administration and the federal emergency relief administration, and to these federal organizations we are very grateful.

The state fish and game department is a self-sufficient organization and does not receive one cent of tax money. It is supported solely and entirely by the sportsmen of the state, through the sale of licenses, the sale of confiscated guns and fishing equipment, and by fines imposed for game law violations in Montana. True, Montana has shown a decline in receipts during the past biennium, but we have kept on a sound financial basis—better even than many of our sister states.

The commission maintains fourteen fish hatcheries in the state of Montana, a state game farm at Warm Springs that has distributed more than 20,000 birds during the last two years, as well as the wardens and personnel of the department. Although revenues have fallen off during the depression and the dry years, the state department of fish and game has gone ahead, curtailed economically, but still maintained high standards of efficiency as seen in the reports of this biennial.

Due to the cretion and maintenance of game preserves and the destruction of predatory animals by federal and state trappers, big game in Montana is on the increase. Although the 1934 season was one of the poorest from the standpoint of hunting conditions, reports received by the department show a substantial deer kill and the elk kill, although smaller than formerly, stands out as exceptional considering the mild weather and lack of snow.

During the season of 1933 the department paid bounty on 91 mountain lions. The fish and game commission pays a bounty of \$25 for each lion killed within the state. These animals are great enemies of wild life as well as domestic stock, and the commission feels that the payment of the bounty is small, indeed, to the return to the sportsmen of the state.

It is hard to speak definitely of progress—although the commission has been assured that progress has been made, considering the critical period that the department has passed through with colors flying and increasing support from the sportsmen of the state. The commission has carried on its work—and this is outstanding—it has stayed within its income. There have been curtailments in all departments, but the loyal support and cooperation of all sportsmen in Montana has been most gratifying.

Montana is rapidly coming to the forefront as a sportsmen's paradise, not only for those in Montana but for those in other states—east, west, north and south. License returns for this year show a great number of outsiders coming to Montana in quest of big game—the chance to hunt through this marvelous country—its natural parks as great as its national ones. Credit must be given to the highway commission for its program of better roads, to the forestry service, and to other agencies bringing about a "Montana Game Revival".

A perusal of the reports of the biennial show progress. This, coupled with the knowledge that Montana sportsmen are behind the Montana fish and game commission and are ready to cooperate to the fullest degree, leads me to say that the future of the Montana fish and game department looks brighter.

STOPPING ON THE WAY SOUTH



With government aid, it is hoped that many of the sloughs and lakes in Montana may once again be the nesting grounds for migratory birds and the real days of the "flight" will live again.

MIGRATORY BIRD PROBLEMS

By KENNETH F. ROAHEN

U. S. GAME MANAGEMENT AGENT
Montana, Wyoming, Idaho District

Duck and goose shooting conditions in Montana for the 1934 season have been anything but pleasing to the sportsmen.

During September and the early part of October, a number of the principal duck centers, such as Hebgen lake, Madison lake, and Red Rock lakes, carried an apparent concentration far beyond the usual number of birds, this condition evidently being caused by the shortage of water areas in the Dakotas and other adjoining territories.

Shortly after the shooting season opened, the birds, except for short intervals, apparently left the district and the general average for the season was a lower percentage than last year, that is, covering the entire state.

Apparently the Flathead district was the favored location this year, as perhaps more ducks and geese were seen in that section than in any other part of the state.

Bowdoin lake, which is usually the hunters' paradise, this year offered very poor shooting in comparison with former years.

Warm weather conditions, which prevailed throughout October and the early part of November, prevented hunters from obtaining much shooting, but on the other hand these conditions greatly favored the birds.

Owing to the scarcity of ducks and poor shooting conditions, a number of the large duck clubs did not open their clubhouses during the season.

It is estimated that 85 per cent of the ducks and geese that migrate along the United States flyways are raised on Canadian and Alaskan breeding grounds, and the outlook is dark now because these breeding grounds have not been occupied this season to anywhere near their capacity. Estimates made by observers ranged from 70 per cent normal in some areas to as low as 10 per cent in others.

In our country it is estimated that more than 17,000,000 acres of land, once marsh or lake, have now been drained in the north central states alone, largely to the detriment of both game and man, and the effects of this unwise drainage have been felt in Montana as elsewhere.

Several proposed bird refuges for Montana have now been examined for food values and water supply, and it is hoped that some of these projects will reach an early completion.

In the past few years, it has been claimed by sportsmen that the open shooting season under the federal regulations did not prescribe the proper dates for shooting. This year, a new system was adopted. Although the actual number of shooting days was reduced from 60 to 30, the state game commission of each state was given the right to specify just how the season should be divided to suit best the needs of their local districts.

It was their privilege to say whether the season should be 30 consecutive days, or six weeks of five days, or 10 weeks of three days, or 15 weeks of two days each week. The Montana game commission selected 10 weeks of three days each. This experiment was tried in order to ascertain whether rest days would be of value to the birds, and at the same time to give the sportsmen as liberal shooting as possible.

THE SUN RIVER ELK HERD

By BRUCE NEAL
DEPUTY STATE GAME WARDEN

The state game department has done remarkable work in controlling the migration of elk in the much-talked-about Sun River country, particularly in the last biennium when camps were established to drive the herds into proper range and to protect the farm lands in the valley.

As an initial move the department closed to hunting all the drainage of the North Fork of Sun river lying in Teton county. These regulations allowed a great number of elk to cross over into that area and to winter there. The area was an old winter range for elk and it was not until 1925 that the elk drifted from it.

The building of the big storage dam in the canyon resulted in the hunters forming a "firing line" on the North Fork along the Teton side and forced the elk to change their migration to other ranges. In December, 1933, but further south, a man was employed to herd the elk back from the ranches. As there was no feed left on the forest ranges, the elk started to come out in late December, many locating in the foothills.

Cow Elk Dies Trapped in Barbed Wire



A short distance away the baby calf was found waiting. Hidden strands of wire in the undergrowth surrounding the forest on Ford Creek proved fatal to this cow elk. The dead elk was found one mile below Carl Fender's dude ranch.

As winter ranges were in poor condition, chiefly through over-grazing of domestic stock, elk were forced on private property. We received a drift from the Dearborn country and from those ranges south of Ford creek to Lewis and Clark pass that had been "grazed off".

In January, 1934, we established a camp of four men and moved the elk north—mostly across Sun river. We were able to move these elk and handle them without much difficulty. By moving cattle and sheep farther back in the national forest, adequate winter range would be provided and elk would not be forced outside on private land.

From what we have seen of the range during the fall and early winter of 1934, there is sufficient feed on the North Fork of Sun river and also on the West Fork. The manner in which the elk are drifting indicates that there will not be much of a migration outside, except from the Dearborn country. We believe that we can drift those north by continuing our control work—an admitted success.

In 1932, 562 elk were killed in the Sun River drainage and enough were taken out of the Teton to make a total kill of 700 head. The kill for 1933 in the Sun river drainage was 138 head and 27 were taken out of the Teton, making the aggregate kill for the year about 165 head. Because of mild weather, the elk did not come down until after the season was over. The kill in 1934 in the Sun river drainage amounted to 160 head and about 20 were taken from the Teton. A very mild winter and a lack of snow kept the kill light. A large number of those killed were shot south of Ford creek and Smith creek, many being forced outside by range conditions in the Dearborn country.

The elk count made by our party in 1933 was 2,898. This was made in March of that year. We took a heavy loss after the count as the elk were poor and weak, dying heavily after green grass came. My count in April, 1934, was 1,981. We have had a good calf crop this year but I do not believe there are more than 2,500 head in the entire territory.

COLD



This cow elk in the Sun River country believes in a morning bath along with a drink.

Note: Bruce Neal has lived in the Sun river country for 27 years and is considered the best informed of any man in Montana on the elk situation in that territory. His chiefs say: "He's been over the whole country barefooted". During the patrol in early 1934, he kept a daily diary of his work. The item below tells only a small part of the Sun river story:

"January 27, 1934—Up before daylight. Tom took me up behind Heinie Brookharts. I climbed on top of McCarty hill. Nixon rode on the lower rim. Frank half a mile lower down and Tom on the outer edge. We started the big drive.

"I followed Lime ridge over the top, picking up small bunches. We cowbellied them, the boys below making considerable racket. We moved the entire bunch north. On leaving the head of Lime reef we could see the head of the herd coming through the pass far below on Cut Rock basin.

"Looking down from the head of Lime gulch I could see long files of elk trailing out through the pass into the green timber headed for Beaver creek. This was part of the herd I spilled on McCarty hill at daybreak. I had close to 100 head in front of me on Lime reef. These broke down on the end and through the narrow pass into Cut Rock basin before the bunch the other boys were bringing through under the foothills.

"I ran all the way from the top of the mountain down to the pass, climbed high up on the north side of the pass and just made it in time to head the lead back towards the gulch. It was wonderful sight to see those elk, about 400 head I would judge, strung out in long files, each bunch with its leaders. The whole basin was covered with them. We gave them plenty of time to settle down, then edged in slowly. They scattered some but the main bunch broke down through Holme's gulch * * * ."

"THOSE ANTELOPE"

By W. P. SULLIVAN

CHAIRMAN, STATE FISH AND GAME COMMISSION

Reports from reliable sources indicate some increase in the number of antelope in isolated bands throughout the state. The herd on the Sullivan game preserve near Square Butte has increased normally in the last two years.

Excessive heat, drought, grasshoppers and a consequent low stage of stock water, forced the removal of all domestic stock from the preserve in mid-July. About the first of August the antelope herd began to break up into small bands and migrate. They scattered over southern Choteau, northern Fergus and Judith Basin counties.

It was with deep apprehension concerning the future of these antelope that we discovered only a few remaining on the preserve on September 10. We had a five-day rainstorm, accompanied by snow, in late September, followed by a period of warm, spring-like weather. On October 6, I made an all-day ride through the preserve and was delighted at the view from every hill crest. The antelope had returned home! Grasshoppers had disappeared, water was revived in springs and reservoirs and new grass had turned hills and valleys green. I spent the entire day in the hills and counted 812 antelope within the enclosure.

