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STATE DOCUMENTS

MONTANA

*America's Greatest
Playground*

Report of the
MONTANA GAME and FISH COMMISSION

For the Two Years Ending

NOVEMBER 30, 1920

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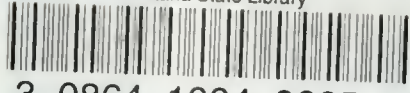
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Department State Game and Fish Warden

J. L. DeHart State Game and Fish Warden

J. H. Brunson, Superintendent of Hatcheries

Names of deputies, addresses and territory covered by each as follows:

Sallie MacNeill, Clerk.	Anna Dunne, Stenographer.
R. H. Hill, Chief Deputy..	Helena..... Lewis and Clark County and part of Powell covered from Office.
Al. Truscott	Miles City..... Custer, Fallon, Wibaux, Carter and Rosebud Counties.
Owen W. Olesen	Kalispell..... Flathead County.
A. L. Anderson.....	Thomp. Falls..... Portions of Mineral and Sanders Counties.
F. E. Pilling	Butte..... Silver Bow and Deer Lodge. Portions of Jefferson, Powell and Granite.
J. W. Carney.....	Dillon..... Beaverhead and portion of Madison.
Frank Gilbreath	Bozeman..... Gallatin and portions of Broadwater and Madison.
A. B. Rosman	Townsend..... Broadwater and portions of Gallatin, Jefferson and Meagher.
L. T. Hunter	Libby..... Lincoln County.
John T. Moore.....	Choteau..... Teton, Toole, Blackfoot Indian Res., portions Lewis and Clark, Chouteau.
E. C. Carruth.....	Havre..... Hill, Blaine and portion of Toole.
W. D. Delphy.....	Great Falls..... Cascade and Chouteau Counties.
T. A. Berkin.....	Roundup..... Musselshell, portion of Yellowstone and Fergus Counties.
P. W. Nelson.....	Livingston..... Park, Sweet Grass and portion of Stillwater.
A. T. Holmes.....	Billings..... Carbon, Big Horn and portion of Stillwater.
Charles Marrs	Jordan..... Dawson, Richland and portion Prairie.
Geo. F. Burke	Glasgow..... Phillips, Valley and Sheridan.
W. W. Kennedy, at large..	Missoula..... Missoula, Ravalli and portions Mineral, Granite, Powell.
D. M. Halford, at large..	Ennis..... Madison and portion of Gallatin.
J. A. Weaver, at large..	Lewistown..... Fergus and portion of Meagher.
Harry Morgan, at large..	Ovando..... Powell and portions of Granite, Missoula and Flathead.
Eli Melton	Somers..... Foreman Somers Fish Hatchery.
W. B. Gorham	Anaconda..... Foreman Anaconda Hatchery.
J. W. Schofield.....	Emigrant..... Foreman Livingston Hatchery.

Letter of Transmittal

January 12, 1921.

Hon. Joseph M. Dixon,
Governor of Montana,
Helena, Montana.

Sir:

In compliance with Section 1982, R. C. of Montana, and as amended by the Act approved March 15, 1917, your State Fish and Game Commission begs leave to submit its biennial report, embracing its transactions during the years 1919 and 1920.

At the regular session of the Legislature in 1919 there was appropriated \$20,000.00 from the fish and game fund for the purchase of a state fish car. The Fish and Game Commission instructed the Secretary to ask for prices on a modern car of the Pullman Car people of Pullman, Illinois; Hotchkiss Blue and Co. of Chicago, and the American Car and Foundry Company of St. Louis, Mo. The best figure obtainable was \$24,600.00, leaving a deficiency of \$4,600.00 between the amount appropriated by the Legislature and the amount necessary to make the purchase, hence the car was not obtained.

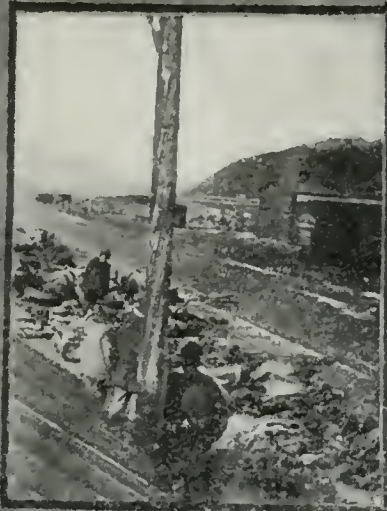
Under the present ruling we are making deliveries of fry by what is styled the baggage car system. We are permitted to carry 20 cans of fry free of cost, except the necessary mileage for the party in charge of the shipment.

We highly appreciate and we are much gratified with your attitude relative to fish and game laws, as expressed in your message. The proposed plan of placing the work of the department in the hands of a commission has been one of the plans advocated by the present commission for the past eight years, believing that prompt action in connection with the opening and closing of streams and lakes, also for the establishment and creation of spawning stations and declaring bird and game areas open and closed without having to await the meeting of a Legislature, is a step in the right direction.

Our financial status for the years 1919 and 1920 may be found in the report printed herein. Permit me, however, to suggest that the year 1920 is not quite complete, as the license year will not close until April 30, 1921.

Respectfully submitted,

J. L. KELLY, President Commission.
NELSON STORY, JR.,
THOMAS N. MARLOW,
M. D. BALDWIN,
J. L. DeHART, Secretary.



THE DAILY HILL-ELK PLATFORM
AT GARDNER, MONT. AWAITING SHIPMENT



MORE OF THE WHITE MAN'S
EFFICIENCY IN "JUST KILLING"



THEY PLACED THEIR CONFIDENCE
IN A MONTANA LEGISLATURE

The **BLACHEST PAGE**
IN MONTANA'S
FISH AND GAME
REPORT



"AMERICAN SPORTSMEN"
PROUD PARTISANS OF
A GOBY SLAUGHTER



THE MILLERS-NOT-THE HUNTERS REWARD

Preserving the Game in Yellowstone Park

By J. L. DeHART, State Game Warden.

I have had about as good an opportunity to get as correct a survey of wild life in and about Yellowstone Park during the past 25 years as any one now residing in the Rocky Mountain region.

Upon the most reliable information I can secure, a very small per cent of cow elk made their return trip from the Yellowstone wintering area to the summer range in the park. Therefore, the calf crop would be very short for 1920.

During the spring months of 1917 a survey was made of what is known as the Northern Yellowstone Park Elk Herd. The Yellowstone Park people, the Biological Survey, the Forestry, and the Montana Game Department all took part and the final tabulation gave approximately 17,000 head, as the grand total.

On or about October 1, 1919, the state of Wyoming published and circulated a pamphlet, quoting Yellowstone Park authorities as being responsible for the information, to the effect that the northern herd of elk had but 10,000 head.

During the "open season" of 1919 in Montana the early storms throughout their summer range district drove the elk from the park, and our department can show to the entire satisfaction of any one who has a desire to know the facts that there was the awful slaughter of 4,000 elk from this reported band of 10,000. We must not overlook the cruel treatment Montana's wild life has received at the hands of the state legislature, when the "open season" was extended 30 days, making 90 days' hunting season on elk, thereby extending the inhumane slaughter well into the early winter months.

We also know that the Yellowstone Park people fed this remnant of a once noble herd of elk, on the Gardiner river bottom, not far from the village of Gardiner, during the severe winter weather, and notwithstanding the many tons of hay fed them the loss runs from 700 to 1,000 head.

Regarding the statement relative to the elk starving to death in Montana, I desire to say that game wardens and forest rangers report finding less than 100 dead elk throughout the northern herd's territory, and this loss was caused where drifting herds sought winter shelter.

They also tell us that "The Yellowstone National Park and the Teton game preserve, immediately south of the park, contain about 25,000 elk." This information is misleading; for the Teton herd, under normal conditions, for several consecutive years past, has shown 25,000 or more elk, and this herd of elk is found on the southern slope of the high mountain divide, tributary to the Teton waters, and does not reach Montana's hunting ground.

Our northern herd of elk summers on the Yellowstone watershed and drifts north to Montana's hunting ground when the severe storms of early winter drive them down for food and shelter.

The time is ripe for the sportsmen of the state to ask the powers that be to consider Montana's interest when making arrangements for stocking the forests with domestic animals.

With these facts before you, may I ask, why give the public such unreliable information? Is it for the purpose of camouflaging the truth so that this damnable system of renting the elks' winter feeding ground to flock masters for a few paltry dollars? What's the profit, and what's the loss?



Gardiner, Montana, 1919. Elk Shed Their Horns in Winter Months

Montana's sportsmen have but a very short time in which to enter a vigorous protest against this system, and claim protection of a reasonable amount of winter grazing ground for the remnant of the northern herd of elk. I predict that unless prompt action is taken in this matter—protect the elk's winter grazing ground along the park border—that within five years the northern herd of elk will consist of several head confined within an enclosed pasture, somewhere in Yellowstone Park.

If a tract of territory, 10 by 20 miles, adjacent to Yellowstone Park, running from Dome Mountain east to Slough creek along the eastern border of Yellowstone Park, were set aside for their winter grazing, a home would be furnished for our northern elk herd, and thereby save many thousands of dollars to the government.

During the winter of 1919-20, when hundreds of tons of hay were being fed to this remnant of the elk herd, the sportsmen of Montana suggested that a few hundred head of elk be shipped to the Dixon buffalo preserve in Western Montana, later to be turned loose in the forests.

This preserve had hundreds of acres of splendid grass, and nothing to eat it, but no, the management preferred to do otherwise, and when spring came 700 to 1,000 dead animals were taken from their winter feeding grounds.

For wild life preservation in the Yellowstone National Park and vicinity, there must be radical changes at an early date, otherwise liberal appropriations of money will be asked for, for the purpose of restocking this natural and wonderful home of wild life.

Big game animals—moose, elk, deer and antelope; fur bearing animals, birds and fishes are being handled in and about the Yellowstone National Park without gloves. If wild life could talk, many heart-rending stories could be told.

During the tourist season of 1898-99 I was engaged in driving tourists through "this greatest of all American summer playgrounds," and during these summer months almost every stream was found to be abundantly stocked with native trout, as well as abundantly provided with beaver and all other fur bearing animals which might be seen daily.

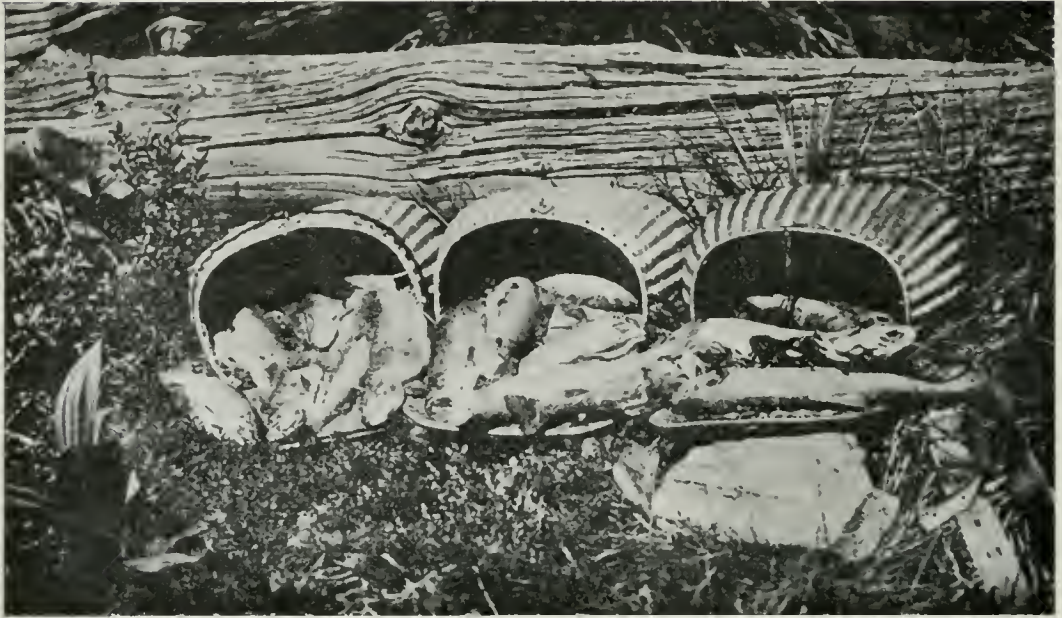


Trix Falls. Upper Cut Bank River, Glacier Park

But upon investigation at this date, we find the fishes gone, beaver destroyed, and in fact a few short seasons more will find old Yellowstone National Park a wilderness, so lonesome except during the tourist season that the sound of one's own voice will frighten you.

Nature's wonderland is being commercialized, and wild life is being driven from the forests. You no doubt have heard the old, old story, that it is easy to protect yourself against your enemies, but a difficult matter to protect yourself against your friends. So it is in wonderland; the poacher we read about is not the one to be found so prevalent about Yellowstone Park.

"A sad, sad story."



