

WYOMING GAME AND FISH COMMISSION

NELS H. SMITH . . . Governor Robert Grieve, President, Casper ED CHATFIELD, V. Pres., Sundance FRED W. RENDLE, Rawlins

L. E. WILKINSON, Evanston

W. L. SPICER, Jackson

R. W. SPRATT, Tensleep

WYOMING WILD LIFE published monthly at Cheyenne, Wyoming, by the Wyoming Game and Fish Department; edited by Department personnel; will be sent regularly, subscription free, to any individual or organization in North America, on direct request. Permission is hereby granted to reprint any material contained herein, provided proper credit is given.

Contents

FISHING AND TRESPASS—A LEGAL OPINION, Arthur Kline, Assistant Wyoming Attorney General	1
A MATTER OF CONSCIENCE	5
HUNGARIAN OR EUROPEAN PARTRIDGE	6
WYOMING FISHES, NO. 27	7
THOUGHTS ON ANGLING, Harold G. King, Sheridan	8
HORNS AND ANTLERS	9
THE SPORTSMAN'S CORNER.	10
"CONVERTING" CHERRY CREEK, Eugene E. Bjorn, Wyoming Fish Technician	12
BULLHEAD BILL SEZ	15
LICENSE SALES REACH NEW HIGH DURING 1940	16
TRANSPLANTING THE SAGE GROUSE	19
WYOMING WILD LIFE IN RETROSPECT	21
BOOKS	28
QUESTIONS TO THE EDITOR	24
DEPARTMENT DIRECTORY	2
COVER, Calf Elk, About Eight Months Old	

LABOR JOURNAL CHEYENNE, WYO



WYOMING Wild Life

Fishing and Trespass -

A Legal Opinion

ISHERMEN have long been at a loss to know the exact status of certain of Wyoming's fishing waters, as regards ownership and trespass. The following letter from the Office of the Attorney General of Wyoming, for which the Game and Fish Department is greatly indebted, casts much light upon these highly controversial matters. Sportsmen who wish to know the exact legal ownership of lake or stream beds (whether State, Federal, or privately owned) can get the information from their local county offices .- Ed.

Gentlemen:

Sometime ago you handed us a paper containing the following eight questions which you requested us to answer:

"1. Are there any navigable streams in Wyoming?

"2. May the riparian owner* on inland waters of the State prohibit trespass on the shores?

"3. Who owns the bed of a navigable stream?

"4. Can the riparian owner deny to anyone the right to fish on a navigable stream?

"5. Is a person trespassing if he wades a navigable stream?

* Owner of ground forming bank.

"6. Who holds title to the bed of a lake?

"7. Who has the power to establish a road to a lake or stream to which there is no access to the public?

"8. What is meant by the term 'navigable waters'?"

At the same time you handed us a copy of a letter addressed to you, the body of which reads as follows:

"Will you please set me straight on the following: After paying 50c or \$1 for the privilege of trespassing to the North Platte River and after leaving that rancher's land, the neighboring rancher has also attempted to collect 50c or \$1. I have always refrained from argument and turned back, but

would like to know if anyone can collect for fishing in the North Platte if I enter the stream from a public bridge or after paying a rancher to trespass. Could I be compelled to pay the additional amounts demanded, especially when the stream is low and I can wade it and am not compelled to trespass on any person's land?

"Is there additional land along the stream upon which a fisherman can walk above the high water line without crossing the owner's land in case he arrives at a deep section which cannot be waded?"

You have also requested our opinion concerning this matter.

In answer to your first question, I wish to advise that on April 25, 1940, this office gave an opinion holding that the Big Wind River was not navigable, and at that time we were of the opinion that there were no navigable streams in the State of Wyoming; at that time there was very little question under the authorities but that the opinion was correct. However, on December 16, 1940, the Supreme Court of the United States, in the case of United States v. Appalachian Electric Power Company, reversed its former rulings on the question of navigability. The decision in that case greatly extended the meaning of the word "navigable" and streams which were formerly considered non-navigable may now be considered navigable. Accordingly, it is highly probable that there are certain streams in Wyoming which are now considered navigable.

Your second question we must answer in the affirmative. We feel there is no question as to the correctness of our ruling on this

WYOMING WILD LIFE

In answer to your third question, we wish to advise that the State of Wyoming is the owner of the beds of navigable streams within its borders.

In answer to your fourth question, we wish to state that a riparian owner cannot deny to anyone the right to fish on a navigable stream. The reason for this is that navigable streams are generally considered to be public waters and the public has the right to use them for navigation. fishing and other public purposes; however, the riparian owner can deny to anyone the right to trespass upon the banks of the stream owned by him and it is necessary that anyone fishing on such a navigable stream remain in the stream and not trespass upon the banks.

We wish to answer your fifth question in the negative.