On November 15, I made a careful survey of the winter feed situation on the preserve. There are about four sections of good winter feed in the rough interior of the preserve that escaped destruction by hoppers. Should we have another mild winter, this feed will be ample, with four-fifths of the preserve reduced to the status of a desert. I feel that hay will have to be provided if a considerable loss is to be avoided.

Some of the best wheat producing lands in Montana are adjacent to this preserve on the north and east. An ordinary four or five barbed wire stock fence will not confine antelope in a field or pasture. They find a slight depression under the wire and establish a run-way there, always going under a wire fence when not forced or frightened. They graze out over the wheat fields in bands of from 10 to 200.

I desire to say a word of praise and commendation of my good neighbors for their patience and sportsmanship. They have shared without complaint part of the cost of the maintenance of these antelope and I deeply appreciate their attitude.

Last May I stopped at a farm bordering the preserve. About a quarter of a mile distant were about 150 antelope grazing on a nice, green wheat field. My neighbor said: "Beautiful sight". I replied: "Yes, Jim; but I don't believe they are doing much damage to the wheat, are they?"

"No, not much," he said; "but I'll be damned if I believe they are doing it much good, either."

GAME LAW VIOLATIONS

By T. O. PEASLEY
ASSISTANT STATE GAME WARDEN

Despite the fact that the last two years have been serious ones from the standpoint of law enforcement, considering the financial condition of many of the people of the state, the department has been able, through rigid patrol by its deputies, to keep game law violations at a minimum, and to show a marked reduction over former years.

The peak of law violation was reached in 1930 when 514 arrests were made. There has been a decrease from that year, and the last biennium showed that sportsmen in the state, or those in quest of wild game, are becoming more game-minded and are taking the laws of the state more seriously.



Sniff

In the fiscal year ending June 30, 1933, there were 468 arrests made in Montana and in the fiscal year ending June 30, 1934, only 347 violators were placed under arrest. With many people on relief rolls and others striving to better their larders by violating the game laws, the state department believes that it has kept violations down to a minimum.

Leading the list of violations were those arrested for hunting and fishing without licenses and those apprehended for killing wild game and birds out of season. During 1933 there were 122 arrests for fishing without a license, 34 for hunting without a license, 47 for killing deer out of season, and 30 for fishing in closed streams. Although violations were considerably lower in 1934, the same ratio held true to the particular forms of violations.

Of particular interest to those who love fishing and love to abide by the "rules of the game," is it interesting to note that during the entire biennium only eight were arrested for catching over the limit and 34 for catching more than five fish under seven inches in length.

With limited funds at its disposal, the game department has striven to cover 90,000,000 acres or 140,997 square miles within Montana's border. Hindered by a legal controversy, which at times tended to undermine the spirit of the department, it went ahead with its activities, and is proud of its efforts in protecting game life in the state from those who would destroy it.

With 50 game law violations, Deer Lodge county heads the list for arrests in 1933, and still retained its place in 1934 with 39 arrests. During the biennium Carter, Daniels, Garfield, Liberty, McCone, Powder River, Teton, Treasure and Wibaux counties emerged with a clean slate.

The following shows the record of arrests for violations of the fish and game laws during the last 22 years:

1913	49	1924	328
1914	123	1925	482
1915	237	1926	366
1916	156	1927	345
1917	171	1928	407
1918	219	1929	341
1919	60	1930	514
1920	116	1931	455
1921	278	1932	458
1922	336	1933	468
1923	403	1934	347

WONDER ABOUT THE BUCK LAW?



Killing does in Gallatin County

GOOD HUNTING—GOOD REARING

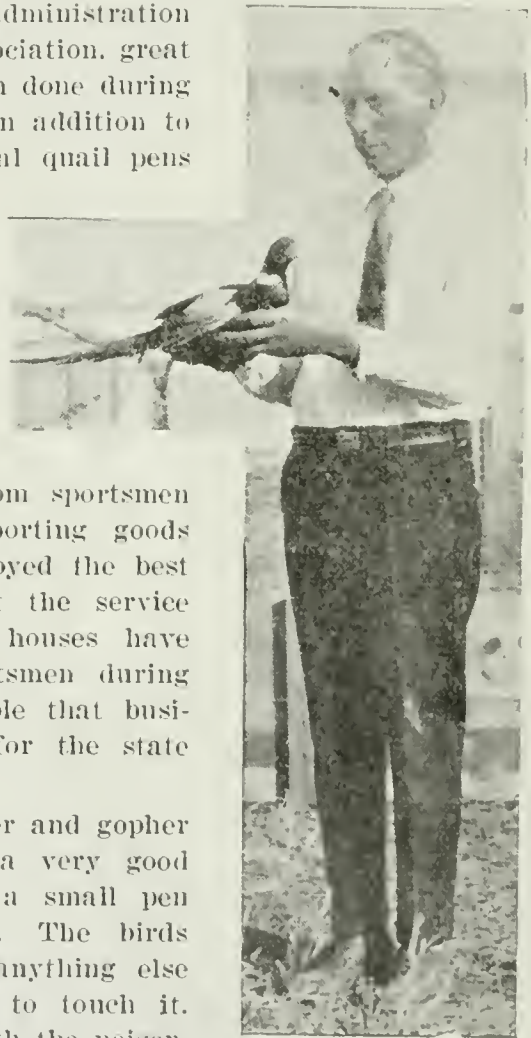
By J. F. HENDRICKS
SUPERINTENDENT, STATE GAME FARM

WITH the help of the Civil Works Administration and the Federal Emergency Relief association, great improvement and repair work has been done during the last biennium at the state game farm. In addition to improvements on the general grounds, several quail pens have been constructed so that in the near future this sporty bird will be reared and raised from the farm in greater numbers than in the past.

We liberated more than 20,000 birds during 1933 and 1934, and as a result, have had the best hunting this fall than ever in the State of Montana, according to the reports that I have received from sportsmen over the state. From ammunition and sporting goods dealers comes the word that they have enjoyed the best business in many years. That means that the service stations, the garages, and other business houses have derived considerable benefit from the sportsmen during the open season this year. It was inevitable that business would be aided—and it speaks well for the state game farm.

Last summer we tried out the grasshopper and gopher poisoning on the pheasants. We gave it a very good test by placing one pair of pheasants in a small pen and spreading the poison on the ground. The birds would not eat it. We did not give them anything else for four days and still the birds refused to touch it. On the fourth day, we mixed some wheat with the poison. The birds carefully picked out the wheat and let the poison remain untouched. We left the birds in the pen for four weeks and did not lose a bird. We feel certain the sportsmen will feel better towards the farmer for trying to save his crops by grasshopper and rodent poisoning. The farmer has no intention of harming the birds.

I wish to say a few words in connection with the "no hunting or trespassing" signs that are numerous in our hunting regions. In most of the investigations I have made, I have found that nine times out of ten the hunter has been the cause—and no other. The careless hunter will enter a place without regard to property, leaving the gates open, and sometimes cutting the fence. Without taking time to see what is moving—a calf, hog, or even cow—will shoot, hoping it is a cock Chinese pheasant.



I think it is the duty of the sportsman to drive up to the farmer's home and ask permission to fish or hunt. Usually he will gladly grant the permission. After all, the farmer raises the birds and he is entitled to some consideration. It is the duty of all sportsmen to preach this gospel—respect the property of others.

If we do not, we will soon find conditions in Montana the same as they are in the eastern states where hunters have to pay a certain fee for the right to hunt. I am certain we do not want that sort of a situation in Montana. In the state of Wisconsin hunters pay \$3.00 for a pheasant. How many of us could afford such a sport? Remember the property owner and help him—he will help us and be our friend.

There have been numerous complaints concerning the bag limit of three cock Chinese pheasants and no hens. The foes of the present system tell of shooting hens by mistake. Any person who shoots a hen for a cock is a "mistake".

I do not think there is a chance for a mistake. The trouble is that some hunters are over-anxious and do not take time to look. All they think of is shooting when they hear the explosion of a covey, the whirl of wings, and the shooting when they hear the explosion of a covey, the whirl of wings, and the sight of birds darting into the sky before them. There is as much difference as a woman and a man on the street.

READY TO GO



The Hungarian pheasant, one of Montana's sportiest game birds, ready to "explode" on a second's notice.

If the game commission would change the bag limit to two cocks and one hen, every hunter in the fields would shoot at the first bird in the air, feeling that the law was being obeyed. The same situation would embrace the entire hunting season. On the second shot—who knows what will happen? There would be a flagrant abuse of the law. Hens would be slaughtered on the impulse of the first shot—or the second—or the third.

Let us save the hens for a few years, as they are the foundation of this wonderful sport. When the time comes that we have too many birds, I am certain the commission will grant you a longer season, and I will help in its advocacy.

Always remember, you will have a good number of cocks and still have plenty for breeding purposes.

I know they can hide and protect themselves when the hunting season is on—we have instructed them in taking care of themselves before leaving the farm.

A NEW PARADISE

By W. C. KEIL

MEMBER, STATE FISH AND GAME COMMISSION



W. C. KEIL

IN 1935, the new Red Lodge-Cooke City road to Yellowstone National Park will be formally opened, and with its opening one of the most scenic regions in Montana will be made accessible to the tourist, the fisherman, the hunter. Hundreds of sparkling streams and hidden lakes will be exposed—a new paradise for Montana sportsmen.

This road reaches an altitude of more than 10,000 feet where it crosses the Beartooth plateau. Many lakes can be counted while driving along this highway and the scenery has no comparison. Work of building up this primitive area so that it will provide excellent fishing, even in the regions of the glacial lakes, has already been started by the state fish and game department. Fish were stocked in many of the lakes this year—the fingerlings being taken

horse pack over the rugged mountains and to the lakes shimmering beneath high snow-peaked mountains.