Caught on the Square. But Not Necessarily on the Hook

Fish and Wild Game Protection by Warden DeHart

Addresses Billings Commercial Club at Luncheon -- O. F. Goddard
Wins "Fish Story" Prize

Characterizing fish and wild game as among the most important of Montana's natural resources and strongly advising against their wanton destruction, J. L. DeHart, State Game Warden, addressed the Billings Commercial Club yesterday at a "fish" luncheon, at which H. C. Crippen presided. Other speakers included J. H. Brunson, Superintendent of Fish Hatcheries of Montana; C. B. Roedel of Sheridan, Wyo.; G. Wingard, Red Lodge Commercial Club, and Judge George W. Pierson.

A vaudevillian touch was added by the "fish story" contest, in which O. F. Goddard, R. H. Fuhrmeister and George W. Swords participated. Mr. Goddard carried off the honors and was presented with an expensive automatic reel, donated by the J. Collins West Sporting Goods Company.

C. B. Roedel talked on ways of preventing fish from getting into irrigation canals and ditches, and exhibited a screen of his own invention on which patent is pending.

J. H. Brunson spoke in favor of a closed season for trout, and denounced the practice of fishing for trout in frozen over lakes during the spawning season.

Judge Pierson gave an interesting account of the life and works of Isaak Walton.

In his address on fish and game in Montana, Game Warden DeHart said in part:

"In the minds of those who have to do with the forestry, the fish and game interests of this state; those that have given these subjects careful and thoughtful study, each of them in itself seems to occupy such a place in the make-up of the individual life of so many people and are jointly so interwoven with each other and the general pros-



Joe Smith the 2nd on the Madison
August, 1916



Char Fishing, Clarke's Fork of the
Columbia River

perity of our state, as to make even their prospective loss appear in the light of a calamity, a condition that if once established will be extremely hard, if not impossible, to overcome, and that will bring serious, very serious results in its train.

"How much better it would have been had the people of this state and of this nation endorsed the idea of game and wild bird preservation and of fish protection and propagation years ago, instead of at this time.

"It has been said that the benefit derived by a day afield with rod or gun by the tired or worn out indoor worker is something that can not be correctly expressed in words or figures. Physical exercise and forgetfulness of daily worry and business care bring their reward in return of health and there is no incentive in this direction.

"Our idea is to make an open park of all the wild lands of this state, a place in which our people of all classes can find pleasure and maintain their strength, where the well and strong can enjoy an outing that will keep them well and make them stronger; where those who are starting on the road to shattered nerves and inability to meet the demands they are called upon to face, can strengthen their hold on all those things that fit men to meet the requirements of their every day battle with the world.

"The presence of game and fish is a lure to strenuous outdoor exercise, that means better health to those who hunt or fish, and therefore better citizenship. To us, hunting, or the pursuit of game, does not appear simply in the light of recreation, or pleasure, nor does it appear as a waste of time, but instead is in every sense of the word a national necessity.



Columbia Chub. Taken in Yellow Bay, Flathead Lake

"The appropriation made to the use of the Game and Fish Commission from the game funds to replenish and return game and fish to our forests and streams, was something like \$40,000 for the last two years; this for the maintenance, upkeep and general expenses in connection with hatcheries, and the distribution of the fish throughout the state.

"We who are trying to do the work realize that without the help of the people, the utmost effort of the Game and Fish Commission, or of the Department of Game and Fish must be futile. I call the attention of those who do not hunt to the fact that under our law they are joint owners in the wild game and birds of this state, and we beg of them to help conserve these things before it is too late.

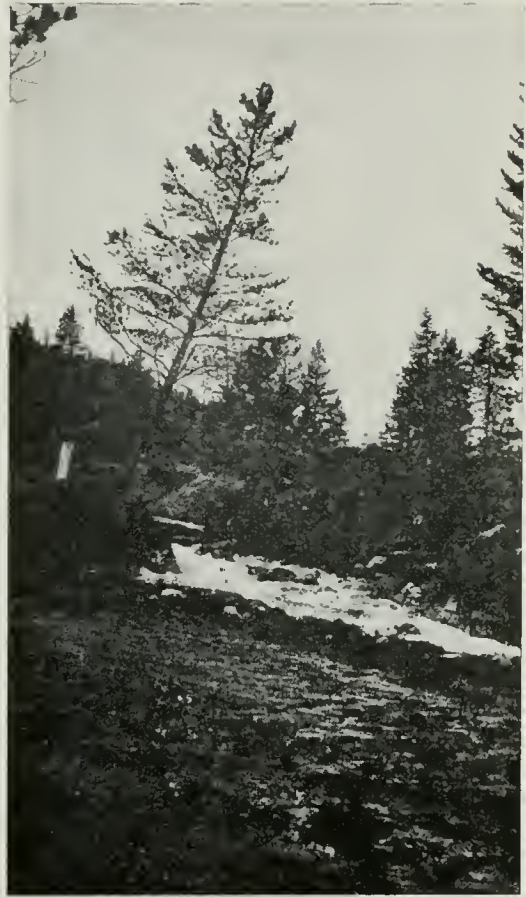
"The year 1919 will undoubtedly go down in history as the year in which wild life in Montana met its Waterloo. The terrible drouth which had lasted for a period of months and years and reached its climax in 1919, resulted in hundreds of our splendid trout streams drying up and as a result many millions of game fishes were destroyed.

"As a result of the heavy snowfalls early in the season, big game was driven from high altitudes and summer ranges to the lower levels, where, owing to faulty game laws, thousands of elk and deer fell victims to the unerring marksmanship of the Montana sportsman.

"The present time is the opportune time for the honest to God sportsmen to become active and lend a helping hand in correcting the many irregularities to be found in the Montana game laws, by sending only such men to the legislative halls as may be known as true sportsmen, believing in protection and conservation of wild life, thereby saving one of Montana's greatest assets. Among the many natural resources that Montana possesses her wild life is acknowledged to be one of the greatest assets and attractions.



Joe Nevil, Deer Lodge, Fishing on
Madison, 1916



Stewart Spring Creek, Georgetown

"Personally, I am unalterably opposed to any proposed plan of giving the federal authorities supervision of big game in Montana. I do not believe that any of the natural resources of this state should be placed under the supervision of the federal government.

"I believe that the necessary authority delegated to the State Game and Fish Commission would relieve the necessity of a hard and fast rule that might be established by statute for the closing of streams, particularly during the spawning season.

"We stand for the screening of irrigating canals in order that the fry planted at the expense of the sportsmen of this state may find their abiding place in the many splendid trout streams in place of being thrown upon the lands as a result of open irrigating canals, to be devoured by the many scavenger birds to be found within our state.

"We do not believe that the best results may be obtained by the indiscriminate use of poisoned grain for the purpose of destroying members of the rodent family. We contend that the greatest care should be given in the distribution of poisoned grain, as we have had an unlimited number of reports to the effect that large numbers of insectivorous, singing and game birds have been destroyed as a result of the sowing of poisoned grain upon wild lands, which has been contended to be the only method whereby the rodent family may be disposed of."



Grinnell Mountain and McDermott Falls

Golden Trout Caught in Granite Lake by Helena Men

New Variety of Fish Found in Granite Lake Distinctive in Coloring

(Libby Times, August 30, 1919.)

Leo Faust and L. B. Tipling of Helena made a trip to Granite Lake on Thursday for the purpose of catching the golden trout which are found only in the waters which run from that lake. This place in the main range of the Cabinet mountains, so far as is known, is the only place where this particular kind of trout is found and the trip was



made especially, as said, to get some of them. This trout has a rich golden coloring, and is considered the handsomest of all the different kinds of trout. It is rarely found and those who take a large interest in fishing consider it a great privilege to get an opportunity to catch them.

These fish have the spots found on the ordinary trout and all other characteristics of the common trout. The distinction is the coloring and this is a very beautiful golden color. The whole body of the fish has the golden tinge, the shading heavier along the sides than on either top or belly. The fins look like burnished gold when the fish is first taken from the water and around the gills is found the deepest and brightest color. The whole effect is most beautiful, and as said, to get an opportunity to catch them is considered a rare treat.

Granite Lake is 16 miles from Libby in the heart of the Cabinet mountains. It is one of the most beautiful lakes in Montana. It is walled in by towering cliffs of solid rock and there isn't any more rugged scenery in the Glacier National Park than is found there. The lake is about a mile long and a half mile wide. Its waters are alive with trout. They are not large, but the meat is hard and white and exceptionally sweet. The lake is fed from the Blackwell glacier, the only glacier in the Cabinet mountains, and its waters are exceptionally cold by reason of that fact. The glacier lies about 2,500 feet above the lake's level.

The fish in the lake have no coloring other than those found in any other open water. But in the water which runs from the lake and which goes through a densely timbered and willowed section are found these rare golden fish. The trip from Libby is made by auto and a forest service trail. The first ten miles can be easily made in an auto and the balance of the trip either on foot or horseback. However, the trail is very steep in places and it is a hard trip either way.

Mr. Faust and Mr. Tipling made the trip in one day, caught a big mess of the trout and while tired, said they had had a perfect day and were both well satisfied with the trip and the number of fish which they caught.



We Plead: No Confiscations Made

She's Hard to Catch Dat Fish Wot's Called Trout

By Joseph Chauvin, Butte, Montana

My Dear Chauvin: I ban catch feesh for 65 yr. han I bin katch some feesh in my tams. But Butte has some feesherman dat beets me all holler, for hinstance, dare ees Mister Pilling, shees game ward. She has many reech frens dat don't kno bullfrog from trout, dat want to lern to catch feesh, so dey hinvite Mister Pilling to go wid her to show her how. So Mister Pilling he say yes and go wid you, so dey go down on top Rock Creek, de reech fella she brings lots of bate. Ees got bottle. When dey lan on top de creek de reech fella shees tro her fli on top de creek, but she get no bite, so she go lay down under tree and Mister Pilling he say hi show you how she is done, so he jump hinto de riv, but she don't use same kine of bate de odder sports take halong wid her een qt. bottles. Shes carry bull heds een her vess pocket. When he feesh see Mister Pilling, she knos dat she ees game ward han day flock to her for protec, den he has hit hall to herself. He shake de bull hed hover dase heyes, but he put hook hinside de bull trout, so de trout he grabs her, han Mister Pilling he pull hin de feesh. Shees fill her basket, den shes fill hall de odder fellas basket too, han day hall come home happy, han tell dare wives han frens wha grate feesherman dey are.

Mr. Pilling has laf, but don't say something. He has hall de fun, han hees frens hall de glory. Some feesherman, Mister Pilling.

Den dare ees Mister Ross. Shes ketch an lans de beegess feesh wid smalles tackle dan henny body. 16 han 18 poun trout wid noumber steen hook, two tred line han 8-inch pole. I mean 8 hounce rod. How de do it ees mistaire to hevrybody. Hi been ketch some beeg feesh myself, sometam; 30 poun peekril, 6 poun black bass, 16 poun steelhed, but am have to have hook beeg henuf han line strong henuf to pull Ford car hout of mudhole, to lan trout like dat een beeg hole riv, I have to take my hat hoff to her for hexpert feesherman.



Lake Near Copper Creek, Main Range

Den comes Mister Walker, shees tall mans. Shees what you call henthusiast feeshermans. Shees wade half kross de riv han sit hon beeg rock. Hennybody helse get drown. She carries more flies in her book dan dare ees flies hon de beeghole riv, han more spoon on her pocket, dan wood furnish table for hotel, so when shees tro hall dem flies han spoon hoverboard, shes boun to hook something wid thousan dollar wert hof takle. He say she wants to learn ketch feesh sinntific, but am seen farm boy wid willo pole, snel hook han grass hop, coss 2 bits ketch more feesh hin an hour dan she do hin a day wid her hexpensiv tackle, but shes good sport, han will make beeg catch some day.

Den dere ees may fren Parks. Shes hones hard work feesherman. Shes feesh haccording to sport rules, han ees hentittle to hall de feesh hees ketch, han usually gets her share, han don't brag habout eet.

Ha! Den come de double henthusiast feesherman Pop Job. Shes way habout 300 poun, han wen she falls hinto de riv shees scare de feesh for one mile each way. When she lans hon creek she wants to ketch hall de feesh dare ees in her. Sheel feesh hevery hole for 5 mile before hennybody ees up. Sheel feesh hard like hannudder man saw wood, so she ketch more feesh dan hennybody. I seen her jump hinto de riv to save feesh she couldn't pull hover steep bank hon Sheep creek. She'el let yell, am herd her for 2 mile, den am here splash, like house fall hinto de riv. Am tol shees drown, but no, she was hup to her neck han wading for de udder shore, but shees lan 2½ pound trout han was tickle to dethe; she sure henjoys de sport. Well, hi guess am wrote henuf habout feeshermans dis tam. Am tole you are some feeshermans yourself.