The answer to your sixth question depends upon the size of the lake and the question of its navigability. When this State was surveved, the surveys merely ran to the edge of large lakes and bodies of water and the bed of the lakes were unsurveyed. The beds of such large lakes were thus never patented or sold by the Federal Government and if the lakes were non-navigable, title to the bed of the lake remained in the Federal Government; if the lakes were navigable, title was in the State of Wyoming. However, on small lakes the survey of the government did not stop at the edge, and the bed of the lake was included in the survey. When the Federal Government sold or patented land upon which there was such a lake, the purchaser or patentee ac-



SPEAKING OF FISH (and who isn't, these days?), here's evidence to support the story Cal Ward (left) and Rex Decker (right) were telling up around Jackson. The fish, an 18-pound Mackinaw trout, was taken by Decker from Jackson Lake. One like that, Decker says, and you've got your limit.

quired title to the bed of the lake. On these smaller lakes the riparian owner, being the owner also of the bed of the lake, has the exclusive fishing right. On the larger lakes, and on smaller lakes where the Federal Government has not sold or patented the land on which the lake is located, the right is vested in the public generally, provided they can obtain access to the lake without trespassing upon private lands. Who owns title to the bed of the lake in any particular instance can be determined by checking the records and surveys in the office of the county clerk.

In answer to your seventh question, we wish to advise that either the State or county has the power by condemnation proceedings to establish a road to a lake or stream to which there is no access to the public.

It is impossible to give a gen-

eral answer to your eighth question. What may be considered navigable waters in one case are considered non-navigable waters in the next case. Justice Reed, in the Appalachian Electric Power Company case, in discussing this question, said:

"The legal concept of navigability embraces both public and private interests. It is not to be determined by formula which fits every type of stream under all circumstances and at all times.

"It is obvious that the uses to which the streams may be put vary from the carriage of ocean liners to the floating out of logs; that the density of traffic varies equally widely from the busy harbors of the seacoast to the sparsely settled regions of the Western mountains. The tests as to navigability must take these variations into considera-

For instance, a small mountain stream used to float logs every spring might be considered navigable because of the commercial use to which it is put. On the other hand, a much larger stream capable of floating a much larger boat than the smaller navigable mountain stream, but which is not located near any forest so that no logs are floated down it, might be considered non-navigable.

It is almost impossible to answer the questions contained in the above quoted letter unless we know who owns the bed of the North Platte River. For example, below Guernsey, Wyoming, the riparian owner acquired title only to the edge of the North Platte River. The government surveys ran only to the edge of the river on each side and only the surveved land was sold. Thus the bed of the stream is owned by the Federal Government if the stream is non-navigable and by the State if navigable. In either event the waters of the North Platte River below Guernsev are public waters and the neighboring ranchers cannot prevent a person from wading the bed of the stream and fishing therein. In such case he is not trespassing upon their lands.

On the smaller streams flowing into the North Platte River near Guernsey, such as Cottonwood Creek and the Laramie River, the government surveys did not stop at the edge of the stream but proceeded to cross it; thus, when the government patented a piece of land through which these streams flowed, the person receiving the patent acquired title not only to the banks of the stream but to the

bed of the stream. Since the bed of the stream was his private property he was entitled to prevent anyone from wading the stream and trespassing upon his land.

The North Platte River near Saratoga is considerably smaller than near Guernsey and it may be that the Government surveys proceeded across it. In such case the adjoining land owners undoubtedly own the bed of the stream and can prevent any trespass upon their lands; however, if the same situation as exists below Guernsev also exists near Saratoga, then the bed of the river belongs either to the State or the Federal Government and is public property and the public has the right to fish therein. Of course, even in such case fishermen cannot trespass upon the banks of the stream for the reason that such banks are private property. In order to evade payment of fees or a charge of trespass, the fisherman would be obliged to wade the stream or travel down it in a

This letter has already been unduly prolonged so I shall not cite authorities to support the statements which I have advanced; however, I wish to refer you to 22 American Jurisprudence, pages 682 and following, for a discussion of this matter. I am also sending you with this letter the case of Herrin v. Sutherland, 241 Pac. 328, in which the Montana Supreme Court answered questions substantially similar to those asked by you. This case represents the prevailing view on these matters, cites many authorities, and should be of interest to you.

Yours very truly,
ARTHUR KLINE,
Assistant Attorney General.

A Matter of Conscience

A STHE big game season drew to a close last fall, it became increasingly apparent that something must be done to stop the appalling waste and suffering occasioned by wounding and crippling the creatures of the forest and plains, then letting them hobble away to die.

The fault in the main lies not with the true sportsman and experienced hunter. It lies with the amateur who knows little about shooting and even less about hunting. And, apparently, we have many such amateurs who are permitted under the laws of the State to hunt without an experienced man to show them "how."

No true sportsman ever takes a shot at an animal unless he is reasonably sure that his shot will kill with minimum suffering. Yet we know that during the past season many hunters roamed the mountains taking long shots which their degree of expertness with a rifle failed to warrant.

We know that there were many who shot into groups and herds of game animals, merely trusting to luck that one might fall. We know there were some who took so little pains to find what they were shooting at that they never knew until after the shot or shots were fired—as witness the horse that was shot. We know that there were some who couldn't even tell the difference between an elk and a deer, others who shot up whole boxes of cartridges in reckless excitement.

In our country there are two main aims in hunting—sport and meat. Those whose main aim is

meat should never lose sight of the attendant sport, among the most marvelous in the world. Aside from the glories of the mountains and the thrill which many of us feel in the chase, the greatest pleasure lies not in the actual shooting but in outwitting animals whose senses are a hundred times more acute than our own. Thus it is in the tracking and stalking of the game, the working toward them until the hunter is close enough for a reasonably sure shot, that is the greatest joy and achievement of hunting. And, if this aim were kept in mind by those who hunt big game, there would be far less waste and suffering among those creatures which the Lord has given us to hunt and eat.