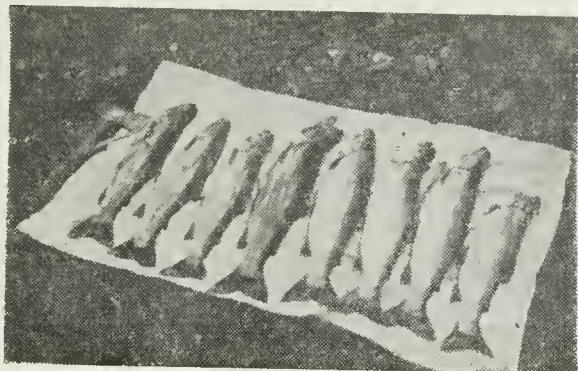
With its great scenic value, its primitive and rugged characteristics, the flowing streams abounding with fish, and the magic lakes hidden in the mountains, this territory will mean much in increasing tourist travel to Montana—an industry for years undervaluated but of great importance in placing the state in its proper place in the recreational map.

The area that the new highway will open is southwest of Billings, in itself a great fishing territory, and destined to become an ideal vacation land. Close to the Beartooths—through which the Red Lodge-Cooke City highway travels—are the Absarokas and Shoshones, a wilderness of towering peaks and virgin forests. In this area, is Montana's new paradise—both from the viewpoint of scenic wonder and the possibilities for wild life. It is a region which those who have scaled the Alps declare is paid no compliment when called "The Switzerland of America".

Within this area are 25 peaks over 12,000 feet high, among them Granite peak, highest mountain in Montana, altitude 12,990 feet and scaled for the first time in 1923, and Silver Run, second highest; hundreds of lakes, several of considerable size; innumerable streams and waterfalls, endless miles of foot and saddle trails, and many vantage points from which may be seen never-to-be-forgotten panoramas of peak and plain.

For the most part this mountain area is still a primitive wilderness, peopled only by the animals, birds and fish that have seen few hunters or fishermen since the days of the Indian. Excellent fishing is in store for those who wish to cast a dancing fly over the surfaces of some of its streams. In the streams and lakes is to be found rainbow, Loch Leven, eastern brook and native trout.

A visit to Yellowstone National Park, one of the pleasures which millions of people have had and almost everyone would like some time to enjoy, will this year offer additional thrills with the opening of the new highway. The highway lessens the distance to the park by approximately 50 miles, making it an easy four-hour drive from Billings. From Billings to Red Lodge it is a distance of 60 miles, over an oiled state road and through the "Gateway to the Beartooths".



From Montana waters

Leaving Red Lodge it goes past the fur farms and zoo, by Rock Creek valley, about four miles being national forest highway. Then, as the government-built road, 60 miles long, starts its trip through the colorful mountains, a new region, unique in its primitive appeal, comes into view. From 6,000 feet it rises to Beartooth plateau, 11,000 feet above the sea, then goes over the "top of the world," past lakes, across the end of Beartooth, largest lake in the region, on to Cooke City, center of a rich mineral area and to the park but four miles beyond.

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THE FEDERAL "BAG"

What is coming out of the grab bag is always a mystery, but when the Biological Survey Agents grabbed the whole bag of three hunters, they found plenty cause for excitement. One look was enough, for the three men had 86 ducks in their possession, including 45 bluebills, 39 canvasbacks, and two red-heads. This took place in Maryland, which is the northernmost state of the south Atlantic district. When federal agents get you, they may leave your pants, but these three hunters not only lost their kill, but their guns, hunting coats, jackets, licenses, and duck stamps. Quite a grab, but it probably was not a blind one.

MONTANA'S FISH FUTURE

By KENNETH F. MacDONALD
STATE SUPERINTENDENT OF FISHERIES

THE biennium covered by this report marks a most active period in fisheries work. The major activities were confined to improving the physical plants, rearing ponds at the hatcheries and the hatchery grounds. While the department revenue, available for this work, was in itself inadequate, it was possible through the opportunity created by the Civil Works Administration to undertake a heavy program and we are appreciative of the whole-hearted cooperation of the Federal, State and County officials administering that program in Montana.

With the economic conditions of the country bringing to light the necessity of planning for the future, it is most gratifying to know that those interested in the planning programs are taking full cognizance of the important part fishing plays in the economic and recreational structure of the state. With such consideration given this valuable natural resource, the future looks most promising.

In order to develop and maintain fishing on a satisfactory level, it will require a broadening of the scope of activities, generally considered as sufficient

THOUSANDS ARE SAVED



This new type of fish truck is now being used by the state fisheries division. With this apparatus for aeration, fish are taken many miles for planting, without loss.

to perpetuate fishing. This scope has been broadened considerably during the past 10 years with results showing the value and necessity of instituting a program of even greater range. Fish culture, as practiced, is not sufficient to maintain fishing on account of closely related factors, apart from fish cultural activities, such as water conservation, water uses, irrigation ditch losses, pollution and stream improvement which must be given consideration in order to obtain best results. It should be borne in mind that there is danger of developing one or more of these factors at the expense of another of equal or greater importance.

Rather than endeavor to broaden the scope of activities to include the related factors at the expense of the hatchery operation, means should be made available to finance this work independent of the amount necessary for hatchery operations. If not, there is grave danger of the available revenue being prorated to the extent that no phase will be properly developed. With the department revenue returning to the 1928 and 1929 level, much of this work could be undertaken but it is not possible with present revenue. If more thought would be given to the importance of developing this natural resource, more revenue would be provided, by, not only sportsmen, but, by everyone interested in Montana's welfare.

Egg Collections

Montana is in an enviable position in having such valuable spawning fields which supply the game fish eggs for the hatcheries. Georgetown, second to none, showed a decrease in 1933 due to overfishing by anglers out of employment at Butte, Anaconda and Philipsburg and to the extreme low water in the Flint creek drainage. It is a most difficult problem to exercise proper control over the fish population in Georgetown lake for the reason there are numerous spawning areas in the lake where large numbers of trout spawn under natural conditions. During normal years with Flint creek carrying its average flow a larger percentage of spawners, attracted by the current into the lake, migrate up-stream and are taken in the traps, while during years of extreme drought a larger percentage spawn on the beds in the lake.

Thus, it is not possible to use the total eggs collected in any one season as a guide for restocking, but consideration must be given to all factors having a bearing upon the reproduction. There is danger of over-stocking a lake such as Georgetown and, in fact, it has shown indications several times of being overpopulated. This lake is one of the department's most valuable assets. The egg collection the spring of 1934 showed a decided improvement and with return of normal weather conditions it is expected the egg take will again approximate that of the banner years.

A matter of grave concern is the presence of the common suckers in Georgetown. These fish were never present until 1926 when literally thousands of their fry were found in the creek which connects Silver and Georgetown lakes. It was not possible to remove them, on account of their size, until 1933 when 48 tons were removed by "plant nets" set in the lake. The spring of 1934, 74 tons, by actual measurement, were removed and it is planned to continue this work in order to retain favorable conditions for trout.

To further secure the supply of native cutthroat eggs, plans were made to develop Ashley lake in the Kalispell district. To ascertain the number and quality of eggs available in 1932, traps were installed and 295,000 eggs collected.

No attempt was made to collect eggs in 1933 but the spring of 1934 the station was again opened and 940,900 eggs taken. Permanent traps are being installed, the old hatchery and dwelling are being repaired and it is planned to operate this station each spring and develop the field as rapidly as possible.

With the increased demand for loch leven in the Missouri and Yellowstone rivers, the need for a loch leven spawning station became apparent in 1930. Plans were laid for the development of a rainbow and loch leven spawning field at Hebgen lake and substantial plantings of fingerlings were made beginning in 1931. Traps were installed in Duck creek, South Fork of the Madison and in the main Madison river during the fall of 1933 and a total of 4,864,000 loch leven eggs collected. Using the same traps, in the spring of 1934 more than 5,000,000 rainbow eggs were taken. Permanent traps are now being installed and buildings erected for living quarters for the personnel. This promises to be one of our major stations.

In order to obtain information incidental to the operation of the Hebgen lake stations, two hundred loch leven and rainbow trout were tagged, when taken in the trap, on the left gill cover and it would be appreciated if anglers taking any of these tagged fish would report to the fish and game office in Helena, a deputy game warden or park ranger as to where the fish was taken, number of tag, date taken, length and condition of fish.

The rainbow station at Lake Francis is showing a steady improvement with fishing reported the best in history this year. Lake Ronan shows the expected decline—the penalty for indiscriminate planting of exotic fish by misguided sportsmen.

The fall of 1933 temporary traps were installed at several points in the upper Big Hole river and eastern brook trout eggs collected. There are splendid opportunities there for a good collection, but due to lack of revenue it was not in operation this fall. The traps are widely separated which requires a watchman at each to prevent poaching.

In line with the improvements made at the hatcheries with a view of improving both quality and quantity of the output, rearing ponds have been constructed at several of the stations. Circular concrete ponds, of the type devised by L. E. Mayhall of the Washington State Game Commission, were constructed at Great Falls, Somers and Anaconda. These ponds are 40 feet in diameter, 30 inches deep with the bottom saucer-shaped, sloping to the center where the water is discharged. The supply pipe delivers the water at an angle creating a circular movement. Ponds of this type have proven very satisfactory from several angles—(1) practically every section of the pond presents the same conditions, that is the velocity and depth of the water is uniform, a distinct advantage over the rectangular pond where the sturdier fish occupy the upper section of the pond forcing the weaker fish to the lower and less desirable sections—(2) the circular pond is practically self cleaning with the waste and debris gradually working toward the center and outlet of the pond. The carrying capacity is more than doubled and it is intended to construct more of this type as revenue is available.

Another pond proving very satisfactory is a semi-natural pond, first tried out at the Big Timber hatchery. In this type, it is endeavored to develop conditions as nearly natural as possible with artificial construction intended to add to the carrying capacity. A pond 75 feet wide and 150 feet long has proven the most satisfactory. A floor 12 feet wide is laid lengthwise through the center

of the pond with three side floors, equidistant, of the same width running from the center floor to the outer edges of the pond. The portions of the pond, not floored, produces a dense growth of aquatic vegetation, absolutely essential to the successful operation of a pond of this type.