Am like to ask you to wrote me sum hof yous hexperience some-tam. Eet would hinteress me ver much, for am grate lovare of de sport, for eet ees de grates sport, de sport hof keengs.

Your fren,

PETE PAREAU.



Brown's Camp, Upper Madison River

Butte Anglers' Club Is Large and Active Organization

By D. Gay Stivers of Butte

The Butte Anglers' Club, incorporated in 1916, is the largest sportsmen's club in the state. It was organized in 1902, Judge W. M. Bickford, now of Missoula, being its first president. From a membership of 50 or 60 it has steadily increased until at the present time more than a thousand members pay their annual dues to support the organization and to aid in the propagation and planting of game fish in the waters contiguous to Butte.

There are no records of the club between 1902 and 1910, but since the latter date the club has planted thirty million game fry and fingerlings within a radius of one hundred miles of Butte, and during that period has received in dues and contributions about \$25,000. It will be seen that more than a million game fry have been planted for each thousand dollars expended, or more than one thousand for each dollar.

This is made possible by the fact that the members contribute their time and labor, as well as automobiles and other transportation; also to the fact that the railroads haul the fry and eggs free of charge; but mainly by the fact that the club has available for its use the splendid fish hatchery at Columbia Gardens near the city of Butte, erected by Senator W. A. Clark in 1902 and permitted by him to be used by the club ever since. The salary of the fish culturist is paid by the management of Columbia Gardens. The hatchery, with its aquarium, is one of the many attractions of that beautiful spot.

The club propagates and plants grayling, salmon, and at least five different varieties of trout, the native, of course, predominating. The first rainbow trout were planted in the Big Hole river about 1908, and they are being caught out of that stream at the present time weighing as high as 20 pounds. The Big Hole formerly contained nothing but whitefish and grayling, but owing to the persistent planting and protection of fish in this river, it has now become one of the best trout streams in the state.



Lo Lo Road and Bitter Root River

The club has received much valuable and timely aid from the State Fish and Game Commission and also the United States Bureau of Fisheries, and always works in co-operation and perfect harmony with these splendid institutions.

At the present time the prime need is to locate and establish suitable spawning stations, where eggs may be obtained and hatched out without the necessity of paying the prevailing enormous prices for them. At Cooper's Lake the state and the club work together, with the result that more than a million fry were raised in one season.

The Butte Anglers' Club was the pioneer in the matter of restocking the depleted game ranges of Montana with elk. Many carloads of this grand game animal have been shipped to different parts of the state, particularly the western portion, and turned loose upon the ranges, where they have multiplied and would have become quite numerous were it not that inadequate laws have been provided for their protection. A better spirit must also be cultivated among the sportsmen of the state, so that these animals will not be butchered by meat hunters.

The general objects of the club are the protection and propagation of fish and game, the importation of game birds, distribution of game animals, planting of food for migratory birds, nursery streams for the raising of fry to fingerlings, and other legitimate fields for game protection and propagation.

The advent and universality of the automobile has raised havoc with the game fish. Regions which were formerly practically inaccessible or reached only after many days of tiresome travel, are now reached in a few hours, and the result is that the streams must all be now stocked with a fourfold quantity if we are to have even ordinary fishing in the future. The same thing applies to game of all kinds. Propagation, protection, conservation, must be our watchwords.



Outlet Upper Madison Canyon, Near Missouri Flats

What Judge W. M. Bickford Says on Preserving the Sport

Missoula, Montana, Oct. 2, 1920.

Montana Game and Fish Commission,
Helena, Montana.

Gentlemen:

My interest in your work must be my excuse for addressing you, and my long affiliation with the Commission in connection with the experience and observation while a member may perhaps give weight to what I write. The subject of conservation in all its branches has always appealed to me, but the reasonable protection of game and fish as well as the propagation thereof has seemed a work of real importance, especially in Montana, where the wide stretches of forest and the bountiful supply of fine lakes and streams give promise of wonderful results.

The work of the Fish and Game Commission is most appreciated by those who have had first hand opportunity to observe results. The older anglers of Silver Bow County can well remember when the Big Hole river and the Madison were both poor fishing; now there are few streams affording better results. In fact the Madison river may be regarded as one of the finest fishing streams in the West. All of this has been the result of constant stocking. Many other streams might be mentioned where good results have been obtained, but "comparisons are odious." It is sufficient to say that some results have been obtained everywhere, fine results in many cases and good results in most instances. It is only fair to say that the care shown in transportation and in planting of fry has a very important bearing upon the life and growth of the fry so planted.



Southern Shore Line Lake McDonald. Trout Are Feeding

Nurseries and Planting

Some ten years ago the Commission prepared and distributed a small pamphlet which was intended for the dual purpose of giving instructions to the uninitiated for planting fry and to encourage the formation of anglers' clubs. The book was quite generally distributed with the result that most of those interested became expert in the work of transporting and planting fry. In the last biennial report of the Commission this educational campaign was carried a step in advance by advocating nurseries for the young fish, not necessarily extensive ones, but sufficient in extent to form a resting place, a place where food floating in the stream would move more slowly and where the fry would not become a prey of larger fish.

The plan of building a small dam of loose rocks to retard the flow of the stream, of utilizing the small streams, the spring sloughs, the shallow water at the sides of the larger streams can not be too forcibly impressed upon the minds of those who plant fry.

Every organized club should have a thorough examination made of the streams in which it is interested and should construct the dams, or have suitable designated places for planting so that the plantings made may have the best obtainable results. The club should have a permanent record, with maps and every year results of previous planting should be noted for future reference and as a guide to their successors. It would be a great aid to the State Commission if good maps of all the streams and rivers in the State could be had, and made a part of the permanent records of the office. From these State maps, copies could be sent to each hatchery covering the streams supplied with fry from that particular hatchery. In the course of a very few years accurate knowledge would be available as to results obtained if the



Home at Somers Hatchery



Summer Home, Belt Creek

proper reports are made, and noted by those in custody of maps. The results obtained in this way by the Western Montana Anglers' Association, largely through the work done by the secretary, Mr. M. R. Hardenburg, are proving of much worth; the same system should be adopted by other clubs.

In making distributions of fry the Superintendent of Hatcheries should be given a very wide discretion, basing his activities in distribution on the results obtained. Perhaps each hatchery operated by the State could be supplied with a light truck to be used in stocking streams within reaching distance by this means. Such a truck, operated by an experienced fish culturist with an accurate knowledge of favorable places, or nurseries where plantings could be made to advantage, could handle many millions in the course of a season. This course would avoid the danger of intrusting the fry in the hands of inexperienced persons, and better results might be obtained. Too much stress can not be placed upon the manner of handling the fry and the selection of proper places for making the plant.

Antagonistic Varieties

Heretofore little, if any, attention has been given to the varieties of fish planted in our streams. The Federal Government has furnished and planted many varieties better left out of the Montana streams, because the foreign varieties are destructive of the natives. The State Game and Fish Commission are not without fault in this respect, largely for the reason that only within the last few years has this question been investigated and results known.



Lake McDonald, the Home of J. M. Lewis

May I suggest that greater care be exercised in the future? We should by all means foster the grayling (*Thymalus*) in every stream where indigenous, and discourage the planting of other varieties inimical to its welfare. It is hard to say what varieties are most destructive to this beautiful game fish, but it is noteworthy that in the numerous plantings of grayling made in the waters flowing into the Pacific where the Dolly Varden (*Salvelinus Malma*) is indigenous, that no results have been obtained, while in the numerous lakes which do not contain the Dolly Varden that the grayling flourishes and grows rapidly. These instances may be mentioned as certainties in Foy's Lake, Little Bitter Root Lake, and Rodgers Lake, all in Flathead County. So far as the writer is informed, no results have been obtained from stream plantings of grayling in any stream flowing to the Pacific.

Quinnat or Chinook Salmon

(*Oncorhynchus Stschawytscha*)

This fish, with its unpronounceable scientific name and its many common names (Chinook, Quinnat, Tyee, or King), has been imported from Oregon and planted in many lakes and rivers. So far as now known no results have been obtained from river plantings, evidently because the young fish start for salt water when quite young. Concerning only one lake on the west side of the range can positive statements be made.

The first planting was made in Lake Ronan which lies eight miles west of Dayton, May 14, 1916, and in September of this year salmon have been caught, evidently from this planting, weighing $14\frac{1}{4}$ pounds. It is hard to tell how many of this original planting remain, but it is



Summer Home on Deep Creek
Broadwater County

reported by Mr. Eli Melton, the Superintendent of the State Hatchery at Somers, that in October, 1919, large numbers came to the shores of one bay, evidently for spawning purposes, for at that time of year no stream empties into the lake of sufficient size for spawning purposes.

No accurate account has been kept of the number of fry planted or caught in this lake, but from the summer of 1917 the fish have been caught both on the fly and on a spoon hook in large numbers, affording good sport from May until October, and many thousands have been taken through the ice by Indians.

The next planting of Chinook fry was made April 4, 1919. The exact number planted at this time is not given, but the number caught as well as the size of the fish so caught, is exceptional. At the present time (October, 1920), the fish average about three pounds in weight. Some are caught weighing four pounds, and perhaps a trifle more. They take a spoon, a tango minnow and occasionally a fly, but are rather erratic about biting, sometimes taking one thing and then another. The male fish is distinguished from the female by darker markings along the back and the female by its bright silvery color. Specimens which we examined September 4th, last, showed well developed milt in the males and embryonic eggs in the females so there may be a hope of reproduction without a return to salt water. This question should be settled this fall from the first planting made should the fish find a suitable spawning place, in any event by catching and examining the fish which frequent shallow water in the bays evidently for spawning purposes. The lake in which the fry were planted is of varying depth but with much deep water which is clear and cold. There are two small streams flowing into the lake, one of which goes dry in a dry season. On both of these streams egg-taking stations have been established by the state for the purpose of taking the eggs of both the cutthroat and eastern brook trout, the latter variety having been planted some years since. The food conditions in the lake are excellent, many varieties being found, and especially a small white fish resembling the smelt. The salmon are prevented from leaving the lake by a screen across the outlet which is small, and there is no record of any having escaped. In all the lakes having an outlet to the ocean via tributaries of the Columbia where the Chinook have been planted, no results have been obtained; in all landlocked lakes they have thrived except when frozen out by a long, hard winter.



Lake McDonald, Glacier Park

The Law

There should be a law to forbid the catching of fish through the ice; a closed season covering the time of spawning; more power given to the State Game Warden with respect to protecting the spawning grounds or egg-taking stations where eggs are taken to supply the state hatcheries with eggs; and the State Biological Station should be charged with the duty of investigating and reporting to the State Game and Fish Commission what varieties of fish are most desirable for stocking any lake or stream where there is a doubt.

The last above suggestion is made because many attempts have been made to stock Flathead Lake with the Lake Superior whitefish (*Coregonus Culpeiformis*) and all have apparently failed. This large and beautiful body of water, rivalling in beauty the lakes of Switzerland, should be made a source of both food and better sport. There must be some variety of fish which would grow and flourish there. The native whitefish (*Coregonus Williamsoni*) are rather plentiful in this lake, go to the inflowing streams to spawn, but they are not essentially game fish although excellent food. Some other variety would possibly do well, but before attempting to stock the lake definite knowledge should be obtained as to the food found there and the variety of fish that would consume it.

The laws with reference to fish and game should be made more definite, more uniform, more easily understood. As the matter now stands the laws with reference to the open season for elk are so uncertain that in parts of the state the question as to whether a man is a law-breaker or not depends upon whether he is on one side or another of an imaginary line. Section 31 of House Bill No. 89 says in part:

"All Missoula County (shall remain closed) except that portion * * * * bounded on the east by a north and south line running through Nimrod, a station on the C. M. & St. P. R. R., and bounded on the north by a line parallel to the Hell Gate river and distant therefrom ten miles north."

What hunter knows where a north and south line running through Nimrod may be, or when he is ten miles north or south of the Hell Gate river? It is all nonsense to expect a game warden to know whether



Mountain Sheep (Lamb). Taken Near Upper Dam on Madison River

an elk has been killed within the forbidden limits or not, much less can he secure a conviction should an elk be killed in territory so described. We should have better and not more game laws. An editorial in "Forest and Stream" for October, 1920, states the case very well as follows:

"For a few years game and fish laws were new and untried, so that frequent changes were to be expected, but now the efforts of our legislators may well be directed toward simplifying existing laws rather than to adding new and confusing sections to those we have.

"From time to time attempts have been made to secure uniform legislation, but the result in the main has not been encouraging. Legislators are chiefly concerned in pleasing local interests and ignore the fact that only by co-operation can the laws of different states be so harmonized that two important objects may be attained. These are, the conservation of breeding birds and fish; and the relief from legal complications of the law-abiding sportsman of one state who shoots in another, paying liberally for the privilege.