Our laws demand that citizens of other States must employ guides when they hunt in our State, yet many dudes are far more experienced hunters and better shots than many of Wyoming's ambitious citizens. If our laws do not demand that our amateurs take guides, it is up to their individual consciences to improve their shooting in target practice and in going hunting, to find some friend who is an experienced hunter and who can teach them the "hows."

To impress upon our amateur hunters this consideration should be the aim of every sportsmen's organization in Wyoming. — The Cody Enterprise.

In Texas recently ballistics experts aided game wardens in convicting violators who made illegal deer kills.

Hungarian or European Partridge

Perdix Perdix Perdix



Dr. Otto McCreary in his book Wyoming Bird Life describes the European partridge as follows: "Length 12-14 inches, wing 5.9-6.2, tail 3.0-3.4 inches. Adults: Forehead, broad stripe through eye, lores, cheeks, and throat pale cinnamon; crown dusky black bordered by lighter; neck and breast light grav speckled with black: back and wings brown marked with black and rufous gray; tail chestnut barred in the center with black; sides grav barred with dark chestnut; belly and abdomen white."

It is just a little larger than the bobwhite. It has a cinnamon throat and chestnut tail, while the bobwhite has a white throat and gray tail.

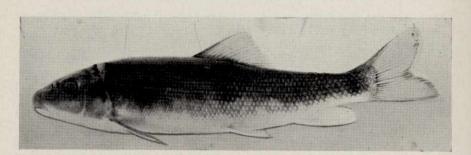
This species, known often as the

Hungarian partridge, has been introduced widely into the United States and Canada, and in many localities has established itself definitely as a game bird, particularly in the prairie regions of the Dominion.

Conspicuously successful partridge plantings in Canada led many of the Game and Fish Commissions to attempt its introduction into the United States. The bird is now well established in Oregon, Washington, and Idaho, and it is common in Wisconsin and Ohio. In other areas the experiment has not been wholly successful, but it is probable that the range of the "Hun" will be considerably extended.

In the Old World, the European Continued on Page 22

Wyoming Fishes, No. 27



ROSYSIDE SUCKER

Catostomus fecundus

The rosyside sucker is native to Snake River and its tributaries in Wyoming. It is particularly abundant in Jackson Lake, Snake River proper, Two Ocean Lake and Emma Matilda Lakes, and also in Heart Lake, and Witch Creek in Yellowstone National Park. Outside of Wyoming it is distributed through the Snake River Basin above Shoshone Falls and in the lakes and streams above the Great Basin of Utah. It is strictly a fish of the western slope of the Continental Divide.

The rosyside is Wyoming's largest sucker. It has been known to attain a length of 251/2 inches and a weight of five and one-half pounds. The rosyside takes its common name from the fact that breeding males, as in the case of most suckers, have a rosy lateral band. It spawns in the spring and usually runs into the smaller creeks from the lakes or larger rivers. It has been reported as a fish of considerable value as food but in Wyoming it is eaten only occasionally, since, in this State, throughout the rosysides'

range, trout are abundant and almost as easily obtained as the sucker.

Construction of ten bass-spawning nests for Beck Lake near Cody was completed recently by the Cody Rod and Gun Club and the Wyoming Game and Fish Commission. The nests are fashioned as boxes, two and one-half feet wide, four feet long, and 10 inches deep. The boxes are filled with sand and gravel, and are placed around the shoreline where water is about three and one-half feet deep.

Material for the boxes was furnished by the Cody Rod and Gun Club. Dick Rousseau, State Hatchery Superintendent, supervised construction and placement.

NOTICE TO FISHERMEN

In leasing State-owned lands to private individuals or corporations, the State of Wyoming reserves "the right and privilege of any person to fish in any streams on said premises."

Thoughts on Angling . . .

HAROLD G. KING, Sheridan

Two hundred and fourteen days of Wyoming fishing are just starting—including 30 weekends, to say nothing about the holidays and vacations, most of which will be spent in the Big Horn Mountains for those of this trade area and our visitors.

How many fish will be caught? That's a question that cannot be closely guessed at, but a little estimating might not be amiss. The creel limit is 20 fish or 15 pounds a day or in possession. But let's deal with numbers, not pounds. How many fishermen? Again let's estimate. The Big Horn Mountains have several transversing and entering roads. from Sheridan through Ranchester and Dayton up on top where at the Cross Roads a branch continues on over the mountains down into Kane (the main highway over), and down the Shell Creek into Shell and on into Greybull. Then there is the Red Grade -the route to Dome Lake, Twin Lakes, Spear's Wigwam and other places. And there's the route through Buffalo, up and over, and down into Tensleep and on into Worland, not forgetting the road into the Paint Rock District, via Manderson and Hyattville, and the many trails and branches . . .

Many people take advantage of the fine roads during the spring, the summer, and the fall. Many to fish, many to picnic, many to hunt. Many just to ride and enjoy the scenery. How many of these can be classed as fishermen or fisherwomen? How many cars on the average week-end go ON TOP, transporting just the fishermen? Would 500 be too many to venture? Two passengers to the car?