The water generally used in this pond is deficient in oxygen, being used in the hatchery and smaller fry ponds before reaching the large pond, it also carries a certain amount of waste material which must be taken care of. These two conditions are remedied through the presence of aquatic vegetation which absorbs the carbon dioxide thrown off by decay of waste material and respiration of fish, and in turn throws off oxygen which is essential to fish and all aquatic animal life. Thus gases thrown off as a waste product by the plants are essential for the well being of the fish and the waste product thrown off by the respiration of the fish and other animals are taken up by the growing plants.

Fish reared in this type pond are far superior to the fish reared in ponds constituting entire artificial conditions, for the reason there is more natural food, natural conditions with more room provided for the range of the fish. Ponds of this type have been constructed at Big Timber, Lewistown, Emigrant, Anaconda, Hamilton and Libby.

A shortage of fish food is facing us at this time on account of the slaughter of the surplus cattle which became necessary on account of the extreme drought. Plans are under way to secure pasture land upon which range horses will be raised for fish food.

WHERE THE LOCH LEVEN RUN



Approximately 5,000,000 Loch Leven, and 5,000,000 Rainbow eggs are stripped from these traps each year. They are on the Madison River at Hebgen Lake.

Fish Planting

A very definite progress has been made the past two years in fish planting with considerable yet to be done. Experiments have shown that planting fish properly is equally as important as rearing fish. Efforts are being made to plant the different species when the natural food in the streams and lake is at its peak. For years the native cutthroats have been planted in the fall after every effort had been made to rear them to a suitable size before liberation. Discouraging results attended this method and it was demonstrated that, especially with the natives which are planted in the higher elevations, it was not the size of the fingerlings when planted, but the time of the year which was the big factor in their development. Now, all natives not being held over the winter months are liberated as soon as possible after "swimming up" and it will result in a decided improvement.

This is not intended as an argument against raising larger fish as all recognize the value of that in certain cases, but the cutthroats require planting when the natural food supply is abundant in the upper reaches of the streams. This may be borne out by the fact that in all waters where natives are found to be thriving—the new stock is introduced in the form of fry early in the season—Georgetown lake, Ashley lake, Swan river, Flathead lake and others.

Recently a new type tank unit for use in distributing fish was assembled at Apaconda. This consists of a tank 42 inches by 48 inches and 26 inches deep with a water pump, powered by a separate gasoline engine, which takes water from the bottom of the tank and returns it through several jets at the top, thus providing sufficient aeration to carry fish any distance. This will result in a reduced cost of distribution as it is possible to carry the equivalent of 60 10-gallon cans, formerly used, and with a light pick-up truck instead of the heavier trucks now in use at most hatcheries. This is a big improvement over the oxygen system of aeration and it is expected to outfit each hatchery with one of these units as the revenue will permit.

Stream Improvement

Much has been written and told of the value of stream improvement. There is no question that there is certain merit to this work. It is a very broad field of activity and one which will require careful study before undertaking on a large scale. In order to obtain some accurate information as to the value of this work, the U. S. Forest Service undertook an extensive program in the Sand Basin on the West Fork of Rock creek near Philipsburg during 1934. Here were installed log dams, deflectors and covers which are designed to improve the conditions in the stream through providing cover for the fish, deflecting waters to create pools, removing silt and debris from gravel bars to improve conditions for natural propagation, and to impound waters to create and maintain more desirable water temperatures. A careful check was made of the number of fish, the abundance and kinds of natural trout food present and other factors relating to the experiment. At the end of a four-year period another check will be made which should establish the value of such work. Before a stream improvement program is undertaken it would be well to classify the streams of the state.

At present, fish are being planted in many streams where conditions for one reason or another, are decidedly unfavorable for their development. It should be determined whether a particular stream is of more value for agriculture, for

industry, or for recreation. If agreed that its value for industry and for agriculture outweighs the value for recreation, it should be set aside for that purpose and no fish planted in that particular stream. In classifying these streams there will be many border-line cases where, at the cost of installing fish screens, overcoming pollution problems, etc., the stream could be made to serve all interests. This is the class of streams which should receive first consideration in stream improvement work and the cost of the improvement work should not be borne entirely by the sportsmen, but by all interests using the stream.

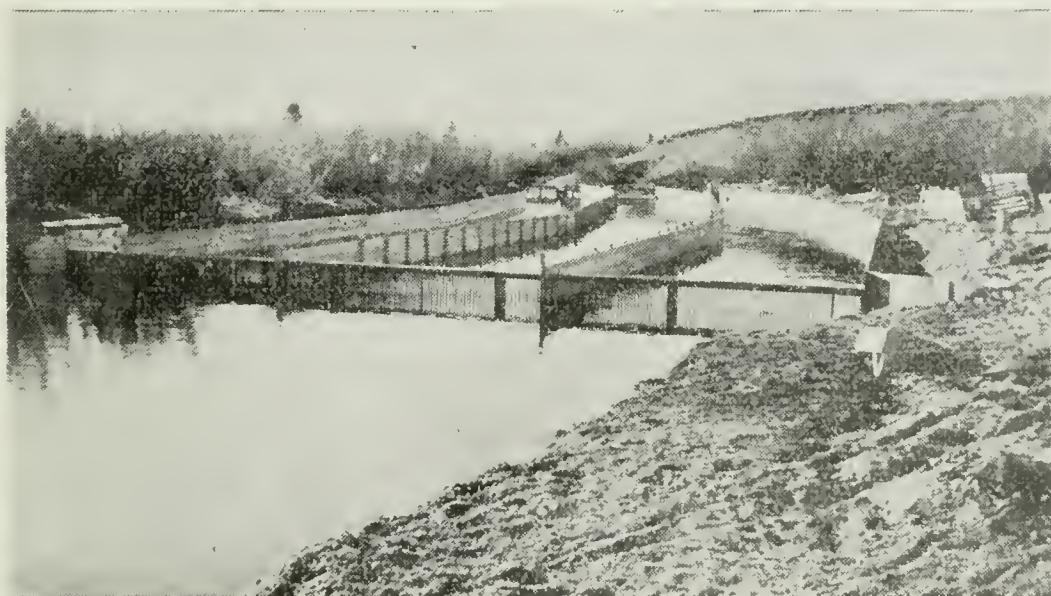
Fish Screens

This time worn subject is about as far from being solved as it ever was. It is too large an undertaking for the fish and game commission to assume alone with the present revenue and is a most discouraging obstacle in keeping the streams stocked. With the general public coming to appreciate the value of fishing to the state some beneficial action will be taken toward correcting this condition.

Flathead Lake Salmon

One matter worthy of consideration in this report is that of the land-locked Sockeye salmon in Flathead lake. For several years they have been showing a material increase, with the fall of 1934 seeing literally thousands of them spawning along the east and west shores of the lake, many running up the Swan and Flathead rivers. Several years ago they were not held in high esteem by the anglers, in fact, many recommended they be taken from the lake, but as anglers have more opportunity to observe these fish they are beginning to appreciate

NEW DUCK CREEK TRAPS



These up-to-date traps at Hebgen are among the best in the west.

their value. Many of the Salmon were taken trolling during September and October and provided much sport as well as food. Later as they came to the spawning beds, permission was given to the Montana Relief Commission to seine these fish for canning and distribution to the needy. A total of 21,000 cans were packed. This is a matter of importance to the sportsmen and the department and some measures should be taken to properly handle this new development.

Bass Rescue Work

This work has been continued the past two years with improvements made in the rescue, handling and distribution of these fish. With indications that there was need of restocking some of the sloughs adjacent to where rescue work is done the majority of fish rescued were planted back in waters of Flathead county which have been classified for several years as bass waters. The Clear-water lakes were stocked again the past two years from this rescue work, but no new waters stocked with this species.

Public Works Administration

With the creation of the Public Works Administration and their giving attention to irrigation and water conservation, a letter was directed to Secretary Ickes asking that they give consideration to fish life and incorporate in the regulations the following:

1. Fish screens to be installed at outlet of all reservoirs.
2. That a minimum low water level be established which would provide enough depth to sustain fish life.
3. That where fish are found in feeder canals, sufficient flow be maintained to sustain fish life.
4. That the use of water from natural lakes be restricted to the amount stored by construction of a dam above the lake level and to prohibit lowering the level of any natural lake.

The department was assured that the merits of this request were recognized and would be given every consideration.

Recommendations

For the benefit of game fishing in this state it is recommended that—

1. Some thought be given the fish screen installation in irrigation ditches where it has been proven conclusively losses of fish occur. This matter is of prime importance and with the recovery program now under way the time seems opportune for some action. Installation of screens, besides overcoming one of our greatest obstacles would provide much labor for foundries, machinists, carpenters, concrete workers and laborers. It is thought that, provided this matter would be given favorable consideration in the legislature, screens could be installed with the irrigation company issuing bonds to be paid over a period of 20 years. The money is to be secured from the Public Works Administration for the construction work.

2. It is recommended that some legislation be passed making it unlawful for anyone to plant or transplant fish of any species into any waters of Montana. At the present time there is no law covering this and much damage has already been done by enthusiastic but misguided sportsmen who are desirous of building up a certain species, favorable to themselves but which in many cases prove disastrous to more desirable species and results in complete ruination of excellent fishing waters. There are several outstanding cases where this may

be observed such as Lake Ronan and several lakes in the Kalispell-Libby section, which were formerly well stocked with trout and have been lost through introduction of exotic species such as sun fish, crappies or bass. There are certain waters where it is to the advantage of the sportsmen and the department to plant these exotic species but there must be some control over this work if an intelligent program is to be carried out.

3. It is recommended that legislation be passed which would vest in a board, preferably the Water Conservation Board, or the State Engineer, the power and authority to exercise control over the use of water in this state. It would seem that with the severe drought we have experienced, bringing to the attention of all the importance and necessity of utilizing waters to the best possible advantage, the time is ripe to present such a program for consideration of the legislature. At present the hundreds of streams, dry miles before the point of confluence with larger streams bears mute evidence to our inability to administer certain of our most valuable resources. With water the life and blood of every community and state there certainly should be some supervision over its conservation and utilization.