"We are almost daily asked for opinions on complications that arise through different interpretations of vaguely worded sections in the game laws of various states. It is not remarkable that one not versed in legal terms may often place an erroneous construction on a clause. Game wardens and sportsmen alike err in this respect, and there is ample proof that these men err not through intention, but because they are unfamiliar with untangling legal knots. In the final analysis there is apparent, therefore, a need of laws couched in plain terms and shorn of all confusing verbiage, so that sportsman, warden, judge and lawyer, may understand them."

There can be little hope for uniform legislation for even one state, much less for all of them. Even in Montana such diverse conditions are found in different parts of the state that it seems almost impossible to frame a law which will fit the whole state or meet the approval of a majority of the members of the legislative assembly, and at the same time prove effective.

The writer has tried to do it and knows.



Somers Hatchery

Club or Private Enterprise Hatcheries

The recent tendency toward the building of hatcheries by private enterprise or by local game clubs may be either a good movement or may prove to be a mistake. It will be a good thing for the state if such local hatcheries are under the control and management of the state authorities, for then they will be run by experienced fish culturists in an efficient way. If, on the contrary, such hatcheries are left to the management of local associations, interest will lag, buildings will become out of repair, food for fry will be lacking, there will be no discipline, and the operation will be a failure. The state must take over and operate such hatcheries when asked so to do, and when in the judgment of the Commission the hatchery is advantageously located.

In connection with all the hatcheries there could very well be conducted the breeding and hatching of various suitable game bird eggs. The hatchery employees have leisure for the work entailed and could be interested in such a movement if once impressed with the importance of the results to be obtained. It is true that during the egg-taking seasons all employees are busy, but that is at the time of year when the birds require little attention. Why not discuss this and agree upon plans if the move is thought to be wise and workable?

The bird shooting in Western Montana this year is reported as very good, which shows the good results of a short season. Should the birds multiply in the same proportion during the next two years the season could well be lengthened, so far as the section west of the range is concerned.

Yours very truly,

W. M. BICKFORD.



Dwelling and Hatchery, Emigrant, Montana, 1916. Capacity 5,000 Fly

Fisheries Station, Emigrant, Montana, November 18, 1920.

Hon. J. L. Kelly,
Chairman, Montana Game and Fish Commission,
Anaconda, Montana.

Sir:

Attached herewith I hand you report of operations for this department for the years 1919-1920.

The wonderful record established for the Anaconda station was made possible by the aid you rendered during the grayling season. It is recommended that the battery of forty troughs which were set up at the Anaconda station during the grayling season be made a permanent part of the station's equipment. This can be accomplished by the construction of a permanent foundation for the battery.

The Emigrant station should be completed at an early date. This station has been under the process of being built for almost two years and to date consists of a hatchery building and equipment, and a small four-room modern cottage. A suitable fence should be constructed enclosing the station's property. This station is in great need of a telephone for business purposes.

It is recommended that the Superintendent of Hatcheries be permitted to employ a clerk or stenographer to attend to all the office work, since the superintendent is in the field most of the time, and it is too much for one to perform labor in the field and attend to the office work unassisted. I strongly urge your consideration of this matter as a measure of economy.

Respectfully submitted,

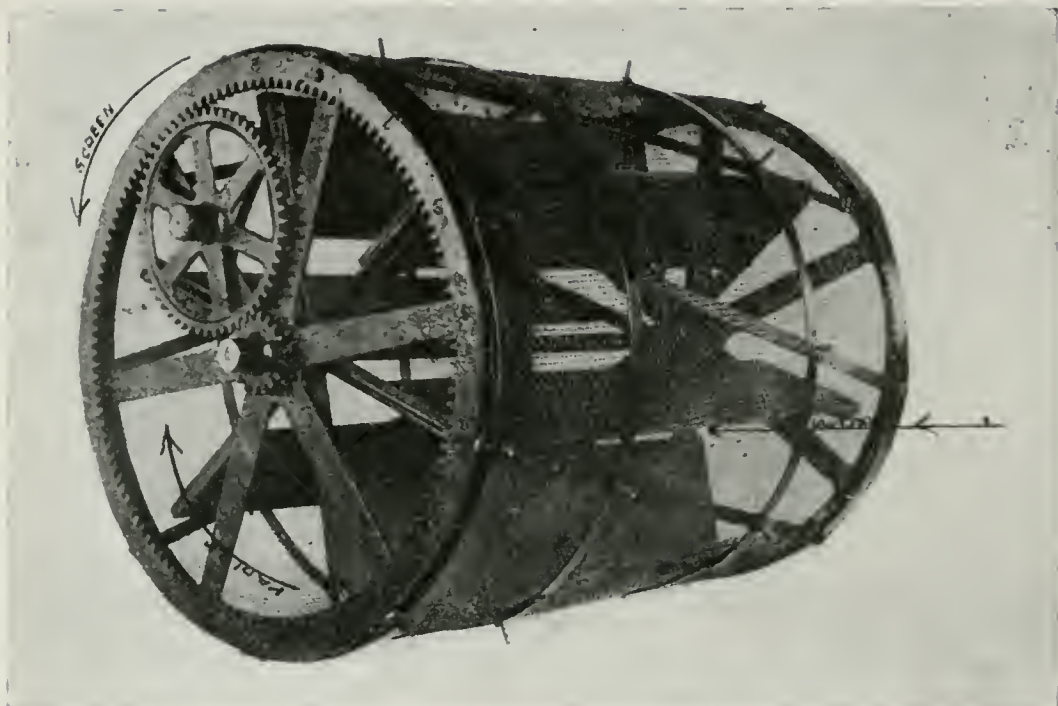
J. H. BRUNSON,
Superintendent of Hatcheries.



Spawning Station, Georgetown Station. Fish Under 2 Ft. of Water. Taken by E. P. Mathewson

Anaconda: This is the largest station operated by the Commission at the present time. The building contains sixty cement troughs which are capable of holding fifty thousand fry each for a short time only, it being necessary to thin them out from time to time as the fry increase in size. The troughs will hold many times this number of grayling, since they are much smaller fry. Numerous improvements have been made during the past season. A new aerating system has been installed, which will be a great help in conducting the work at this station. It will be possible to hold more fry per trough with less danger of their smothering than has prevailed during the past. A new battery capable of holding 12,500,000 eggs during the incubation period has been installed. It has proven to be much more efficient than the old one had been. The ice house which was beginning to go to pieces has been repaired. The water supply for this station has been improved by having had several yards of drainage pipe installed at the source of the water supply. The heating system in the cottage has been completed. The system had been installed several years since but the boiler and pipes had never been covered with asbestos. All the buildings at this station have been painted this season; in fact the entire station has been given a thorough overhauling this season and is now in A 1 condition.

Georgetown: This is an auxiliary of the Anaconda station. It is no doubt the greatest spawning station in the world for the species of eggs collected. Nearly twenty million grayling eggs as well as several million native trout eggs have been collected during the past season. A roof having a foundation 40 by 60 feet has been erected over the spring at this station. The equipment in the hatchery has been improved and it is believed that the loss on egg being eyed in the hatchery will not be as great as has been experienced during the past. The



Install Screens and Save the Fry

traps for capturing the fish have been improved, the increased collections and the quality of the eggs proving them superior to the old traps which have been torn out. The new traps have a natural gravel bottom and green fish ripen as well in them as though they were lying in the pools of the stream. The eastern brook trout is being gradually removed from this lake and rainbow trout being introduced. It is believed that the grayling, native and rainbow will thrive together, and within a short time rainbow trout eggs can be collected along with the eggs of the grayling and native trout.

Dearborn: This was once a private hatchery and has been leased by the state for a nominal sum and for a period of several years' duration. The hatchery is very small and is in need of improved equipment. A large quantity of eggs were shipped to this station but due to lack of proper equipment and inexperienced men nearly all the eggs were lost. A second lot of eggs were taken to this station; they were hatched and the fry doing nicely when the industrious beaver constructed a dam across the source of the water supply for the hatchery and most of the fry were smothered. There will be several thousand lusty yearling native trout available for distribution from this station next spring. There is a good system of ponds at this station and the fry hatched this season were liberated in them; there is abundant food available in the ponds and no doubt the fry will be of good size by the time the ice is out of the Dearborn river.

Emigrant: At the present time this station consists of a hatchery containing twelve hatching troughs, a twenty-five jar grayling or whitefish battery and a small four-room modern cottage. The grounds have never been fenced and no improvements have been made except cutting brush along the creek in the hatchery grounds. A Delco Light plant has been installed in the basement of the house and is of a size large enough to supply light for all the buildings necessary for this station. At the present time bids are being advertised for the erection of an ice house, and another building which will contain a garage, work shop and store room. There is enough ground available at this



Installations Made in 1864 Near Virginia City.

station to raise all the pheasants needed to stock the state, besides an enclosure can be made of suitable size and material for holding two deer, two antelope and two elk. This station is on the Yellowstone Park Trail and thousands of tourists pass each season. A system of rearing ponds are now being constructed and when completed this station will be second to none in the West. The hatchery is capable of holding one million fry for a short time only, but when the ponds are completed the station will be capable of producing many millions of fingerlings each season.

Hebgen Dam: In the month of May, 1919, racks and traps were installed in the river below the dam in an effort to collect eggs from the rainbow, native and grayling which could be seen below the dam. Thousands of the different species were captured but most of them were barren due to their constant leaping upon the apron below the dam where the water comes through the tunnel. Efforts were made to collect eggs from the fish which spawned in the creeks above the dam, but since the water in the lake rises in the spring and falls in the winter, a difference of 75 or 80 feet between low and high water mark, it was impossible to obtain results. During the winter of 1919-1920 the Hebgen hatchery was destroyed by a snowslide. Since there was neither a suitable water supply or fields adjacent where it was possible to collect eggs, a station will be built at the West Fork of the Madison. This location is much more desirable in every way. It is accessible at all seasons of the year, is close to several very promising egg fields and has an unlimited supply of clean water as well as a most favorable site for the construction of rearing ponds.

Lower Madison: A temporary hatchery was erected on O'Dell creek, a tributary of the Madison river, and grayling eggs collected and hatched. Due to high water the dam, which was the source of the water supply for this station, was washed out, and as the hatchery was filled with rainbow eggs, a considerable loss was sustained. The man in charge of the work at this station was used jointly by both the Game and Fish Departments, a most unsatisfactory arrangement for the man as well as for the departments. Grayling eggs will be collected again at this point the coming season.



Outlet Lake McDonald

McAllister: This station belongs to the U. S. Bureau of Fisheries and the State Commission is allowed the use of it for hatching eggs during the spring and summer. In the spirit of co-operation the government donates a certain per cent of their collections of rainbow eggs at this point and the state hatches half of the number received and plants them back into the lake, it being to the mutual benefit of both Commissions that every effort be made to increase the number of fish in the lake.

Somers: This station and its sub-stations will in the future be one of the largest egg producing stations operated by the Commission. There is not enough ground available at the Somers station for the constructing of rearing ponds, and another serious handicap is the water supply. By the installation of several hundred feet of drainage pipe at the source of the water supply it is believed that this will be remedied and in the future there will be no cause for alarm on account of a shortage in the water supply at any time of the year. A new whitefish or grayling battery with a capacity of 12,500,000 eggs will be installed during the winter. New baskets have been made, new cement walls supporting the banks surrounding the station grounds have been constructed. A beautiful water fountain has been erected on the grounds and add to the general attractiveness of the station's appearance. With the exception of all the buildings being in need of repainting, the station is in A 1 condition.

Salmon Lake: This station and a building suitable for living quarters for an attendant and all necessary equipment was built by the Western Montana Fish and Game Association of Missoula and donated to the State Commission. The hatchery has the same capacity of the one at Emigrant, both containing twelve troughs. A tract of land ad-



Home on Yellow Bay, Flathead Lake

Joining the station is ideal for the construction of rearing ponds and as soon as the weather permits work will be commenced upon same. There are a number of suitable streams and lakes in the immediate vicinity of this station which can be easily stocked from this station. The Blackfoot river is one of the admirable streams within a short distance of this station. Several thousand eggs were shipped to this station during the summer, they were hatched and the fry were doing very well when, on account of the attendant's wife having been stricken with an attack of appendicitis, it was necessary for him to leave the work in the hands of an inexperienced man and there are no records to show what was accomplished. It is known that a considerable portion of the fry were planted, but the number and the waters stocked are not known. On account of the crowded conditions at the Anaconda station it was impossible for the Superintendent of Hatcheries to leave the work at that station in order to oversee the work at the Salmon Lake station.

Recommendations: A general increase in the hatchery appropriations, especially for the Anaconda station. Since the Anaconda station produces the largest amount of fry and eggs, this station should have a larger appropriation than it has had during the past two years.