If not, then an estimate of a thousand fishermen and fisherwomen whipping the streams and lakes of the Big Horn Mountains on an average weekend, with the bag limit of 20 fish a day, makes 20,000 fish the estimated potential catch for an average week-end in our Big Horn Mountains! And then throughout the week, there are always fishermen on the banks and in the streams and lakes, whipping, and not in vain, but making catches. It all adds up—adds up to staggering figures.

No wonder nature does not keep up! No wonder nature, aided by the hatcheries, both State and Federal, does not keep up. No wonder the sportsmen's clubs of the Big Horn Mountain region are strong supporters of fish stocking — helping all they can. Planning. Scheming. Working. Doing all in their power to get the job done.

Much argument has been had, and no doubt it will continue, as to the relative advantages of planting fish directly from the hatcheries or via rearing ponds. Many have been the fish rearing ponds built and promoted by the various clubs — about which too much cannot be said—thereby enabling the planting of fish which have a better chance of survival in the streams and lakes, and thereby gladdening the heart of some man, woman, or child of this locality or of a visitor.

'Tis but one of the many projects of your sportsmen's associa-

tion or club. Don't forget the annual membership drive and annual meetings, and other meetings as well. Your help, your membership, is becoming more urgently needed year after year to enable continuance of the work. Be prepared to respond when contacted or notified.

Become an active member of your sportsmen's association or club, today. Don't put it off. Do it now!

Horns and Antlers

To the majority of laymen, all bony protuberances arising from the head of an animal are "horns." Actually there is a fine distinction between the "horns" of various kinds of animals.

True horns are borne by all members of the cow family — buffalo, musk ox, sheep, etc. These structures have a bony core and a horny covering. The horny case is completely dead, while the bony core is well supplied with nourishing blood. These true horns are never shed, but are carried throughout the life of the animal.

Things are quite different in the deer family which includes deer, elk, moose, etc. Only the males have "horns," and these are actually antlers and not horns at all. Antlers differ from true horns by completely lacking the horny covering. Instead, the entire structure is made of bone. Too, the entire structure is dropped each year and a completely new set of antlers takes form. From the time the new antlers first protrude through the skull as small bumps until they have reached their full growth, they are completely covered with skin and short, fuzzy hair-"velvet," hunters call it. In this stage they are well supplied with blood vessels to furnish necessary food for extremely rapid growth. When completely mature, a construction at the base of the antlers shuts off the blood supply, the skin and hair die, and the animal rubs the dead covering off, exposing the polished structures so well known to everyone as deer "horns." Following mating season, the set of antlers falls from the animal's head and another set begins growing almost immediately.

The antelope has a completely different "horn" borne by both sexes. As with the cow family, the antelope's has a bony core that remains intact throughout the life of the animal. The outer covering, however, is not horny as in the cow, but rather hairy. The complete outer covering is composed of closely-growing hairs which have become glutinated in a mass of sticky blood, hardened, and formed into a protective covering for the bony core. The core itself is a straight, conical structure, but the covering takes on the form of the characteristic "prong horn" so well known to everyone. Though the bony core is retained intact throughout life, the hairy covering is shed annually and a new one takes its place. This peculiar structure of glutinated hair is without equal on the whole American continent. In Africa, however, a similar structure is found on the rhinoceros.

-American Wildlife Institute.

Game and fish in their natural condition belong to the State in trust for all its citizens.

We were mighty glad to get an opinion from the Attorney General's Office this month, clearing up somewhat that oldest of the fisherman's headaches: TRES-PASS. Assistant Attorney General Arthur Kline put much time and hard work into answering a formal inquiry from the Wyoming Game and Fish Department, covering most of the angles of that tough old problem; and his report, if you haven't already seen it, is printed on Page 1 of this book.

10

Read it over, if you're being socked a dollar a pole every time you load up the old car to sneak away for a little honest fun. Then do a little private research into your county land records, as Art Kline advises, and maybeso you can thumb your nose at your own personal Public Enemy No. 1 next time he meets you at the fence with a grin on his face and an Admit One fishin' ticket in his hand.

CAUTION: Stay off the bank, and don't get tough till you know who owns the creek bed.

Harold G. King, Sheridan sportsman, and author of "Thoughts on Angling" appearing on Page 8 of this magazine, writes us, "Am of the opinion that very few sportsmen of this State who are or should be in the know have given any considera-

tion to the numbers of fish that are being taken from our waters. The figures when you think of them are staggering—even on an estimated basis. Am of the opinion that the attached article should be in a small degree at least, an eye-opener. It was written by an average Wyoming sportsman — one who until a couple of years ago didn't have his shoulder to the wheel, but who now has his eyes opened a little, and is trying to do his bit in helping out."

Well sir, we confess we go around feeling good for a month after getting a letter like that. And if you "unconscious fishermen" want your comeuppance, and serve you right, read Mr. King's "Thoughts on Fishing."

About fishing, Carl Evans of Cheyenne took the laurels in a Worland "big one" contest by landing a three-pound, seven-and-one-half-ounce brown trout on Canyon Creek above Ten Sleep last month. The award was a Shakespeare casting rod.