Work of the fisheries division the past two years has been marked by splendid cooperation of different agencies interested in the fisheries program. To these agencies we extend our sincere thanks and appreciation. Prominent among them may be mentioned the state and county C. W. A. and Montana Relief Commission officials who have shown every consideration for the development and improvement of fisheries work, the Montana Power Company for the cooperation in the operation of the Great Falls hatchery, the Anaconda Copper Mining Company who owns the land upon which is located our most valuable spawning stations at Georgetown lake, the U. S. Forest Service for its splendid work in construction of rearing ponds at the head of the Little Blackfoot in Powell county and in the Benchmark territory in Lewis and Clark county. Of outstanding importance is the work undertaken by the forest service in the stream improvement work near Philipsburg. This work was done under the direction of Dr. Tarzwell of Michigan, credited with doing the pioneer work of this nature and whose services were obtained by the forestry department in order that the work be properly administered. W. M. Rush, Game expert with the forestry department contributed a great deal through his work on fish diseases and the U. S. Bureau of Fisheries extended their usual cooperation in the work during the year especially at Miles City where the bureau and state department operate the Pond Cultural station on a cooperative basis. Too much cannot be said of the splendid work done at the Butte Anglers Rearing pond, under the leadership of William Carpenter and Charles Healea. Vast improvements were made this year through the construction of a hatchery, construction of fry ponds and improvements to and remodeling the old ponds. This plant will contribute much to the Big Hole river and adjacent waters. The Great Falls Wild Life association and city of Great Falls are entitled great credit for the construction of a display pen for game birds. This pen was constructed at the Great Falls hatchery and adds much to the appearance of the grounds. The Great Falls park board contributed a great deal through the landscaping work at Giant Springs, under the direction of Thomas Lease. The Dude Ranchers association and various rod and gun clubs rendered very valuable assistance in the distribution work and other support during the past two years.

Hatchery Report—Anaconda and Georgetown—

With the help of the C. W. A. and F. E. R. A., a log building was constructed at Flint creek to be used as a bunk house for the crew during the spawning season, a log building 24 by 42 was constructed for use as garage, ice house and store room, lights were installed, a fence was constructed around the property and grounds improved.

Two concrete circular ponds were constructed at Anaconda—the large pond divided into three smaller ponds and one additional earth pond constructed at the lower end of property. Major improvement was made to water supply through lowering the supply pipe at the spring, covering the cold water spring and remodeling the supply pipe intake from warm water spring. A concrete floor was laid in the garage and the grounds improved. This project netted, perhaps, the most to the department because of the character of work and the value of the improvements to the Georgetown and Anaconda stations.

Big Timber

The large pond started in 1932 was completed. A second pond identical to this was constructed, additions were built onto the hatchery providing room for an office and work shop. The grounds were landscaped—additional land purchased just west of the hatchery property—a concrete foundation constructed for a combination garage and store room, specimen pond rip-rapped and walks constructed around the same, a new road constructed from the east end of the property to the hatchery building—trees grubbed off the hillside, and shrubs and evergreens planted—repairs made to the living quarters. The valuation of this station was considerably increased through this work.

Daly Hatchery (Hamilton)

Two large rearing ponds and four fry ponds were constructed, improvements made to the water supply, living quarters enlarged and improved, an office and work shop built in the hatchery, a porch added to end of the building, new double door entrance installed and considerable painting done. The department also purchased this hatchery from the Daly estate from whom it had been leased the past ten years. Additional improvements are planned here.

Emigrant

This is a comparatively new station, having been moved from its original site across the Yellowstone river. Two large ponds were completed, the water supply improved, the hatchery building enlarged through connecting it with the store room—an office built onto the west end of the hatchery and the building formerly used as combination garage and living quarters is being remodeled for full living quarters. The grounds were landscaped, road to U. S. highway graded, fence constructed around property and concrete retaining walls and concrete steps adjacent to rectangular concrete ponds were constructed. A heavy program of expansion is planned here as revenue is made available.

Great Falls

One concrete circular pond was constructed with grounds prepared and drain pipes laid for two more of similar size and construction. A stone fence built across front of property to prevent sand blowing on the lawn—game bird display pens were constructed by interested agencies, grounds landscaped. There is urgent need for further improvement at this hatchery and it is planned to complete the two concrete ponds next spring and undertake the other work as money is made available.

Lewistown

The major improvement work here consisted of the construction of a two-car garage—and two large rearing ponds, these ponds of the semi-natural type are without question the best in the state, built of mason rock they are of substantial construction and designed to add to the efficiency and appearance of the pond. Considerable improvement work has been done on the grounds—excavation for dwelling which it is planned to move and remodel. As at the other hatcheries much remains to be done here as revenue is available. Much credit is due sportsmen and relief officials for the assistance furnished in the improvement work and pond construction.

Libby

This, too, is a comparatively new station with considerable improvement work having been done the past two years consisting of the construction of four large ponds (not yet complete), improvement to water supply system, construction of water tempering pond, landscaping the grounds. There is great need for a combination garage and food room and a dwelling for use of the assistant. Very satisfactory headway has been made at this station and it is planned to complete the work when possible.

Miles City

Through the C. W. A. and F. E. R. A. projects many major improvements were made at this station, which will materially improve the quality and quantity of the output of warm water fish. Space will not permit enumerating the improvements made but in the main they were confined to improving conditions in the brood ponds, building improvements, etc.

Ovando

No improvement work was undertaken at this station due to the possibility of moving it to a more desirable location. Surveys have been made incidental to this plan and as soon as all facts are known a definite program will be outlined.

Philipsburg

No improvement work was undertaken at this hatchery on account of the heavy program at Anaconda and Georgetown. The stream improvement work by the forest service is in the Philipsburg area and it is planned to construct rearing ponds at the headwater of Ross's fork next season to receive part of the cut-throat fry distributed from the Philipsburg hatchery.

Polson

Considerable improvement work is planned for this fall such as repairing the supply pipe line, painting and improving all buildings. This hatchery is operated only during the summer months, but contributes a great deal to the fishing in the Flathead waters.

Red Lodge

With the completion of the new Red Lodge tourist camp adjacent to the hatchery and the construction of the new Red Lodge-Cooke City highway which is located but 50 feet from the hatchery—it is planned to dismantle the old building and rebuild, with the assistance of an F. E. R. A. project, with log construction to match those in the tourist park. This hatchery stands to be a

valuable unit now with the highway opening, to the tourist and resident, the vast number of virgin waters to be found on the divide between Red Lodge and Cooke City.

Salish

Outside of work undertaken by the C. W. A. project at this station, nothing has been done. Considerable "foundation" work such as installing a reservoir and drain ditch and leveling the grounds was completed. This is the hatchery site located midway between Arlee and Ravalli where it is hoped the revenue will permit construction of a hatchery station to replace the old Missoula hatchery, abandoned on account of insufficient water.

Somers

With department funds and C. W. A. projects this station has been put on a much better footing. The water supply, the controlling factor in the operation of this hatchery, has been much improved through installation of drain pipes to tap adjacent small springs, piping, what had before been open ditches. Two concrete circular rearing ponds have been constructed and put in operation for the 1934 season. A large substantially built shed was constructed at the lower end of the property to be used to house fire wood, machinery, trucks and other equipment. A driveway was graded around the hatchery grounds with the grounds in general cleaned up and made more presentable.

Havre

The experimental feeding station which was put in operation on Beaver creek near Havre in 1932 has proven satisfactory. With the assistance of a C. W. A. project and the Havre Rod and Gun club two log buildings were erected—one for use as a dwelling, and one for a garage and storeroom. Three additional ponds constructed, property fenced and grounds beautifully landscaped.

Wolf Creek

The Missouri river between Cascade and Holter Dam is being stocked largely from the Wolf Creek feeding station which was constructed by funds furnished by the Lewis and Clark Rod and Gun club, and the Great Falls Wild Life association. C. B. Power of Helena upon whose land the station was constructed has extended every cooperation to this venture. The low water of the past two years has offered some drawback to the operation of this station, but with the return of normal water flow it is expected that excellent results will be obtained.

ACQUIRE REFUGES

In an effort to provide an adequate system of refuges for waterfowl on both the nesting areas and the flyways, the U. S. Bureau of Biological Survey is pushing plans as rapidly as possible to acquire a dozen or more such areas before the spring flight in March.

While the Survey is acquiring large tracts, its officials and the American Game Association urge that sportsmen and other nature lovers acquire small water areas and set them aside as refuges. Naturalists point out that ducks will even frequent a horse lot pond where there is food for waterfowl.