That all the fisheries work be turned over to the Superintendent or Director of Hatcheries, he to report to the Commission from time to time instead of having to wait on the will and pleasure of the Board for its sanction before he can make needed purchases of material and equipment for carrying on the work. That the appropriation for this department be separate from all other departments and that they be used for no other purpose except for propagation and general maintenance of the hatcheries and rearing ponds. That the Superintendent or Director of Hatcheries be given authority to employ efficient men for conducting the work, regardless of who they are or where they



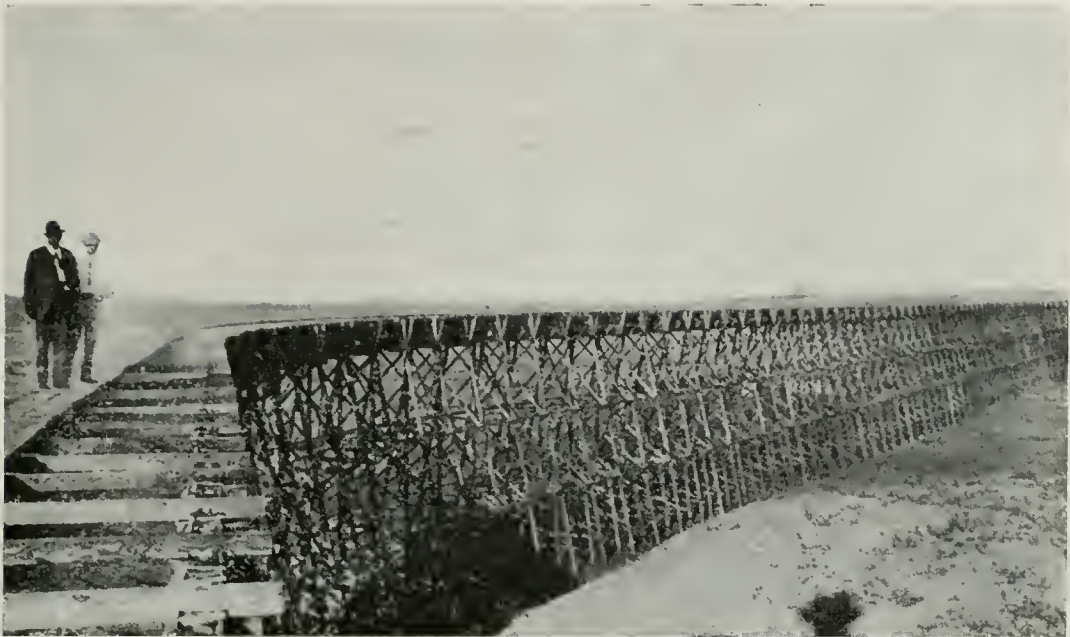
Gulls. Lake Bowdoin

come from. That instead of the present system of hiring unskilled help as the station requires, that we have a permanent personnel at each station consisting of the following: Superintendent, Foreman, Fish Culturist, Skilled Laborer and two Apprentice Fish Culturists, the men to be paid according to their rank and along the lines as are employed by the U. S. Bureau of Fisheries at the present time to their employees who have the titles mentioned. By following this method it would be possible to develop a force of highly trained and efficient workmen who could be detailed to any field or station and depended upon to conduct the work in a satisfactory manner. Each station would then have men to do its own distribution work; this alone would be a considerable saving of both time and money each season, besides it would be far more satisfactory than the present system. Then, too, when new hatcheries were constructed a competent and well trained man would be available to take charge.

That a pump be purchased for the Somers station of a suitable size or capacity to furnish water from the lake for hatching whitefish. At the present time the regular hatchery water is used for this purpose; it being spring water, it follows that it is warmer than the water in the lake at this time of the year. For this reason the whitefish are hatched and ready for liberation many weeks earlier than would be the case were the eggs hatched in the lake water. At the time they are liberated their natural food is not available and under such conditions results can not be expected, at least not obtained.

That a new Ford runabout be purchased for the Somers station, the superintendent of the station having made a request for same, preferring it to a Dodge commercial.

That a Dodge commercial be purchased for the Anaconda station. This would be the ideal machine for that station's use for hauling supplies to the Georgetown station and hauling the eggs to Anaconda. The two-ton Pierce-Arrow which belongs to this station is too heavy for any use except heavy hauling. When the cement highway between Anaconda and Butte is completed this machine will be all right for hauling fry to Butte to catch the early morning trains, it being possible to haul eighty cans per trip.



Dry Fork Flume, Valier Project, Pondera County

That a hatchery building be erected on the worthless cement ponds at the Anaconda station. These pond forms would make an ideal foundation for such a building. It is necessary that some arrangements be made to handle the increased number of fry which this station is capable of producing. The only reason it was possible to handle the number of fish as was handled there last season was that I held native trout eggs in egg cases, they being heavily iced, which retarded the development; this enabled the station to handle more fry, but the delay in hatching necessitated their being planted late in the season, which is not proper. Due to the crowded conditions at this station this last season untold numbers of grayling and trout fry escaped to the ponds at this station. It will be possible to ship several thousand yearling fish from the Anaconda station next spring.

That a Skinners irrigation system be installed at the Anaconda station for irrigating the lawns.

That the hatchery at Georgetown be enlarged and that a neat and comfortable house be erected for the attendant at this station in place of the temporary affair now being used.

That all applications for fry be turned over to the Superintendent of Hatcheries so that he can make provision for a just and equitable distribution to all applicants.

Distribution Anaconda, 1919:

Eastern Brook Trout	2,304,000
Native Trout	1,730,000
Montana Grayling	3,340,000
Rainbow Trout	1,264,000
Salmon	159,000

8,797,000

Distribution Anaconda, 1920:

Eastern Brook Trout	2,535,500
Native Trout	1,714,000
Montana Grayling	9,513,500
Rainbow Trout	251,500

14,015,200



Mount Rockwell, Upper Two Medicine Lake

Total fry planted for the biennial period.....	22,812,000
Eggs shipped to other stations from Anaconda, 1920:	
Native Trout Eggs, eyed.....	2,632,400
Montana Grayling	5,556,500
Total Eggs Shipped	8,188,900
Total Eggs and Fry Shipped from the Anaconda Station	31,001,100
At the present time, November 18, there are the following fry in the Anaconda hatchery:	
Native Trout	60,000
Rainbow Trout	10,000
Red Fish	30,000
	100,000
Distribution Emigrant, 1919:	
Native Trout	247,000
Distribution Emigrant, 1920:	
Eastern Brook Trout	937,500
Native Trout	505,000
Rainbow Trout	120,000
	1,562,500
Total Fry Shipped from Emigrant, 1919-1920	1,809,500
Distribution Lower Madison and Hebgen Dam, 1919-1920:	
Rainbow Trout	25,000
Native Trout	25,000
Whitefish	168,000
	168,000



State Survey Party. Hell Creek Game Preserve, Garfield County

Lower Madison, 1919:	
Rainbow Trout	445,800
Lower Madison, 1920:	
Montana Grayling	3,750,000
Rainbow Trout	255,000
Native Trout	400,000
	<hr/>
Total Distribution for Hebgen Dam and Lower Madison	5,073,800
Distribution Somers, 1919:	
Eastern Brook Trout	2,185,700
Native Trout	1,546,500
Rainbow Trout	914,500
Chinook Salmon	219,500
	<hr/>
	4,866,200
Distribution Somers, 1920:	
Eastern Brook Trout	928,000
Native Trout	1,629,500*
Montana Grayling	1,910,500
Rainbow Trout	150,000
Steelhead Trout	10,000
Lake Trout	48,000
	<hr/>
	4,676,000
Total Distribution for Somers, 1919-1920..	9,952,200
Totals for all stations for 1919-1920 as follows:	
Anaconda	22,812,200
Emigrant	1,809,500
Hebgen Dam and Lower Madison.....	5,073,800
Somers	9,952,200
	<hr/>
	39,647,700

*410,000 native eggs, eyed, shipped to other stations, 1920.



Great Northern Railway and Middle Fork Flathead, Near Fielding

Sic Semper Fishermannis

When the sun is shining brightly
And the gentle breezes blow,
Then I hear the creek a callin'
But I have to tell her "No."
When the office feels all stuffy
And the law books dull and drear,
Then I think of the old canyon
With its water crystal clear;
Then I see the trout a jumpin'



Reflection. Waterton Lake, Glacier Park

In that hole beneath the fall—
 Gosh! This desk is sure some prison!
 Lordy! But that creek does call!
 But of course I do not heed it,
 Business first always my code.
 Back I turn to dusty text-books,
 But I see the old creek road.

* * * * *

At 3:30 came a client,
 Read the notice on the door,
 "Out of town all day on business.
 Back tomorrow, about 4." —JOHN S. PYLE.

Temptation He lived under a rock in the shelving bank of the brook and took his exercises in the pool below the falls where the branches hung so low over the water that they caught your line when you drew back for a cast.

Early one morning you waded down stream, careful to keep your shadow off the water, and there he was—apparently waiting for you and passing the time by gathering in any incautious bug that dropped from the leaves above.

All your fisherman's skill came into play as you made your cast and whipped the fly invitingly above his indifferent nose. But it was no new game to that old peacock of the pool. He could and did play it as patiently and skillfully as you, until that irresistible tuft of red feathers came floating so temptingly close, and then—but you are the one to tell the rest of that story.



Killed Out of Season, 1917, Near Hell Creek, Garfield County

A Meritorious Resolution

At a regular meeting of the Anaconda Lodge No. 239, B. P. O. E., the following resolution was unanimously adopted:

It has been brought most forcibly to the attention of the members of Anaconda Lodge No. 239, of Anaconda, Montana, that great numbers of elk have been slaughtered in the counties of Powell and Granite during the ten days' open season established in said counties by the last legislative session of this state; and

WHEREAS, It is also reported that many of these animals have been maimed and crippled by hunters, and permitted to drag themselves away and die without effort even to save the carcasses of such animals for food, and others which were killed, through improper care or through greedy desire to kill an animal regardless of its food value through which cows and others unfit for food were killed, and such carcasses were thus lost or wasted without food or other return; and

WHEREAS, The said elk were largely elk that had been shipped in, cared for and protected by sportsmen of this territory and permitted to breed and multiply almost as domestic animals to the extent that they were not wild or afraid of men so as to seek protection in the mountains and out of the way places, and under these circumstances their slaughter was wanton, unsportsmanlike and ruthless; and

WHEREAS, The condition under which such killing of elk is attempted to be justified through the fact that an open season was declared by law, permitting such killing for a period of ten days, and under such protection many availed themselves of the opportunity of killing or slaughtering without sport or sportsmanship, such heretofore protected and practically domesticated elk.

We, the members of the Anaconda Lodge No. 239 of Benevolent and Protective Order of Elks, of Anaconda, Montana, hereby join in deploring the action of the last regular legislative assembly and the extraordinary session of the State of Montana in not passing suitable legislation to protect the elk in the districts herein referred to and to express our



Killed by Poacher Near Hell Creek
Game Preserve, Garfield County



PASSING OF THE WEST

(Cowboy and Buffalo)

Two Species of Game Animals Now
Almost Extinct

regret that said territory should have been opened for the killing of elk heretofore protected in said districts by legislative enactment. We also deplore the unsportsmanlike spirit that would permit any person to shoot an elk that had been handled and domesticated to the point that it had lost its fear of man and thus been robbed of its instinct of self-protection. We most heartily denounce the indiscriminate killing of such animals under any circumstances as where a cow poor in flesh or mothering a calf is killed, or any animal killed and improperly cared for and the flesh lost even for food, or wounded and not followed and thus permitted to suffer and die without good to any person.

We hereby pledge our undivided support to secure suitable legislation to protect the partially domesticated elk of the State of Montana, and, if necessary, to have other and additional portions of the state set aside and created into game preserves for the protection and propagation of the elk. We heartily believe in the cultivation of a public and sportsmanlike spirit that shall protect such elk as are herein referred to, regardless of the fact that an open season may be created wherein, under the law, a man may feel that he may avoid prosecution by killing an elk that has been domesticated to the point that it has lost its native instinct to avoid man as its enemy, and meets him in the open as a friend to suffer death.



DeHart and Morgan at Stuart Mill Built by Granville Stuart in 1866

What Gopher Poison Has Done

By J. L. DeHart, State Game Warden

For some months past the good people of Montana have become more or less interested in the results that have been obtained in the indiscriminate practice of gopher poisoning by the distribution of grain soaked in strychnine, and then distributed by the process of placing boys of 10 to 14 years of age upon the gentle old pony, usually found about the farm home, and with a couple of nose bags hung upon either side of the pony, the boy receives instructions to ride about the farm and promiscuously throw the poisoned grain for the rodent family's use only, using the wireless, no doubt, to notify the feathered family to keep hands off.