Bill Smart of Afton won no casting rod, but he had the incomparable thrill of landing a three-pound, three-ounce native trout on a wet fly in Fish Creek in the South Park area of Jackson Hole. Otto Stevens, also of Afton, pulled out a two-pound-

plus native from the same stream. It's Fish Creek, all right, they say.

Bernard W. (Barney) Johnson, Foreman at the Como Bluff Hatchery, believes that his work on the hatchery pipe line will pay dividends far into the future, aside from just supplying water. While digging his pipe-line trench this spring, Barney uncovered 169 hibernating garter snakes ranging from five to 30 inches in length. He found them in nests about 18 inches under the ground.

Interesting was the fact that about eight inches below the hibernating snakes was a flow of relatively warm water (54 degrees, F.). The future hatchery supply water was thus being used as a water-heating system for the reptiles during their winter sleep.

The garter snake is a fish predator, and progeny of that number would doubtlessly have made serious inroads into the output of Como Bluff ponds.

And Larry Larom's yarn about deer on his Valley Ranch turning carnivorous is matched now by members of the Wyoming Stream Survey crew. An old editorial room saw says that it is news when a man bites a dog, so when members of the survey crew saw a frog swallowing a bird at the Bruner rearing ponds, they reported it to this corner. The bird. a warbler, was ruffled and a bit upset by the experience; but it was able to fly away after the rescue. The stream surveyors report that frogs are generally quite loose in their eating habits, anvhow. One was observed swallowing a smaller frog.

Several new sportsmen's clubs have been organized in Wyoming during the last month or so. The Platte Valley Fish and Game Propagation Association was inaugurated at Saratoga with C. A. Ryan president, E. W. Dillon secretary, and Earl Moore, treasurer.

The Big Horn Mountain Chapter of the Izaak Walton League of America was organized at Greybull with Bill Moffat president, and M. B. Johnson vice president. The Rock Creek Sportsmen's Association is operating at McFadden; Lloyd Dixon is president, Clarence Brown is vice president, and Johnny Quinn is secretary-treasurer.

In order to illustrate to Wyoming's fishermen the value of trout, here are some prices on rainbow trout quoted to the State of Wyoming by a commercial dealer in an adjoining State recently:

2½" to 4", \$50.00 per thousand, delivered to Wyoming.

4" to 6", \$60.00 per thousand, delivered to Wyoming.

5" to 7", \$70.00 per thousand, delivered to Wyoming.

8" to 10", fifty-five cents per pound.

And last but not least, Mack O. North of the College of Agriculture, University of Wyoming, reports that he is inaugurating a class in game-bird propagation and management next fall. He requests that copies of Wyoming Wild Life be supplied him for classroom use.

Conservation is wise use of natural resources.



VIEW ON CHERRY CREEK, Goshen County. Areas along the "converted" stream have been fenced to enable bank foliage to grow up. Fenced areas will provide good wild life habitaf, as well as furnishing shade for trout waters.

THE Soil Conservation Service in cooperation with Carl Spencer, rancher on Cherry Creek, a small stream which heads about 30 miles west of Torrington, and the Lincoln Land Company, is creating a typical protected wild life area. The cooperation of the Wyoming Game and Fish Commission was solicited to improve Cherry Creek and make it suitable for fish production and, by so doing, to control stream ero-Under the agreement, the sion. Soil Conservation Service furnished labor and equipment and the Wyoming Game and Fish Commission supervised the project and supplied materials needed.

It was realized at the time the preliminary survey was made, June 6, 1940, that the project was purely experimental from the standpoint of fish production, since all physical characters seemed to discourage trout production and even improvement work. However, the offer of cooperation from the S. C. S. presented a good

"Converting"

EUGENE E. BJORN

opportunity to carry on the experiment which, if successful, will be valuable to demonstrate the possibility of converting similar unsuitable streams of the State into productive trout waters.

Cherry Creek at the time of the survey flowed about 45 gallons of water per minute. The stream moves slowly and consequently is heated by the sun considerably before reaching the improvement site, which is about one and onehalf miles from the head of the creek. On June 7, when the mean air temperature was 72 degrees F., it was found that the maximum water temperature varied from 82 degrees F. in the open upper section to 72 degrees F. at the improvement site just below the improved spring.

These temperatures are too high for the survival of trout, and in



THE BEAVER MOVED IN when this dam was completed, and made it their home. Note how they have added several inches height to the log dam already—doing their bit to make Cherry Creek over into a productive trout stream.

Cherry Creek

Fish Technician

view of this fact the headwaters were confined in a narrow channel to reduce the heating effect by the sun. This was done with good results, and the mean water temperature through the improved section was reduced to 66 degrees F.

Because of the restricted water flow, it was necessary to construct dams as nearly water tight as possible. Consequently, a log dam with diagonal plank face was used. The porous sandy soil and the frequent floods necessitated the construction of a solid dam set well into the banks. Trenches cribbed with rock to protect against settling were dug eight or ten feet into the bank on either Logs placed across the stream extending into the trenches were cribbed on the back side with boulders, rock and gravel,

and held together with long drift pins. Two-inch planks were sloped diagonally to the logs and driven at least one foot into the stream bed and nailed fast to make the face of the dam. The planking extended well into the banks to protect against washing around the end. Dirt, gravel, and rock were filled to a depth of about 18 inches over the plank facing, making it practically water-tight.