Distribution of Fish by Hatcheries—July 1st, 1932—June 30th, 1933

	Black Spotted	Rainbow	Grayling	Eastern Brook	Silver Salmon	Loch Leven	Walleyed Pike	Bass	Sunfish	Crappies	Catfish	Perch	Not Sorted	Total
Anaconda	2,146,770	341,668	4,861,828	262,010	128,330	821,000	300,000	.....	.....	.....	.....	.....	.....	8,861,606
Big Timber	1,805,000	748,425	.....	364,000	46,600	1,123,200	.....	.....	.....	.....	.....	.....	.....	4,087,225
Daly (Hamilton)	3,377,800	304,500	.....	197,000	100,000	.....	.....	.....	.....	.....	.....	.....	.....	3,979,300
Emigrant	1,388,200	.....	.....	70,000	46,600	450,000	.....	.....	.....	.....	.....	.....	.....	1,954,800
Great Falls	1,117,200	246,000	.....	342,800	93,000	.....	.....	.....	.....	.....	.....	.....	.....	1,799,000
Lewis town	621,746	789,011	.....	34,500	12,500	.....	.....	.....	.....	.....	.....	.....	.....	1,457,757
Libby	1,164,925	417,300	.....	329,000	147,675	.....	.....	.....	.....	.....	.....	.....	.....	2,058,900
Miles City	.....	.....	.....	.....	.....	.....	.....	9,135	67,125	88,305	5,075	5,610	3,750	175,000
Ovando	935,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	935,200
Philipsburg (Rock Cr.)	960,360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	960,360
Polson (Station Cr.)	707,515	293,696	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,001,211
Red Lodge	940,120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	940,120
Somers	1,447,000	282,080	1,700,000	.....	246,346	.....	.....	188,800	1,500	.....	.....	.....	.....	3,865,726
Lake Francis	.....	24,342	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,342
Havre	.....	77,590	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	77,590
Ashley Lake	724,520	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	724,520
Cooperative:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bureau of Fisheries	1,345,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,345,600
Butte Anglers	401,000	442,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	843,700
Total	19,082,956	3,967,312	6,561,828	1,599,310	821,051	2,394,200	300,000	197,935	68,625	88,305	5,075	5,610	3,750	35,095,957

Transfers:

Daly to Ovando (June '33)	120,000
Somers to Havre (June '33)	100,000

Distribution of Fish by Hatcheries—July 1st, 1933—June 30th, 1934

	Black Spotted	Rainbow	Grayling	Eastern Brook	Silver Salmon	Loch Leven	Walleyed Pike	Steelhead	Bass	Sun-fish	Crappies	Catfish	Perch	Shiners	Total
Anaconda	729,752	808,081	2,078,140	157,350	.....	1,077,266	1,700,000	.....	.....	.....	.....	.....	.....	.....	6,550,589
Big Timber	370,930	917,380	.....	198,540	.....	1,763,300	.....	.....	.....	.....	.....	.....	.....	.....	3,250,150
Daly (Hamilton)	158,000	1,300,000	.....	177,750	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,635,750
Emigrant	470,560	104,600	.....	305,198	.....	590,780	.....	230,500	.....	.....	.....	.....	.....	.....	1,701,638
Great Falls	605,387	426,788	.....	214,828	.....	.....	.....	191,690	.....	.....	.....	.....	.....	.....	1,438,693
Lewistown	70,000	447,300	.....	50,645	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	580,445
Libby	427,300	366,320	.....	373,000	.....	.....	.....	.....	27,386	89,585	26,776	9,676	105,836	28,239	1,271,370
Miles City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	287,498
Ovando	.....	117,178	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	117,178
Polson (Station Cr.)	337,060	420,550	.....	.....	.....	.....	.....	.....	.....	.....	.....	20,160	.....	.....	777,770
Red Lodge	294,050	.....	.....	402,745	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	696,795
Somers	175,132	240,332	1,110,000	204,980	24,284	.....	.....	.....	56,583	3,700	.....	.....	.....	.....	1,815,011
Hayre	.....	94,780	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	94,780
Wolf Creek	.....	.....	.....	.....	.....	196,000	.....	144,614	.....	.....	.....	.....	.....	.....	340,614
Cooperative:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butte Anglers	.....	152,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	152,700
State of Wyoming	3,538,171	5,396,009	3,188,140	2,085,036	141,534	3,727,346	1,700,000	566,804	83,969	93,285	26,776	29,836	105,836	28,239	20,810,981

Transfers:

Anaconda to Butte Anglers	152,700
Anaconda to Wolf Creek	.....
Big Timber to Red Lodge	170,000
Emigrant to Red Lodge	305,000
Red Lodge to State of Wyo.	100,000
.....	100,636

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

July 1, 1932 to June 30, 1933

	Natives	Rainbow	Grayling	Loch Leven	E. Brook	Total
Georgetown Lake	13,819,120	308,440	3,423,440	.....	199,282	17,750,262
Lake Francis .....	.....	700,896	.....	.....	.....	700,896
Lake Ronan .....	.....	983,226	.....	.....	.....	983,226
Conley's Lake .....	.....	.....	.....	.....	400,554	400,554
Rodgers Lake .....	.....	.....	8,038,928	.....	.....	8,038,928
Cooperative:						
Bureau of Fisheries .....	.....	.....	.....	2,273,640	.....	2,273,640
Alvord & Kilbrennan .....	.....	.....	.....	.....	835,000	835,000
	<u>13,819,120</u>	<u>1,992,562</u>	<u>11,462,348</u>	<u>2,273,640</u>	<u>1,434,836</u>	<u>30,982,506</u>

July 1, 1933 to June 30, 1934

	Natives	Rainbow	Grayling	Loch Leven	E. Brook	Total
Georgetown Lake	17,398,920	.....	1,337,760	.....	167,139	18,903,819
Lake Francis .....	.....	414,460	.....	.....	.....	414,460
Lake Ronan .....	.....	585,968	.....	.....	.....	585,968
Conley's Lake .....	.....	.....	.....	.....	459,410	459,410
Rodgers Lake .....	.....	.....	3,721,072	.....	.....	3,721,072
Big Hole .....	.....	.....	.....	.....	481,026	481,026
Bitterroot Lake	30,576	26,460	.....	.....	.....	57,036
Ashley Lake	940,800	.....	.....	.....	.....	940,800
Hebgen Lake .....	.....	5,346,684	.....	4,864,260	.....	10,210,944
Cooperative:						
Bureau of Fisheries .....	.....	.....	.....	2,015,910	.....	2,015,910
Alvord & Kilbrennan .....	.....	.....	.....	.....	673,992	673,992
	<u>18,370,296</u>	<u>6,373,572</u>	<u>5,058,832</u>	<u>6,880,170</u>	<u>1,781,567</u>	<u>38,464,437</u>

VIOLATIONS BY COUNTIES

	July 1, 1932 to June 30, 1933	July 1, 1933 to June 30, 1934
Beaverhead	29	18
Big Horn	15	22
Blaine	3	1
Broadwater	1	1
Carbon	13	1
Carter	---	---
Cascade	7	4
Chouteau	4	---
Custer	---	1
Daniels	---	---
Dawson	4	2
Deer Lodge	50	39
Fallon	3	---
Fergus	7	9
Flathead	30	9
Gallatin	22	15
Garfield	---	---
Glacier	2	---
Golden Valley	3	3
Granite	2	1
Hill	2	2
Jefferson	---	1
Judith Basin	4	3
Lake	36	30
Lewis and Clark	12	7
Liberty	---	---
Lincoln	38	5
Madison	22	17
McCone	---	---
Meagher	2	2
Mineral	18	6
Missoula	12	8
Musselshell	1	10
Park	11	6
Petroleum	2	---
Phillips	3	4
Pondera	4	1
Powder River	---	---
Powell	22	20
Prairie	1	1
Ravalli	11	6
Riehlant	---	21
Rosebud	1	2
Roosevelt	---	1
Sanders	30	10
Sheridan	1	10
Silver Bow	4	6
Stillwater	14	5
Sweet Grass	3	6
Teton	---	---
Toole	5	---
Treasure	---	---
Valley	---	2
Wheatland	1	4
Wibaux	---	---
Yellowstone	13	25
Total Law Violations	468	347

FISH AND GAME LAW VIOLATIONS

July 1, 1932 to July 1, 1933 to
June 30, 1933 June 30, 1934

Alien in possession of firearms without license.....	5	5
Appropriating wild goose eggs	1	---
Catching more than 5 fish under 7 inches in length	9	25
Destroying evidence of sex of deer	1	2
Fishing without a license	122	74
Fishing through the ice	---	2
Fishing in closed streams	30	18
Fishing during closed season	11	4
Fishing with more than one pole, line and hook and set line	4	3
Hunting without a license	34	25
Hunting on Game Preserve	20	4
Illegal possession of beaver hides	7	6
Hunting waterfowl with motor boat	---	3
Killing bear without a license	2	1
Killing a moose	1	1
Killing elk out of season	13	12
Killing deer out of season	47	29
Killing grouse, prairie chicken, etc., out of season	19	13
Killing doe deer	2	4
Killing more than one deer or elk	4	---
Killing antelope	2	2
Killing fawn	---	2
Killing Chinese pheasants out of season	8	12
Killing deer by use of spot light	---	---
Making false statement in application for license	8	6
Opening muskrat houses	---	1
Possession of seine without license	---	6
Salmon eggs fishing with same	8	4
Shipping furs from state without permit	2	2
Shooting ducks after sunset	10	18
Shooting ducks after season closes	14	9
Shooting from public highway	13	7
Shooting a swan	1	2
Shooting song birds	1	1
Trapping fur-bearing animals out of season	8	9
Trapping fur-bearing animals without a license	15	13
Trapping beaver without a permit	6	6
Trapping on game preserve without a license	2	---
Killing Chinese pheasant hens	5	7
Selling game animal, birds or fish	3	1
Guiding without a license	3	---
Failing to tag big game	17	1
Killing mountain goat out of season	2	---
Operating without fur dealer's license	1	5
Failure to keep record of fur sales	---	1
Catching over the limit of game fish	7	1
TOTAL LAW VIOLATIONS.....	468	347

Distribution of Birds from State Game Farm—1933

COUNTY	Chinese Pheasants	Hungarian Partridges	Others
Beaverhead	183		
Big Horn	200	9	
Blaine	200		
Broadwater	200		
Carbon	200		
Carter	100		
Cascade	299		
Chouteau	200		
Custer	220		
Daniels	200	*24	
Dawson	200		**6 ***8
Deer Lodge	250	35	
Fallon	150		
Fergus	200		
Flathead	200		
Gallatin	200		
Golden Valley	200		
Granite	212		
Hill	200		
Jefferson	150		
Judith Basin	200		
Lake	200		
Lewis and Clark	250		
Liberty	100		
Madison	250		
Meagher	150	****2	
Missoula	250		
Musselshell	200		
Park	200		
Petroleum	200		
Phillips	200		
Pondera	250		
Powder River	100		
Powell	225		
Prairie	200		
Ravalli	214		
Richland	200		*18
Roosevelt	200		
Rosebud	200		
Sanders	200		
Sheridan	200		
Silver Bow	225		
Stillwater	192	8	*30
Sweet Grass	192		
Teton	200		*12
Toole	200		
Treasure	200		
Valley	200		
Wheatland	200		
Wibaux	200		
Yellowstone	200		*30

Chinese Pheasants, 10,162.