If I am correctly informed this criminal practice was first introduced in the valley of the Little Horn in Carbon County, Montana. The agent who was engaged in the work of destroying the rodent family by this method visited me, after spending much time in his supposed lawful and laudable undertaking, and I discussed with him the results obtained. While we failed to agree fully as to the best results that may have been secured, the agent did acknowledge to me that he had undoubtedly destroyed many horned owls and magpies, since which time I have had the pleasure of visiting the above named section of Montana, and I find that what was formerly recognized as the greatest upland game bird section in Eastern Montana, has since the introduction of the gopher poisoning crusade, become a blank, as the grouse family has disappeared from the face of the earth.

I have also visited recently Sheridan County, and I am advised upon good authority that during the season of 1918, when the honest, horney-handed son of toil was busily engaged in breaking the virgin soil, preparatory to planting his crop, the younger members of the family were engaged in following the plowman, sowing the poisoned grain for the consumption of the "rodent family only," but upon the



W. P. Mathewson, Mr. and Mrs. A. P. Topperwein, State Shoot, Lewistown

following morning there could be found the mother grouse and as many as a dozen small grouse dead in the last furrow turned by the man behind the plow the previous day.

Dozens of instances of this character may be found, and many cases where coyotes had carried the poisoned birds to their dens and fed the young, a family or five or six youngsters would be found dead about the home. This was common throughout this section of the state.

Come with me, if you please, to the Gallatin valley and inquire of our dear old friend, Karst, who has been engaged in the mercantile business and caring for the traveler along the West Gallatin for many years, how many domestic fowl he lost (by accident purely) when filling receptacles with this carefully prepared poisoned grain, plainly marked "for rodents only." A small quantity of the poisoned grain was scattered upon the ground and later cared for by Mrs. Karst's carefully raised domestic fowls, and only 25 or 30 were killed at one time, yet we are informed that the poisoned grain will not do harm to the feathered family.

My own personal observations have been, when driving through the country, where the use of poisoned grain had been indulged in, that in a distance of 100 miles where ordinarily robins and meadow larks could be found abundantly, I was not able to find a half dozen birds all told.

Permit me to ask you to come with me to Northern Montana, where the propaganda of rodent poisoning has been peddled day in and day out for the past three years, and witness the condition of the damaged grain crops destroyed by insects, resulting, no doubt, from the use of poisoned grain taken up by the singing and insectivorous birds, as well as many of the game bird family.

Upon a recent visit to Northern Montana I took up with the manager of the largest irrigation project in Montana the question of gopher poisoning and what effect the use of poisoned grain had had upon the bird family. The gentleman informed me that in sections where the cruel and inhumane practice had been put into practice he had found hundreds and hundreds of dead birds, singing and insectivorous, strewn upon the prairie. Today in this wonderfully productive agricultural



Coyote. Jardine, Montana

district, these ill advised people, having sown to the wind they are now reaping the whirlwind, as all small grain crops are found to be damaged largely by insects, and yet our friends will tell us we are misinformed—strychnine and small grain will not destroy the bird family.

A few days ago a lady resident of Cascade County called at our office and informed us that we were doing a good work, and asked us to continue the publication of all the proof we could secure, as she thought the practice of distributing the poisoned grain infamous and cruel. This kind lady called to our attention what experience they had had upon the ranch as a result of the distribution of poisoned grain. These people had a very fine canine which came in contact with the poisoned birds and became quite ill, and to relieve the animal of its misery it was killed, and its head severed from its body and sent to Bozeman College for examination. The good lady was informed that her pet canine had strychnine poisoning. The hogs upon the ranch became much distressed, and would indulge in squealing and running about the corral all night long. A veterinary surgeon was called in, and upon investigation he was satisfied that the trouble was strychnine poisoning. Permit me to say, when you can distress the porker with the gopher food, do not tell me it will not injure the birds.

Permit me to quote to you information given us by the Agricultural Department, Washington, D. C., that through the ravages of insects the loss to agricultural interests is 15 per cent, and that a loss of 10 per cent would mean more than one billion of dollars to the farmers of the United States. By way of comparison, it is claimed we have 600 colleges and universities in the United States, including buildings and endowments; the value exceeds \$500,000,000.00. The loss to agriculture in the United States through the ravages of insects in a single year would replace the buildings and endowments were they from any cause destroyed, and leave unexpended \$500,000,000.00—a sum sufficient to create and endow a like amount of 600 additional colleges and universities.

Zoologists tell us most young birds while in their nests are fed upon insect life, and that each one daily consumes an amount of animal food in the shape of insects equal to its own weight. Say there is but a single nest to the acre in this state, and each nest contains four



Jimmie Cox, Yellowstone Park

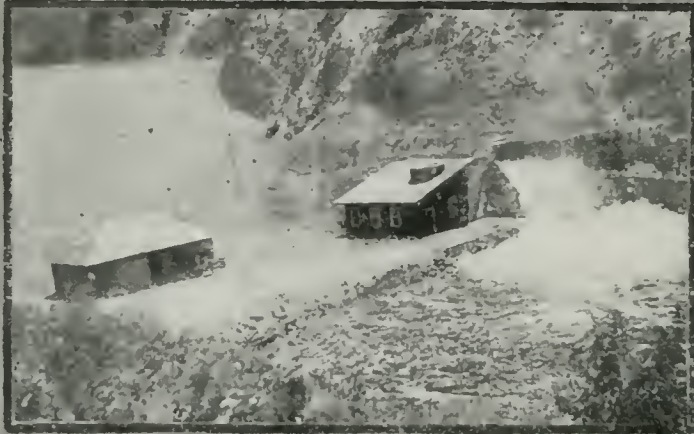
young birds weighing an ounce each, or four ounces to the nest, one pound to four acres, one ton to eight thousand acres, it would require eleven thousand five hundred (11,500) tons of insects to feed our birds one day, as Montana has 93,568,640 acres of land.

May I ask you then in all kindness if the bird family, consisting of game, insectivorous and singing birds, may be considered of value to the agricultural interests of Montana?

In conclusion, permit us to say that we are satisfied that a carefully arranged system can be worked out whereby the rodent family may be properly cared for, but the system now in use is a bad one and should be abandoned. The law should banish from the shelves of the grocery stores the many formulas and the recently introduced mixtures thrown into the discard, as the loss of the greatest friend the farmer has (the birds) is proceeding at an alarming rate of speed.



Ewe Big Horns, Gardiner River



BEFORE AND AFTER
A SNOW SLIDE





Elk. Gardiner, Montana

Early Explorers of the Yellowstone

By Emerson Hough in the Saturday Evening Post

The party was under the charge of General Henry D. Washburn, then surveyor-general of Montana. The historian of the party and its real originator was Nathaniel P. Langford, one of the best known of the old Montana men, at that time United States collector of internal revenue. He was the first superintendent of the park, and served five years without pay. His friend, Samuel T. Hauser, later governor of Montana, civil engineer and bank president, was another prominent member. Thus might be rated also Judge Cornelius Hedges, a prominent citizen of Helena. Lieutenant G. C. Doane was scientist and governmental historian of the party. William C. Gillette and Benjamin Stickney were pioneer merchants. Mr. Walter Trumbull was assistant assessor of internal revenue. Mr. Truman E. Everts, the man who was lost for forty-seven days in that wild country, held the office of assessor of internal revenue for his state. There was also one Jacob Smith, who joined the party at a late hour. A military escort of five soldiers was sent along—Sergeant William Baker and the enlisted men, George W. McConnell, William Leipler, Charles Moore and John Williamson. There were two packers, Reynolds and Henry Bean, and two negro cooks.

This party, generally known as the Washburn expedition of 1870, entered what is now Yellowstone Park by way of Trail creek, which took them to the Yellowstone river at the northern end of the present park limitations. There was known to be danger of the Indians, and indeed this threatened danger had prevented earlier exploration of the country of the Upper Yellowstone.

The party stood their first night guard on August twenty-third. They came up the Yellowstone river, passing the point where the town of Gardiner now is located; passed beyond the Tower Falls and the second Canyon of the Yellowstone, until they came to the Grand Canyon



Grinnell Glacier, Glacier Park

of the Yellowstone, of which they already knew something. Thence they passed entirely east of Yellowstone Lake on their way south, circumventing that lake below its lower arms; headed northwest, and twice crossed the Continental Divide.

They did not know very well where they were, or how they were to get out; but from the western edge of the Yellowstone Lake they headed northwest for the Firehole river. They saw a large lake, no doubt Shoshone Lake, which some took to be the head of the Firehole and some the head of the Snake river. It was, as we now know, tributary to the latter stream. At length they did find the Firehole river, and broke down into that historic country known as the Upper Geyser Basin of the Yellowstone Park of today.

As they passed through the country they gave many names to the great features of natural interest. Having engaged in a real mountain exploration with horse and pack train, they had met hardships and dangers. Soon the winter would come, for by the middle of September snow threatened any day in those high altitudes. From these tremendous geyser basins, now for the first time well seen and well described, they headed down the Firehole and Madison, which they knew would lead them out somewhere not far from Helena.

The Land of Wonders

All of this is merely by the way. We need no historic review of their trip. Today we can see, in all ease and comfort, everything which through hardship and danger they saw, and far more. But now in the review of the simple story of their wanderings we come to one incident, to one picture, which I wish could be engraved on the mind of every American today, especially on the mind of every man holding a position of public trust and honor. Let us restore that picture to view, so far as possible.



Jack Johnson. Yellowstone National Park

Our men, our old Montana citizens, followed down the Firehole to what is now known as the junction of the Firehole and Gibbon rivers. There is a beautiful little valley here, fenced high about with bold escarpments. It is crossed by the splendid stream known as the Madison from this point down—one of the three sources of the Missouri river. At this place our explorers held what might be called their farewell camp. The diary of Langford describes all of these events perfectly and in detail.

By this time it was of course obvious to all these men that they had found a marvelous region. They were all Americans who had come West to secure their fortunes. Here lay fortunes for each of them close at hand. They were no fools, and they knew they had found resources which could be sold; realized well enough the wealth that they could make out of their knowledge. It was discussed among them how easy it would be to locate claims at all of the great points of interest and so take into private possession all of this land of wonders. It was even suggested that they might pool their interests, each man putting his homestead claim into the general pool.

An Anti-American Vision

But then there spoke up a man whose name we ought never to forget. He was an early American, a real American, by the name of Cornelius Hedges. He listened to what the others said, and then made his own speech. It ran in effect somewhat thus:

“God made this region for all the people and all the world to see and enjoy forever. It is impossible that any individual should think that he could own any of this country for his own and in fee. This great wilderness does not belong to us, but to America. Let us make a public park of it and set it aside for America, never to be changed, but kept sacred just as it is now, so that Americans always may know how splendid this early America was, how beautiful, how wonderful.”

Make the picture again for yourselves, if you can—the green circle of the valley, the bold mountains about the river. Paint for yourself the camp fire, with the horses standing about. Make again for yourself, if you can, all the wild, old adorable picture of the mountains and the West of fifty years ago. Especially paint in for yourself carefully



Mountain Sheep on Upper Madison Near Beaver Creek

the portraits in that circle of bearded men, now that you know their names. They sat with their hands on their knees, or crouched on the grass, or leaned against their saddles. They sat, I fancy, with heads dropped forward, silent. They turned their eyes toward Cornelius Hedges when he spoke his words about heirlooms, words about things sacred, never to be parted with. After he had finished, I presume for the most part they nodded their assent. Then they had made a law, a law such as was decreed in their old miners' meetings in Alder Gulch when Montana was no man's land. That was when the Yellowstone Park began

Langford, in his diary, describes this extraordinary scene in his customarily simple fashion:

"Last night, and also this morning in camp, the entire party had a rather unusual discussion. The proposition was made by some member that we utilize the result of our exploration by taking up quarter sections of land at the most prominent points of interest, and a general discussion followed. One member our party suggested that if there could be secured by preemption a good title to two or three quarter sections of land opposite the lower fall of the Yellowstone and extending down the river along the canyon, they would eventually become a source of great profit to the owners. Another member of the party thought that it would be more desirable to take up a quarter section of land at the Upper Geyser Basin, for the reason that the locality could be more easily reached by tourists and pleasure seekers. A third suggestion was that each member of the party preempt a claim, and in order that no one should have an advantage over the others the whole should be thrown into a common pool for the benefit of the entire party.

Creating the First Park

"Mr. Hedges then said that he didn't approve of any of these plans, that there ought to be no private ownership of any portion of that region, but that the whole of it ought to be set apart as a great National Park, and that each one of us ought to make an effort to have this accomplished. His suggestion met with an instantaneous and favorable response from all except one of the members of our party,



and each hour since the matter was first broached our enthusiasm has increased. It has been the main theme of our conversation today as we journeyed. I lay awake half of last night thinking about it; and if my wakefulness deprived my bedfellow—Hedges—of any sleep, he has only himself and his disturbing National Park proposition to answer for it.

“Our purpose to create a park can only be accomplished by untiring work and concerted action in a warfare against the incredulity and unbelief of our national legislators when our proposal shall be presented for their approval. Nevertheless, I believe we can win the battle.”