Seven of these dams were constructed on Cherry Creek in June, 1940. The lower dam, largest of the group, washed out shortly after construction and was not repaired.

Dams were placed in those sections of the stream which were well shaded, and were constructed to impound water from three to five feet deep. It was hoped that by this procedure the water would be cooled.

The following data taken June 28, after the water flow had decreased and the air temperatures had risen considerably, indicate

that the dams so placed proved to be effective cooling devices:

Air temperature, 12:00 Noon: 95 degrees F. in shade.

Water temperature, above improved spring: 80 degrees F.

Water temperature at overflow of:

The dams were numbered in sequence below the improved spring. Although temperatures were not taken below the surface in the pools, it is known that the temperatures in the bottoms of the pools were much lower than the surface temperatures indicated.

Five thousand one-and-one-half inch brown trout were planted in the stream on July 6, 1940. The site was again visited September 1, after a flood had occurred in the area. All the dams had withstood the flood, and many fish were seen at this time.

Surveys will be made during the summer of 1941, and if they indicate that the fish have survived the possible winter stagnation it will illustrate the conversion of an entirely unsuited stream into a productive trout water by stream improvement methods.

In the case of Cherry Creek, the outstanding results achieved were the creation of pools large enough for trout and the lowering of previous intolerable summer water temperatures.

Approximately 25 Canada geese were seen wintering in the vicinity of Bull Lake in Fremont County during the past winter.

THE FOOL AND THE WISE MAN

He loved to lean upon the fence
And watch the swallows dart,
And hear the lark with joy immense

Let song pour from its heart.

He leved to linger by the brook
And watch the bubbles play,
And drowse and dream above his
hook,

With trouble far away.

With simple joys he was content; He had no wish to rule, Men said his days were all misspent And called the man a fool.

Another, where the crowds were great,
Went scheming day by day;
He filled men's hearts with fear and hate
And piled his gains away.

He never knew one hour of rest,
His brow was lined with care,
If joy had e'er been in his breast
It had not lingered there.

No birds enchanted him with song, His dreams were full of sighs, But people saw him push along And thought that he was wise.

—S. E. Kiser, Ohio Conservation Bulletin.

Cigs for Measuring Fish

You can use cigarettes with which to measure your fish if you are ever in doubt as to its size and you are out in the middle of the lake without a rule. The length of any standard cigarette is 2¾ inches and that of the new "longies" 3¼ inches. Lay as many cigarettes end to end beside the fish in doubt and add the total.—Tex. Game Fish & Oyster Comm.



Bullhead Bill Sez

Hear tell lately about some sizeable moose an' b'ar brung down in Wyomin' durin' the last shootin' season. But you don't hear no mention o' big sheep bein' brung in. No sir. Why I reckon the world's record bighorn ram is still stompin' around up on Deadman's Peak in the Whistle Crick Hills. Reckon he's still right there where I seen him, 'less he's gone an' went some place.

Must of been a smart ago that I seen him there. I was huntin' that fall with Hardwinter Joe in them hills. An', high? Why them hills was so high me an' Joe an' all our hosses lookin' in relays couldn't see the tops. But Joe, he had this-here buck spotted, an' ole Joe was a canny man on a cold trail. Got so steep a man couldn't even spit and make 'er stick, an' we had to leave our hosses an' hoof it in the snow. But we went on up, Joe an' me.

Cold? Say, you know it got so bad up there we didn't get no coffee of a morning. We could brew it sometimes when our fire didn't freeze out. But we couldn't never git it poured. Huh? Why, it froze so fast outa the pot the ice was too hot to handle, even. An' that's a fact.

Well sir, it kept gittin' worse

till it couldn't git no worser. Then it didn't get no better. When we got to Blackfang Gorge, away up in them hills, my tongue was hangin' out an' I couldn't go no further. I was fagged. But we wasn't far from that sheep's hangout, so Joe he leaves me behind an' crosses the gorge to flush the critter.

I wait there quite a while, hunkerin' down behind a rock—the idea bein' Joe will drive the sheep inta me an' I will feed him lead plums, between the eyes. Well sir, I was about to give Joe up as gone when all of a sudden-like here comes that ram. Yes sir. Big as all over yonder, an' twice as purty. An' he was comin' on the lope, straight for the gorge.

Say, you know that-there crack was a mile deep an' so wide it took six yells to git an echo. But that ornery cuss, he never even raised a eyebrow. He jus' laid back his ears an' jumped — straight at me.

Well sir, I took a tail holt on myself, an' when that ram was halfway acrost the gorge, I stood up on my laigs to sight my gun. An' he seen me, then.

Say, you know that devil took one look at me, a-standin' there with my gun eared back, an' he turned plumb aroun' in midair, as they say, an' jumped back the way he'd come. Jumped clean over Joe an' the next three hills an' come down in a aspen stand, outa sight. An' we never did find him agin.

License Sales Reach New High During 1940

The sale of Wyoming hunting, fishing, guiding, and outfitting licenses and permits reached another all-time high during 1940, when 77,837 licenses and permits and 7,975 game tags were sold. Sales during 1939 were 72,764 licenses and 6,081 game tags; during 1938, 67,292 licenses and 4,384 game tags; 1937, 65,812 licenses and 4,900 tags.