Hungarian Partridges, 52.

California Quail, 114.

Melinistic Mutants, 2.

Silver Pheasants, 6.

Chukars, 8.

*Quail.

**Silvers.

***Chukars.

****Melinistic Mutants.

Liberation of Pheasants for 1934

COUNTY			
Beaverhead	200	Meagher	225
Broadwater	200	McCone	100
Blaine	200	Powder River	100
Cascade	300	Phillips	200
Custer	200	Powell	270
Carter	100	Petroleum	200
Chouteau	200	Park	300
Deer Lodge	275	Prairie	100
Dawson	300	Pondera	200
Daniels	150	Roosevelt	200
Flathead	250	Richland	200
Fergus	300	Ravalli	200
Fallon	100	Silver Bow	200
Gallatin	300	Sheridan	200
Golden Valley	200	Sanders	200
Granite	200	Sweet Grass	300
Glacier	100	Teton	200
Hill	200	Toole	150
Jefferson	200	Valley	200
Judith Basin	200	Wibaux	200
Lake	200	Wheatland	300
Lewis and Clark	200		
Liberty	150		9,970
Missoula	300	Quail	
Madison	300	Missoula	80
Musselshell	200	Flathead	28
Mineral	200	Cascade	8
			116

LICENSE SALES BY COUNTIES FROM JULY 1, 1932 TO JUNE 30, 1933

	Resident Bird and Fish	Resident Big Game	Resident Sportsman	Non- Resident Fish	Non- Resident Bird	Non- Resident Big Game	Alien Fish
Beaverhead	1,467	577	11	94	.....	1	3
Big Horn	646	62	6	20	.....	.....	.....
Blaine	280	38	1	.....	.....	.....	.....
Broadwater	474	380	.....	.....	.....	.....	.....
Carbon	1,830	210	.....	37	.....	.....	11
Carter	9	.....	.....	.....	.....	.....	.....
Cascade	5,700	2,166	13	27	.....	9	10
Chouteau	478	177	2	.....	.....	.....	.....
Custer	157	.....	1	.....	.....	.....	.....
Daniels	111	.....	.....	.....	.....	.....	.....
Dawson	551	20	.....	.....	.....	.....	.....
Deer Lodge	1,775	842	7	6	.....	.....	5
Fallon	73	1	.....	.....	.....	.....	.....
Fergus	1,512	549	3	17	.....	.....	.....
Flathead	4,284	3,345	14	100	1	1	10
Gallatin	3,128	1,319	20	501	8	4	12
Garfield	3	.....	.....	.....	.....	.....	.....
Glacier	518	175	5	31	.....	.....	1
Golden Valley	72	30	.....	.....	.....	.....	.....
Granite	444	379	3	7	.....	.....	.....
Hill	1,005	114	5	5	.....	.....	.....
Jefferson	632	367	4	5	.....	.....	.....
Judith Basin	598	377	.....	12	.....	.....	.....
Lake	2,151	1,030	6	122	2	.....	.....
Lewis and Clark	4,593	2,627	26	87	4	8	*16
Liberty	104	11	.....	.....	.....	.....	.....
Lincoln	1,528	1,477	12	102	.....	5	.....
Madison	1,454	719	4	207	1	.....	.....
McCone	33	12	.....	.....	.....	.....	.....
Meagher	452	335	1	3	.....	.....	.....
Mineral	613	444	1	42	.....	.....	.....
Missoula	3,910	2,298	25	98	2	8	3
Musselshell	504	100	.....	6	.....	.....	.....
Park	1,714	596	21	29	.....	1	11
Petroleum	62	9	.....	.....	.....	.....	.....
Phillips	356	9	2	.....	.....	.....	.....
Pondera	719	256	.....	3	.....	.....	.....
Powder River	6	.....	.....	.....	.....	.....	.....
Powell	1,001	677	1	29	.....	.....	1
Prairie	83	.....	4	.....	.....	.....	.....
Ravalli	1,924	1,189	3	53	.....	.....	.....
Richland	162	.....	4	.....	.....	.....	.....
Roosevelt	426	13	.....	.....	.....	.....	.....
Rosebud	179	12	.....	.....	.....	.....	.....
Sanders	1,191	866	2	75	1	6	3
Sheridan	403	6	4	.....	5	.....	.....
Silver Bow	4,673	1,375	28	26	1	.....	20
Stillwater	805	381	7	35	.....	.....	.....
Sweet Grass	517	253	12	50	.....	.....	.....
Teton	753	272	.....	7	.....	1	.....
Toole	696	168	4	4	.....	.....	.....
Treasure	49	7	.....	.....	.....	.....	.....
Valley	332	10	.....	.....	.....	.....	.....
Wheatland	274	92	4	2	.....	.....	.....
Wibaux	45	.....	.....	2	.....	.....	.....
Yellowstone	3,502	293	5	70	1	5	3
Idaho	19	10	.....	615	1	.....	.....
Washington .....	.....	.....	.....	111	.....	.....	.....
	60,980	26,675	271	2,640	27	49	109

*Includes one Alien Bird License.

LICENSE SALES BY COUNTIES FROM JULY 1, 1933 TO JUNE 30, 1934

	Resident Bird and Fish	Resident Big Game	Resident Sportsman	Non- Resident Fish	Non- Resident Bird	Non- Resident Big Game	Alien Fish
Beaverhead	1,090	618	2	89	.....	.....	4
Big Horn	928	143	2	10	.....	.....	.....
Blaine	397	37	.....	.....	.....	.....	.....
Broadwater	410	284	.....	.....	.....	.....	.....
Carbon	1,354	399	2	41	.....	.....	8
Carter	13	.....	.....	.....	.....	.....	.....
Cascade	4,564	1,657	3	35	1	3	5
Chouteau	623	160	1	.....	.....	.....	.....
Custer	382	28	.....	3	.....	.....	.....
Daniels	244	20	.....	.....	.....	.....	.....
Dawson	604	200	.....	.....	.....	.....	.....
Deer Lodge	1,714	793	3	12	.....	.....	.....
Fallon	68	7	.....	.....	.....	.....	.....
Fergus	1,799	966	2	14	.....	.....	.....
Flathead	3,992	2,469	3	86	.....	5	9
Gallatin	2,998	1,377	18	392	3	5	10
Garfield	5	1	.....	.....	.....	.....	.....
Glacier	473	113	1	28	.....	.....	.....
Golden Valley	82	47	.....	.....	.....	.....	.....
Granite	535	300	2	3	.....	.....	1
Hill	1,254	124	.....	7	.....	.....	.....
Jefferson	488	363	.....	10	.....	.....	.....
Judith Basin	479	416	.....	4	.....	.....	.....
Lake	2,291	649	1	79	4	.....	.....
Lewis and Clark	4,145	2,131	15	89	4	6	*14
Liberty	77	3	.....	.....	.....	.....	.....
Lincoln	1,439	953	4	67	.....	4	.....
Madison	1,349	632	2	189	6	2	.....
McCone	30	.....	.....	.....	.....	.....	.....
Meagher	426	302	.....	8	.....	.....	.....
Mineral	601	348	1	33	.....	1	.....
Missoula	3,491	1,822	6	82	2	5	5
Musselshell	572	135	.....	2	.....	.....	.....
Park	1,475	916	5	36	2	1	4
Petroleum	56	20	.....	.....	.....	.....	.....
Phillips	280	14	3	.....	.....	.....	.....
Pondera	667	194	.....	4	.....	.....	.....
Powder River	7	.....	.....	.....	.....	.....	.....
Powell	1,111	599	.....	20	.....	3	2
Prairie	75	13	.....	.....	.....	.....	.....
Ravalli	1,964	1,174	.....	42	.....	.....	.....
Richland	490	346	.....	.....	.....	4	.....
Roosevelt	481	180	.....	.....	.....	.....	.....
Rosebud	237	4	.....	.....	.....	.....	.....
Sanders	1,713	602	.....	55	.....	7	3
Sheridan	567	159	2	.....	19	.....	.....
Silver Bow	4,235	1,892	5	44	5	1	14
Stillwater	942	312	1	38	.....	.....	.....
Sweet Grass	771	273	.....	39	.....	.....	.....
Teton	494	257	.....	6	.....	.....	.....
Toole	559	99	.....	3	.....	.....	.....
Treasure	88	6	.....	.....	.....	.....	.....
Valley	392	16	.....	.....	.....	.....	.....
Wheatland	566	347	.....	2	.....	.....	.....
Wibaux	124	67	.....	12	.....	.....	.....
Yellowstone	3,690	470	1	45	4	.....	8
Idaho	7	.....	.....	677	2	.....	.....
Washington .....	.....	.....	.....	97	2	1	.....
	59,908	25,457	85	2,403	54	48	87

*Includes 2 Alien Bird Licenses.