Those were able men. Let us disabuse ourselves of the belief that our frontiersmen were ignorant men or wholly simple men. Montana has had no abler citizens than those who came out in the early sixties. So these men knew how to go to work. In brief, we may sum up the results of their labors in the words of the act of creation of the Yellowstone Park, which was and is its basic and sacred law:

“Section 2474, R. S.: The tract of land in the Territories of Montana and Wyoming, lying near the headwaters of the Yellowstone river and described as follows, to-wit, commencing at the junction of Gardiner’s river with the Yellowstone river, and running east to the meridian passing ten miles south of the most southern point of Yellowstone Lake; thence west along said parallel to the meridian passing fifteen miles west of the most western point of Madison Lake; thence north along said meridian to the latitude of the junction of the Yellowstone and Gardiner rivers; thence east to the place of beginning, is reserved and withdrawn from settlement, occupancy, or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people; and all persons who locate, or settle upon, or occupy any part of the land thus set apart as a public park, except as provided in the following section, shall be considered trespassers and removed therefrom.

“Section 2475: Such public park shall be under the exclusive control of the Secretary of the Interior, whose duty it shall be, as soon as practicable, to make and publish such regulations as he may deem necessary or proper for the care and management of the same. Such



Gould Mountain, Altyn Lake, Glacier Park

regulations shall provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities or wonders, within the park, and their retention in their natural condition. The Secretary may, in his discretion, grant leases for building purposes for terms not exceeding ten years, of small parcels of ground, at such places in the park as may require the erection of buildings for the accommodation of visitors; all of the proceeds of such leases, and all other revenues that may be derived from any source connected with the park, to be expended under his direction in the management of the same, and the construction of roads and bridle paths therein. He shall provide against the wanton destruction of the fish and game found within the park, and against their capture or destruction for the purpose of mer-



chandise or profit. He shall also cause all persons trespassing upon the same to be removed therefrom, and generally is authorized to take all such measures as may be necessary or proper to fully carry out the objects and purposes of this section."

We ought, as Americans, to be familiar with that act of March 1, 1872, which established the first of our national parks. We ought, as taxpayers, to study every word of its text. You and I are individually interested in the phraseology of that act of Congress of March 1, 1872. Let each and every succeeding Secretary of the Interior read that text and remember it. It is up to you and me to see to it that no future Secretary of the Interior ever shall forget it.



Big Horn Ewes Learning to Eat Alfalfa. Gardiner River



Lake McDonald, Glacier Park



About 750 Left in Montana

Work of Biological Survey

[Address of President Wallis Huidekoper of the
Montana Stockgrowers' Association

at the

Thirty-Fifth Annual Convention, Billings, Montana

The work of the Biological Survey of the Department of Agriculture in the destruction of stock-killing wild animals has been successfully carried on throughout the state. During the fiscal year ending 1919 the sum of \$22,544 was expended by the Federal Government in our state towards the maintenance of professional trappers, with a total catch of 1,640 animals, divided as follows: 4 bears, 94 bobcats, 1,494 coyotes and 48 grey wolves. Since this department has been organized and operated they have done most efficient work, which is shown by their report of the destruction of over 200,000 predatory wild animals throughout the Western Mountain States, which includes 240 mountain lions and 2,00 grey wolves, of which latter 260 were killed in Montana alone. The stockmen of Eastern Montana should be particularly pleased, as over 146 grey wolves have been cleaned up on the plains country within a radius of 90 miles of Miles City. All skins secured by these government trappers are turned in to the federal inspectors and sold for the benefit of the Biological Survey, \$96,000 of additional money being thus obtained the past year from these sources.



Rising Wolf Mountain and Upper Two Medicine Lake, Glacier Park

The Game Warden

By the Late J. M. Kennedy of Libby

"At each session of the legislature in Montana budding statesmen and rising politicians, anxious to leave a brilliant trail along the path of glory, introduce a few bills having to do with the game warden's department. Since its establishment that department of the state government has been the football of the politicians and the Mecca, politically speaking, for all the fellows who are anxious to get in the legislative honor roll. The approaching session, doubtless, will witness the introduction of many bills having to do with the game warden's department. The average man in Montana, who takes an interest in hunting and fishing, has great difficulty, in recent years, in keeping track of the innovations and changes in the game law. Even the best informed sportsmen in the state frankly confess they are in doubt today as to just what the present status of the game law is. That is an unfortunate condition. It tends to bickering and misunderstandings, unconscious violations of the law, embarrassment for the honest citizen who is really desirous of observing the statutes, and it also superinduces unnecessary and unjust criticism of the officers of the department who seek to enforce the law without being unnecessarily harsh with the citizens.

"But the game law, as it stands at present, needs some fixing; some parts of the statute need fixing mighty badly. Over in Northwestern Montana, the haven of the big wild game that is making Montana the sportsman's paradise of the Union, the annual slaughter of



Bad Lands on the Old Missouri Near Judith

deer and elk and other large game is appalling. It threatens the extinction of the noble animals that make Montana's forest attractive for the sportsmen of the nation. Once, after the construction of the Great Northern railway through Northern Montana, west of Kalispell the business of killing deer and shipping the hides furnished profitable employment for many hunters, and the records of the Great Northern railway show that in one season there were shipped out of the little village of Troy, on the western boundary line of Montana, more than ten thousand deer hides. The old timers in that region of the state refer to that period as "the deer skin age." It is said that deer hides in those days passed as currency. The settled price of each hide was twenty-five cents. They were accepted at the grocery store and the cobbler's shop, or at the restaurant, or in the newspaper office as the currency of the country. The editor of the little local paper at Libby once said that the gallant young swain who took his best girl to a dance in Libby paid the entrance fee in four deer skins.

"The brutality of the slaughter, the uselessness and villainy of it all, appalls one now to hear the story told. Men, without a drop of red blood in their veins, have been known to sit on the banks of the Kootenai river, with a high power rifle, and shoot a dozen deer on the opposite side of the river as the gentle animals came to the water's edge to drink. They were shot for the pleasure of seeing them fall. The meat of the splendid creatures thus slaughtered, sufficient in quantity to feed the starving armies of the kingdom of Greece, was left for the buzzards and coyotes. The bones of thousands of deer whitened in the forests of Northwestern Montana every spring, when the 'sportsmen' got through.

"This year the hunting in that section of the country is not as good as it was even a year ago. The remarkable severity of last winter left a trail of death through Lincoln and Flathead county forests. The deer starved in thousands, or were pulled down in the deep snow by the lions and cougars, and other beasts of prey, and slaughtered in myriads. The hunting in that part of the world is still good, and the real sportsmen, with ideas of true sport, may still find pleasure and profit in a brief period during the hunting season. But the time for the slaughter of deer, under our law, is too long. The fifteen days



Antelope Near Devil's Slide, Upper Yellowstone

allowed in December should be cut off. The legislature changed the law two years ago in this respect, and added fifteen days in which deer may lawfully be killed, from the first to the fifteenth of December. It was a grave mistake. If the deer is not to be extinct and as scarce as the antelope and the bison, the session of Montana's legislature now approaching must take precautionary measures. The closed season should commence on the first of December. Many of the best sportsmen, who are familiar with conditions in the northern part of the state particularly, are advocates of a closed season extending over several years, to enable the game to propagate and recover from the unfortunate conditions that have been conspiring to rapidly exterminate them in recent years. The legislator who will procure the enactment of a bill throwing additional safeguards around the life of the deer in Montana's forests will have done a splendid service for the commonwealth."

The American Sportman's Creed

1. Never in sport endanger human life.
2. Never kill wantonly, or needlessly, or brutally.
3. Obey the laws of the state and nation, work for better laws, and uphold the law-enforcing authorities.
4. Respect the rights of farmers and property owners and also their feelings.
5. Always leave seed birds and game in covers.
6. Never be a fish-hog.
7. Discourage the killing of game for commercial purposes by refusing to purchase trophies.
8. Study and record the natural history of game species in the interest of science.
9. Love nature and its denizens and be a gentleman.



Garden Wall, West Line Glacier Park

Plants That Will Attract and Hold Wild Ducks

WILD MILLETT—(*Echinochloa crus-galli*).

Method of Planting—Sow in cultivated patches on bank of lake to edge of water. Reseeds itself. Easily established. Will grow in one foot of water; 25-40 pounds to acre.

WILD RICE—(*Zizania palustris* or *Z. Aquatica*).

Time to Plant—September 10 to freezing (seed). May 1-June 25 (plants). Northern United States and Canada.

Method of Planting—One-third foot of water. Mud bottom best, 2-4 inches deep. Not adapted to stagnant water or bodies of water which change in level; 50 pounds to acre.

WATERWEED—(*Anacharis canadensis giganted*). Will grow in water up to three feet in depth.

Time to Plant—From June 15 on.

Method of Planting—Water weed propagates itself from pieces of leafy stem or root. It is tenacious of life, and if shipment in good condition is achieved, no trouble will be experienced in obtaining a stand of the plant. Bury the roots or bases of stems in the bottom in shallow water for quick results. The plant will grow, however, if only thrown in water shallow enough (three feet or less) to allow it to send roots to the bottom. It likes a loam or sandy loam and does not grow in clay. Either still or running waters are suitable. When established it will spread to water up to 10 feet in depth.

COONTAIL—(*Ceratophyllum demersum*). Will grow in any depth of water.

Time to Plant—From May 15 on.

Method of Planting—Pieces of coontail broken off from the parent plant promptly make new colonies, a characteristic which makes transplanting easy. Care need be taken only to see that the plants do not lose their vitality either through drying or fermentation during shipment.

Plant in quiet water. As the plant has no roots, it is enabled to thrive over mud or sandy bottoms where many other plants cannot establish themselves.

WILD ~~PLANT~~—(*Vallisneria spiralis*)—For diving ducks.

Time to Plant—May 25 to July 30 (for roots). September 10 till freezing (for seed).

Method of Planting—Muddy bottom in three and one-half to six and one-half feet fresh water, sluggish current.

SAGO PONDWEED—(*Potamogeton pectinatus*). For diving ducks.

Time to Plant—Plants, from May 15 on; seed, August 25 till freezing.

Method of Planting—Seed, 2-6 feet of water; muddy bottom preferred, but will grow on sand.

MUSK GRASS—(*Characeae chara* or *nitella*).

Time to Plant—Late summer or fall.

Method of Planting—Gather in quantity when most of oogonia are mature. Weight bunches of the plant and drop to bottom. Growth should appear the following summer. These grasses will grow on almost any kind of bottom, but they will not thrive permanently in the absence of lime.

WATERCRESS—(*Sisymbrium nasturtium, aquaticum*).

Time to Plant—Any time during spring and summer.

Method of Planting—Use either seed or cuttings. Level waters in which there is some current are best adapted to this plant.

One Buck Law Elsewhere

In reinstating the one buck law this fall the state of Wisconsin is but following the lead of many states and the law of several of the Canadian provinces. The following summary indicates the practice in the several states and counties:

Alabama—Buck law.

Alaska—Buck law (3-inch horns).

Arizona—Buck law.

Arkansas—Buck law.

California—Buck law (except spike buck).

Colorado—Buck law (must have horns with two or more prongs).

Iowa—(No open season for deer).

Kansas—(No open season for deer).

Kentucky—(No open season for deer).

Maryland—(No open season for deer).

Mississippi—Buck law.

Missouri—Buck law.

Nebraska—(No open season for deer).

New Jersey—Buck law (horns must show above hair).

New Mexico—Buck law (horns must be 6 inches long).

New York—Buck law (horns must be 3 inches long).

North Dakota—(No open season for deer).

Ohio—(No open season for deer).

Oregon—Buck law (must have horns).

Oklahoma—(No open season for deer).

Pennsylvania—Buck law (must have horns 2 inches long).

Rhode Island—(No open season for deer).

South Carolina—Buck law.

Texas—Buck law.

Utah—Buck law.
 Vermont—(Other than spotted fawn).
 West Virginia—(No open season for deer).
 Wyoming—Buck law.

CANADA:

Alberta—Buck law.
 British Columbia—Buck law.
 Manitoba—Buck law.
 Northwest Territories—Buck law.
 Nova Scotia—Buck law.
 Quebec—Buck law.
 Saskatchewan—Buck law.
 Yukon—Buck law.
 Colony of Newfoundland—Buck law.

Summary of Laws Relating to the Seasons, Licenses, Limits, Sale and Export

The dates of open seasons for migratory game birds shown under the various states and provinces are the times when these birds may be hunted without violating either state laws or federal regulations. Federal regulations now prohibit shooting from sunset to half an hour before sunrise.