The 1940 sales, then, represent an increase of almost 7,000 licenses and tags over 1939, about 14,000 over 1938 sales, and approximately 15,000 over 1937 sales. Last year was the first in several, however, that licensesales increases resulted in substantial Departmental income gains, because the 1939 sale increase was pretty well off-set by action of the State Legislature in reducing the fee charged for several Wyoming game and fish licenses.

Net income for the year 1940 was \$235,570. During the three years previous, this income remained almost constant: 1939, \$217,317.10; 1938, \$211,773.01; 1937, \$212,814.39.

It is significant that the most substantial gain made in sales of any one license was the tourist seven-day fishing permit. Sales here were up almost 2,000 over 1939. The 1940 sale of this license was only slightly heavier, however, than in 1938 and 1937.

Other 1940 gains over 1939 were made in sales of the resident hunting and fishing license, non-resident fishing, resident antelope, and game tags. Other sales remained almost constant; a few even declined slightly.

The resident fishing license, always the best seller, had sales doubling almost any other type of license during 1940. Sales were slightly under the last two years, here, however. The resident hunting and fishing license ranked second in popularity last year, with the tourist fishing license third.

Teton County led again in total revenue from all sales (by county), with receipts of \$22,114.80. Park County ranked second with \$18,702; Albany County third, with \$17,811.90, pressed hard by Sheridan and Laramie Counties with \$17,616.60 and \$17,172.50, respectively. Other high-ranking counties were Natrona, with \$15,183.80; Fremont, \$14,283.40; Lincoln, \$13,515.50; Carbon, \$12,657.60; and Sweetwater, \$12,447.70.

For comparison, Teton led in 1939, with \$19,374.40; Albany County was second with \$18,070.40; Sheridan third, \$16,782.50; Laramie fourth, \$15,761; Park fifth, \$15,739; Fremont sixth, \$15,062.

The 1940 license sales and the 1936-1940 comparative sales are broken down for further comparison on the following two pages.

LICENSE SALES-1940

TAGS Receipts Paid Agents	\$ 17.811.90 S	8.606.20	2.194.30	201 12,657.60	133 3,236,30	15 3,819.00	609 14,283.40	91 4,459.10	231 2,631.60	213 5,340,30	215 17,172.50	875 13,515.50	443	7 1.361.70	1035 18,702.00	60 4.372.00	666 17,616.60	537 9.091.70	412 12,447.70	1783 22,114.80	56 6.024.60	131 5,070.60	148 3,267.80
RO	10	_	0	0	0	0	10	0	0	0	00	2	0	0	28	0	1	10	0	27	0	0	0
RG	-	7	0	0	0	0	21	0	62	1	10	7	0	0	64	0	5	36	0	80	0	0	22
RA	252	62	112	340	94	52	124	28	27	228	394	44	366	42	86	46	309	54	414	67	77	38	138
Tourist	2119	152	37	1073	42	228	737	40	36	335	322	1891	253	14	1017	26	787	1063	214	3993	720	215	99
NRF	1037	59	12	362	25	231	285	210	18	91	237	649	78	67	913	76	344	240	85	770	362	47	99
N B	63	11	0	00	0	c)	00	c1	-	63	က	9	10	0	20	0	6	0	0	13	0	1	9
NR	63	10	0	4	C3	0	30	C1	53	7	43	11	15	0	61	0	10	46	9	129	-	0	-
RB&F	58	103	0	12	20	1	143	63	11	4	182	00	107	4	109	21	1117	0	5	222	0	0	0
RB	145	369	26	99	41	63	289	414	34	19	652	38	255	88	365	110	419	4	77	17	20	93	16
RF	2436	1284	878	2266	522	227	2040	533	403	699	2838	1223	3390	226	1518	583	2539	517	2361	638	572	782	306
RHE	1198	968	183	888	327	431	1148	295	278	559	1098	1173	1196	119	1276	521	1632	598	1150	945	442	607	331

14,589:00 NRM UNCLASSIFIED:

COMPARATIVE	STATEMENT LICENSE	SALES

	1936	1937	1938	1939	1940
Resident Hunting and Fishing	16,289	15,565	16,116	16,608	17,292
Resident Fishing	24,647	26,332	27,674	28,903	28,251
Resident Bird				3,246	3,560
Resident Bird and Fishing	4,462	2,609	2,631	989	975
Non-Res. Hunting and Fishing	452	500	448	336	386
Non-Resident Bird	135	41	51	69	89
Non-Resident Fishing	5,623	2,608	2,478	5,439	6,199
Tourist	10,613	15,107	15,305	13,908	15,490
Resident Antelope	1,841	2,246	1,799	2,372	3,266
Non-Resident Antelope	144	237	222	252	336
Resident Moose	2	16	23	15	33
Non-Resident Moose	49	34	27	35	38
Resident Sheep		25	25	33	31
Non-Resident Sheep		25	25	27	29
Non-Resident Deer				24	36
Resident Guide	210	241	202	234	242
Resident Outfitter	82	92	85	90	87
Game Tags	4,347	4,384	4,900	6,081	7,975
Archery				6	4
Fees Collected	\$203.553.15	\$212,814.39	\$211,773.01	\$217,317.10	\$235,570.0

SNAKES ALIVE!