Receipts for the Year of July 1, 1932 to June 30, 1933

HUNTING AND FISHING LICENSES

Resident Bird and Fish	60,980	@ \$ 2.00	\$121,960.00
Resident Big Game	26,675	1.00	26,675.00
Resident Sportsman	271	5.00	1,355.00
Non-Resident Fishing	2,640	3.50	9,240.00
Non-Resident Bird	27	10.00	270.00
Non-Resident Big Game	49	30.00	1,470.00
Alien Fish	108	10.00	1,080.00
Alien Bird	1	30.00	30.00

TOTAL			\$162,080.00
Less fees allowed dealers			\$ 8,884.00

\$153,196.00

LICENSES OTHER THAN ABOVE

Trappers' Licenses	324	\$10.00	\$ 3,240.00
Trappers'—Land Owners	2	1.00	2.00
Guides' Licenses	51	10.00	510.00
Taxidermists' Licenses	6	15.00	90.00
Seining	6	5.00	30.00
Resident Fur Dealers	81	1.00	81.00
Resident Fur Dealers' Agent	4	10.00	40.00
Non-Resident Fur Dealers	4	25.00	100.00
Fur and Game Farm	61	5.00	305.00

\$ 4,398.00

PERMITS AND TAGS

Shipping permits	2,046	.50	\$ 1,023.00
Beaver Permits	282	10.00	2,820.00
Beaver Tags	3,035	.50	1,517.50

\$ 5,360.50

MISCELLANEOUS REVENUE

Fines			\$ 3,534.49
Cancelled Warrant			5.84
Confiscated Guns, Rods, etc.			623.80
Confiscated Fish and Meats			422.26
Game Farm—Sale of Brood Hens			416.53
Eale—Elk Studery			94.20
Fish Royalties			41.00
Sale of Shed—Missoula Hatchery			25.00
Sale of Fish Eggs			4,488.75
Refunds			63.37

\$ 9,715.24

\$172,669.74

Receipts for the Year of July 1, 1933 to June 30, 1934

HUNTING AND FISHING LICENSES

Resident Bird and Fish	59,908	@ \$ 2.00	\$119,816.00
Resident Big Game	25,457	1.00	25,457.00
Resident Sportsmen	85	5.00	425.00
Non-Resident Fishing	2,403	3.50	8,410.50
Non-Resident Bird	54	10.00	540.00
Non-Resident Big Game	48	30.00	1,440.00
Alien Bird	2	30.00	60.00
Alien Fish	85	10.00	850.00
			<u>\$156,998.50</u>
Less License Dealers' Fees			8,540.90
			<u>\$148,457.60</u>

LICENSES OTHER THAN ABOVE

Trappers' Licenses	477	\$10.00	\$ 4,770.00
Trappers'—Land Owners	395	1.00	395.00
Guides' Licenses	42	10.00	420.00
Taxidermists	8	15.00	120.00
Seining	3	3.00	15.00
Resident Fur Dealers	136	1.00	136.00
Resident Fur Dealers Agents	14	10.00	140.00
Non-Resident Fur Dealers	9	25.00	225.00
			<u>\$ 6,221.00</u>

PERMITS AND TAGS

Shipping Permits	1,824	.50	\$ 912.00
Beaver Permits	408	10.00	4,080.00
Beaver Tags	5,888	.50	2,944.00
Alien Gun Permit	1	25.00	25.00
			<u>\$ 7,961.00</u>

MISCELLANEOUS REVENUE

Fines			\$ 4,150.20
Confiscated—Sale of Guns, Rods, etc....			321.75
Confiscated—Meats and Fish			258.39
Game Farm—Sale of Brood Hens			477.62
Sale—Elk Study			1.95
Fish Royalties			103.00
Sale—Fish Eggs			4,977.51
Confiscated—Sale of Furs.....			979.30
Sale—Furs, State Trappers			558.50
Refunds			192.59
			<u>\$ 12,020.81</u>
			<u>\$174,660.41</u>

Operation of Fish and Game Fund

July 1, 1932 to June 30, 1933:

To balance in fund, July 1, 1932	\$ 14,715.04
Plus transfer from bounty fund	444.50
To receipts, July 1, 1932 to June 30, 1933..	172,669.74
	<u>\$187,829.28</u>
By disbursements, same period	171,530.60
	<u>\$ 16,298.68</u>
Less transfer to bounty fund	7,500.00
Balance in fund, June 30, 1933	\$ 8,798.68

July 1, 1933 to June 30, 1934:

To balance in fund, July 1, 1933	\$ 8,798.68
To receipts July 1, 1933 to June 30, 1934....	174,660.41
	<u>\$183,459.09</u>
By disbursements same period	163,005.94
	<u>\$ 20,453.15</u>
Less transfer to bounty fund	\$ 7,500.00
Balance in fund, June 30, 1934	\$ 12,953.15

Disbursements—Analyzed as to Source

General Administration

Operation

	July 1, 1932 June 30, 1933	July 1, 1933 June 30, 1934
Salary of Game Warden	\$ 3,100.00	\$ 2,408.33
Salary of Chief Deputy	2,452.50	1,976.77
Salary of Office Employees	6,068.99	6,075.00
Salary of Superintendent of Fisheries	3,020.00	3,000.00
Salary of Others	54.00	12.40
Postage	1,658.92	1,552.39
Stationery, Books and Blanks	1,646.73	674.97
Sundry Office Supplies and Expenses	270.64	355.96
Telephone and Telegraph	708.35	784.42
Freight, Express and Drayage	315.42	335.18
Rents	600.00	450.00
Auto Travel Expense	1,563.74	1,270.06
Other Travel Expense	987.85	1,363.23
Printing Licenses, etc.	1,559.14	1,048.88
Official Bonds	175.00	228.14
Legal Advertising	628.87	468.50
Industrial Accident Insurance		455.44
Legal Costs		668.26
Insurance on Autos	111.90	
General Expenses	1,284.92	316.34
Refunds of Licenses	63.00	9.55
Refund of Advances	80.00	103.00
Total Operation	\$ 26,349.97	\$ 23,556.82

Capital

Land and Land Improvements		\$ 155.75
Buildings and Attached Fixtures		32.40
Machinery and Appliances	\$ 500.00	1,590.00
Furniture and Fixtures		71.20
Scientific Apparatus	7.50	
Total Capital	\$ 507.50	\$ 1,849.35

Repairs and Replacements

Buildings and Attached Fixtures	\$ 13.90	\$ 40.20
Machinery and Appliances	1,268.62	20.22
Repairs to Autos		230.77
Furniture and Fixtures	7.74	
Total Repairs and Replacements	\$ 1,290.26	\$ 291.19
TOTAL ADMINISTRATION	\$ 28,147.73	\$ 25,697.36

COMMISSIONERS EXPENSES

Per Diem of Commissioners	\$ 1,150.00	\$ 830.00
Office Supplies and Expenses	22.30	
Travel	1,345.72	850.54
Official Bonds and Filing Fees	10.00	10.00
Total Commissioners Expenses	\$ 2,528.02	\$ 1,690.54

Deputies and Special Deputies

Salaries of Regular Deputies	\$ 28,438.35	\$ 27,155.50
Salaries of Special Deputies	8,508.25	12,631.03
Telephone and Telegraph	530.27	528.56
Travel	3,238.78	3,131.53
Official Bonds	160.00	210.00
Auto Expenses	13,973.55	15,012.82
Other Expenses	69.57	560.89
Total Deputies and Special Deputies Expenses	\$ 54,918.77	\$ 59,230.33

Disbursements—(Continued)

	July 1, 1932 June 30, 1933	July 1, 1933 June 30, 1934
Miscellaneous Activities		
Salaries of Hunters and Trappers	\$ 276.71	\$ 2,415.61
Installing Fish Wheels	79.45	
Bird and Deer Food	997.58	129.28
Bounties	1,825.00	425.00
Poison	77.44	83.95
Miscellaneous	803.36	8.71
Total Miscellaneous Activities	\$ 4,059.54	\$ 3,062.55
GAME FARM AT WARM SPRINGS		
Operation		
Salaries and Wages	\$ 5,475.25	\$ 6,138.15
Sundry Office Supplies	29.20	
Telephone and Telegraph	101.14	214.02
Freight, Express and Drayage	96.15	
Travel Expenses	98.18	211.39
Auto Expense	564.81	769.62
Heat, Light and Water	208.11	263.90
Bird Food	871.64	1,561.92
Hardware and Lumber	78.19	106.67
Insurance	87.21	
Distribution of Birds	607.75	895.62
Other Expenses	492.50	100.44
Total Operation	\$ 8,710.13	\$ 10,261.73
Capital		
Land and Land Improvements	\$ 130.00	
Buildings and Attached Fixtures	44.35	\$ 244.96
Machinery and Appliances	8.60	
Breeding Stock	395.78	
Furniture and Fixtures		31.20
Total Capital	\$ 578.73	\$ 276.16
Repairs and Replacements		
Buildings and Attached Fixtures	\$ 86.59	\$ 187.23
Breeding Stock	511.00	1,338.00
Machinery, Appliances and Autos	87.23	133.32
Total Repairs and Replacements	\$ 684.82	\$ 1,658.55
TOTAL GAME FARM	\$ 9,973.68	\$ 12,196.44

Fish Hatchery Disbursements

OPERATION	July 1, 1932 to June 30, 1933	July 1, 1933 to June 30, 1934
Salaries and Wages	\$ 35,263.01	\$ 31,290.14
Office Supplies and Expenses	2,403.20	1,862.36
Travel	1,027.74	464.53
Auto Expense	5,727.01	5,474.27
Heat, Light and Power; Water, Ice	1,669.89	1,296.79
Fish Food	10,751.11	10,372.40
Rents		226.80
Subsistence	258.82	556.57
Hardware and Sundries	771.05	597.98
Insurance	962.02	127.90
Hatchery Supplies		1,053.63
Distribution of Fish	1,304.01	1,558.48
General Expenses	134.41	21.36
	\$ 60,272.27	\$ 54,902.71
CAPITAL		
Land and Land Improvements	\$ 1,224.50	\$ 310.63
Buildings and Attached Fixtures	5,162.64	862.30
Machinery and Appliances	445.20	32.97
Hand Tools and Petty Equipment	33.15	
Furniture and Fixtures	38.75	2.00
Rearing Ponds	62.98	1,041.07
Fish Screens and Traps		330.48
	\$ 6,967.22	\$ 2,579.45
REPAIRS AND REPLACEMENTS		
Land and Land Improvements		\$ 5.00
Buildings and Attached Fixtures	\$ 1,908.14	742.01
Machinery and Appliances	2,614.59	248.64
Hand Tools and Petty Equipment	71.20	23.78
Furniture and Fixtures	21.80	171.57
Auto and Trucks		2,190.34
Rearing Ponds		11.63
Fish Screens and Traps	47.64	229.59
Boats and Motors		24.00
	\$ 4,663.37	\$ 3,646.56
TOTAL.....	\$ 71,902.86	\$ 61,128.72









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