The regulations under the federal migratory-bird treaty act prohibit throughout the United States the killing at any time of the following birds:

Band-tailed pigeon; little brown, sand-hill, and whooping cranes; wood duck, eider ducks, swans; curlews, willet, upland plover, and all shorebirds (except the black-bellied and golden plovers, Wilson snipe or jacksnipe, woodcock, and the greater and lesser yellowlegs); cuckoos; flickers and other woodpeckers; nighthawks or bull-bats and whip-poor-wills; swifts; hummingbirds; flycatchers; bobolinks, meadow-larks and orioles; grosbeaks; tanagers; martins and other swallows; waxwings; shrikes; vireos; warblers; pipits; catbirds and brown thrashers; wrens; brown creepers; nuthatches; chickadees and titmice; kinglets and gnatcatchers; robins and other thrushes; and all other perching birds which feed entirely or chiefly on insects; and also auks, auklets, bitterns, fulmars, gannets, grebes, guillemots, gulls, herons, jaegers, loons, murre, petrels, puffins, shearwaters and terns.

In some states certain days of the week constitute close seasons throughout the time in which killing is permitted. Hunting on Sunday is prohibited in all states and provinces east of the one hundred and fifth meridian except Illinois, Louisiana, Michigan, Texas, Wisconsin, and Quebec. Mondays constitute a close season for waterfowl locally in Maryland and North Carolina; and certain other week days for waterfowl in several favorite ducking grounds in Maryland, Virginia, and North Carolina. Hunting is prohibited on election day in Maryland in Allegany, Baltimore, Cecil, Charles, Frederick, and Harford counties; and when snow is on the ground in New Jersey, Delaware, Virginia, and Maryland.

The county laws of North Carolina, which are too numerous to be included satisfactorily, are not incorporated in the following summary, which otherwise may be regarded as a practically complete resume of the regulations now in force.

The migratory-bird treaty act regulations permit the possession of migratory game birds during the open season and the first 10 days following the close of the season. This provision has been considered in connection with state laws, and when migratory game birds may be legally possessed under federal regulations and state laws during any part of the close season, it has been stated under the heading "Bag limits and possession." Possession of non-migratory game during the close season is generally prohibited by state laws, but when an extension of a few days or a special season is provided for either possession or sale attention is called thereto.

Under the federal migratory-bird treaty act the sale of all migratory game birds is prohibited throughout the United States (except birds taken for scientific or propagating purposes, and waterfowl raised on farms or preserves, under proper permit from the Secretary of Agriculture—see regulations 8 and 9, pages 73-74).

In stating the open seasons the plan of the New York law, to include the first and the last days thereof, has been followed. The difficulty of securing absolute accuracy in a statement of the seasons is very great, but the following summaries have been submitted to the proper state or provincial game commissioners for approval, and are believed to be free from material errors. Seasons which apply only to special counties are placed to the left of the column containing those for the state in general. Species (including migratory game and non-game birds protected throughout each year by federal regulation) on which the season is closed for a term of years or an indefinite period are grouped under the term "No open season." Provisions of state laws prohibiting hunting at night, between sunset and sunrise, or during certain hours, are not included.

Persons are advised to secure from state game commissioners the full text of game laws in states where hunting is contemplated.

Montana State Laws

Open Seasons:	Dates inclusive.
Deer (see exception)	Oct. 1-Nov. 30
Exception: Deer in Custer, Dawson, Richland, Rosebud, and Yellowstone Counties (1922); in Roosevelt, Sheridan, and Valley Counties (1921).	
Elk in Carbon, Madison, Park, Stillwater, Sweet Grass, and parts of Beaverhead and Gallatin Counties.....	Oct. 15-Dec. 24
In Fergus, Mineral, Wheatland, Ravalli, and parts of Granite, Lewis and Clark, and Powell Counties.....	Oct. 15-Oct. 24
In Flathead, Lincoln, Teton, and parts of Granite and Missoula Counties	Oct. 15-Nov. 30
Pheasant, partridge, prairie chicken, sage hen, fool hen, grouse (see exception)	Sept. 15-Sept. 30
Exception: In Roosevelt, Sheridan, and Valley Counties, Oct. 1, 1921.	
Duck, goose, brant	Sept. 15-Sept. 30
Black-bellied and golden plovers, Wilson snipe or jacksnipe, yellowlegs, coot, gallinule	Sept. 16-Dec. 31
Rail, other than coot and gallinule.....	Sept. 1-Nov. 30
No open season: Sheep, goat (1922); elk (except as above), moose, caribou, antelope, bison or buffalo, quail, introduced pheasant, dove, swans, wood duck, bittern, little brown, sand-hill, and whooping cranes, grebes, gulls, herons, loons, band-tailed pigeon, terns, and all shorebirds (except Wilson snipe or jacksnipe, black-bellied and golden plovers, and yellowlegs).	
Hunting and fishing licenses: Non-resident: General, \$50; birds and fish, \$15; fish, \$3. Alien: General, \$50; fish, \$5. Resident: General, \$1.50. Guide (resident), \$10. Shipping (export), 50 cents. Issued by warden or deputy. Elk (special), \$25 (2 elk in Park and Gallatin Counties). Issued by warden.	

No license required of female under 18 or of male under 14. Alien not holding a hunting license required to obtain from warden \$25 license to possess firearms.

Bag limits and possession: One deer, 1 elk a season, except in Gallatin and Park Counties where 2 elk may be taken under special \$25 license. 5 in all of grouse, partridges, prairie chickens, fool hens, pheasants, and sage hens a day or in possession; 20 ducks, 8 geese, 8 brant, 15 in all of plovers and yellowlegs, 25 Wilson snipe, 50 sora, 25 in all of other rails, coot, and gallinules a day. Possession of migratory birds except waterfowl permitted during first 10 days of close season.

Sale: Sale of all protected game prohibited; provided, merchant or hotel or restaurant keeper may sell game, except migratory birds, killed out of the state. Under permit mounted specimens or hides or heads of mammals or birds lawfully taken may be sold.

Export: Export of all protected game prohibited; provided, game killed may be exported in open season under hunting license, and shipping permit (fee, 50 cents), from state warden; total shipments under one license may not exceed season's bag limit, and not more than two days' limit of migratory birds may be exported in any one calendar week; packages to be labeled to show contents.

License sales and permits issued in 1919:

70,429	Resident Citizen at.....	\$ 1.50	\$105,644.50
252	General Non-Resident at	50.00	6,300.00
1,134	Non-Resident Fishing at	3.00	3,414.00
21	Limited Non-Resident at	15.00	315.00
1	Alien Gun License at	25.00	25.00
10	General Alien Licenses at	50.00	500.00
311	Alien Fishing Licenses at	5.00	1,555.00
196	Special Elk Licenses at	25.00	4,900.00
203	Official Receipts at	1.50	304.50
78	Guides' Licenses at	10.00	780.00
1,961	Shipping Permits at50	980.50
181	Marten Trapping Licenses at	1.00	181.00
10	Private Pond Licenses at	5.00	50.00
1	Trapper's License (Game Pre.) at.....	5.00	5.00
49	Seining Licenses "A" at	5.00	245.00
5	Seining Licenses "B" at	5.00	25.00
4	Game Farm Licenses at	5.00	20.00
			\$125,244.50
	Confiscations		1,761.59

License sales and permits issued in 1920 up to December 31. (The records of this year are not complete as 1920 account does not close until April 30, 1921):

52,751	Resident Citizen Hunting and Fishing at.....	\$ 1.50	\$79,127.00
1,305	Non-Resident Fishing Licenses at.....	3.00	3,915.00
53	General Non-Resident Licenses at	50.00	2,650.00
28	Limited Non-Resident Hunting Licenses at..	15.00	420.00
1	Alien Gun License at	25.00	25.00
10	General Alien Licenses at	50.00	500.00
234	Alien Fishing Licenses at.....	5.00	1,170.00
1	Special Elk License at	25.00	25.00
76	Official Receipts at.....	1.50	114.00
43	Guides' Licenses at	10.00	430.00
2,174	Shipping Permits at50	1,087.00
9	Private Pond Licenses at	5.00	45.00
139	Marten Trapping Licenses at	1.00	139.00
39	Seining Licenses "A" at	5.00	195.00
3	Seining Licenses "B" at	5.00	15.00
4	Game Farming Licenses at	5.00	20.00
1	Scientific Permit at	5.00	5.00
			\$89,882.00
	Confiscations		2,169.92

The records of this office show that 60 arrests have been made between June 1st, 1919, and November 30, 1919, on complaints as follows:

Fishing without license	18
Fishing with unlawful device	1
Fishing for market without registration.....	1
Killing ducks out of season	4

Killing deer out of season	1
Killing more than one deer	1
Killing deer closed territory	2
Killing antelope	1
Killing grouse out of season	4
Killing elk Gallatin Game Preserve	1
Killing game out of season	1
Killing beaver unlawfully	1
Hunting game out of season	2
Killing more than one elk	1
Hunting without license	3
Hunting on two licenses	1
Offering elk meat for sale	1
Shipping beaver hides illegally	1
Sending without license	2
Spearing fish	2
Running deer with dogs	1
Transferring license	1
Unlawful possession of seine	1
Violation of game laws	2
Violation Alien Gun Law	6
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These complaints were instituted in the following counties:

Beaverhead	1
Carbon	2
Cascade	1
Custer	1
Dawson	2
Fergus	8
Flathead	1
Garfield	3
Lewis and Clark	6
Lincoln	1
Missoula	2
Park	5
Phillips	2
Powell	2
Ravalli	2
Rosebud	1
Sanders	1
Sheridan	3
Silver Bow	3
Sweet Grass	6
Valley	1
Yellowstone	5
Wheatland	1
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These cases were disposed of as follows:

Convictions	56
Acquittals	2
Pending	2
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	60
Fines imposed	\$1,595.80

The records of this office show that 116 arrests have been made between December 1st, 1919, and November 30, 1920, on complaints as follows:

Aliens in possession of resident licenses	2
Dumping sawdust into fishing stream	5
Dynamiting fish	1
Guiding without license	1
Fishing without license	12
Hunting without license	2
Hunting and trapping on Gallatin Game Preserve	1
Killing deer out of season	4
Killing wild ducks out of season	5
Killing grouse out of season	1
Killing game on Gallatin Game Preserve	1
Killing bear on Gallatin Game Preserve	1
Killing moose	2
Killing song birds	1
Killing antelope	1

Killing elk closed territory	3
Killing grouse out of season	1
Leaving elk in mountains to spoil after removing head and teeth	2
Offering elk teeth for sale	3
Selling game fish	3
Shipping beaver hides without permit	5
Shipping marten hides without permit	4
Possession over limit of game fish	4
Possession of rod and line along fishing stream without being in possession of a license	1
Possession wrong kind of license	2
Trapping marten without license	6
Trapping beaver unlawfully	15
Unlawful sale of beaver hides	3
Unlawful possession of hunting license	1
Unlawful possession of beaver hides	1
Violation Alien Gun Law	15
Unlawful fishing	7
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These complaints were instituted in the following counties:

Beaverhead	4
Carbon	5
Cascade	1
Chouteau	4
Dawson	1
Deer Lodge	4
Fergus	2
Flathead	6
Gallatin	4
Glacier	1
Granite	3
Lewis and Clark	2
Lincoln	6
Madison	8
Meagher	2
Missoula	4
Jefferson	2
Park	7
Powell	5
Ravalli	4
Richland	1
Rosebud	1
Sanders	8
Silver Bow	3
Stillwater	2
Sweet Grass	6
Teton	1
Wheatland	1
Yellowstone	18
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These cases were disposed of as follows:

Convictions	93
Pending	8
Acquitted	10
Discharged	5
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	116
Jail sentence	2
Fines imposed	\$2,680.00

The records of this office show that 190 arrests have been made between December 1st, 1918, and May 31, 1919, on complaints as follows:

Carrying firearms on Gallatin Game Preserve	8
Dynamiting fish	1
Fishing within spawning grounds	1
Fishing without license	3
Fishing with unlawful device	3
Hunting without license	4
Hunting on Gallatin Game Preserve	2
Possession fish net without seining license	4
Illegal shipments of beaver hides	9

Killing wild ducks out of season.....	2
Killing elk protected territory	1
Killing elk Gallatin Game Preserve	3
Killing deer out of season	6
Killing antelope	1
Obtaining license by fraud	1
Seining without seining license	4
Selling elk meat	1
Selling venison	1
Selling deer hides	1
Selling beaver hides unlawfully	2
Trapping beaver without license	3
Violation Alien Gun Law	129
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These complaints were instituted in the following counties:

Beaverhead	5
Broadwater	1
Cascade	1
Custer	6
Dawson	1
Fergus	2
Flathead	4
Gallatin	13
Hill	1
Jefferson	1
Lewis and Clark	3
Madison	2
Missoula	5
Musselshell	1
Park	2
Phillips	1
Powell	3
Sanders	5
Silver Bow	121
Stillwater	1
Teton	3
Yellowstone	8
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	190

These cases were disposed of as follows:

Pending	3
Convictions	181
Dismissed	1
Acquittals	5
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	190
Fines imposed in these cases.....	\$5,281.50
Jail sentences	3

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