Most people aren't in love with rattlesnakes, but the hides of these reptiles are useful... Besides shoes, riding boots and pocket-books, feminine underwear is produced from the skins of rattlesnakes... When cured by a special tanning process, the skin re-

sembles in texture and quality the finest grade of heavy taffeta, and its unique colors and patterns are well nigh impossible to imitate . . . Furthermore the skin can be tanned to a texture so thin that when crumpled up it becomes a tiny ball, yet is declared to be cooler and more comfortable than any silk or fabric garment.

-American Wildlife Institute



SAGE GROUSE IN TRAP, awaiting transfer to depleted area, are herded inside thru carefully managed drives.

HE Wyoming Sage Grouse Survey and Transplanting Program was begun on December 1, 1939, as a cooperative effort of the Wyoming Game and Fish Department and the Federal Government, under the Federal Aid to Wildlife (Pittman-Robertson) Act. Aims of the program are (a) to distribute the sage grouse from over-populated areas to regions where they were formerly abundant, but have been severely decimated; (b) to map past and present distribution, abundance and potential habitat in Wyoming, and to determine the extent of coccidiosis in this State: (c) to study sage-grouse depredations on crops; and (d) to gather information on other game species which come to the attention of the project workers during the interim of the sage grouse survey.

No attempt is being made under the project to restore sage grouse habitat, as it is believed that the proper environment is abundant in most parts of the State.

Sage grouse have been protected by closed season for four years in Wyoming, and in some areas they have increased during this time until those areas are overpopulated. It is necessary to retain the closed season, however, until the increase becomes general over the State; and the rare game birds are being transplanted from these over-concentrated areas. This policy, it is believed, will greatly facilitate a general comeback.

Malcolm Martin, Supervisor of the Sage Grouse Survey, reports, "Sage grouse studies have been made in 14 Wyoming counties to date. Nesting studies were conducted in May and June of 1940, in an area where sheep were grazed or trailed every day during incubation of sage grouse eggs. No nests were found trampled by sheep.

"Predation on nests was found

to be 27 per cent of the total number studied, while the number of eggs hatching in 28 nests was 68 per cent of the total. The average number of eggs contained in each nest was 7.4.

"The extent of coccidia infestations is being studied and mapped out by counties. Foods eaten by both old and young grouse are being determined from samples sent to the U.S. Food Habits Laboratory for analysis.

"Trapping operations were carried on from August 27 to November 18, 1940, during which time 644 sage grouse were livetrapped for redistribution. Only one trap was used. This year, with additional equipment, the number of grouse trapped is expected to more than double the 1940 catch."



WYOMING SAGE GROUSE are assigned numbers, too, these days. But the grouse are drafted only to be shipped elsewhere in the State for restocking. Each transplanted bird is assigned a number and an identification tag, which is banded onto the leg as shown above. Migratory habits of the transplantees can thus be checked. If you find a sage grouse carcass with such a tag attached, return it to the Game and Fish Department at Cheyenne, with information as to where and when found, and, if possible, apparent cause of death. One such tag has been returned to date.



By Dee Linford

• THE STORY of the American buffalo-of its abundance and its distribution over the North American continent, and of its wanton destruction by white men - has been told so many times and in so many different ways that it has become a part of every child's thinking. We know now that the Federal government even encouraged the extinction of bison as a means of subjugating the Indian.

"Hit 'em in the stomach," the brass hats said. "Kill the buffalo, and there will be no more Indian wars."

And the brass hats were right. Yet the white men who actually did the butchering had little idea that they were instruments in such a far-reaching program of conquest. Like the Indian, the white frontiersmen—the trappers, hunters, guides, and even the "hide an' tongue men"-had no intention of actually annihilating the great lumbering beasts. These men depended on the buffalo for livelihood almost as much as the Indian did, and they had no more wish to destroy it. They merely miscalculated, in the way that we frequently miscalculate the abundance of our natural resources today. There were so many buffalo! So many that these men didn't believe they could ever be exterminated.

The attitude is evident through-

out the history of the white man on the frontier. It's not surprising to find it among the professional hunters - the "hide an" tongue men." They killed for profit alone, and the more buffalo killed, the more dollars in their jeans. Conservation had no place in their thinking. But it is just a bit perplexing from the modern perspective to find the same attitude among those frontiersmen who regarded the buffalo more as something to eat than as something to kill for financial remuneration.

Even these men, these who killed for food alone, slaughtered most often with casual abandon, shooting three or four times as much as they could possibly use, taking only the choice cuts and leaving the rest to waste.

Extremely interesting from this standpoint is a report of a buffalo hunt in Wyoming nearly a hundred years ago, written by Captain Howard Stansbury of the Topographical Engineers Corps, United States Army. Captain Stansbury was sent west in 1849 to make preliminary surveys for the construction of a post route and a railroad across the continent. He secured the services of Jim Bridger as guide, and the hunt he describes took place along the North Platte River "in a lovely bottom, amid picturesque groves and clumps of gigantic cottonwoods' near the present site of Saratoga.

The report is particularly valuable in that Stansbury himself had a few modern ideas concerning decimation of the buffalo, and he appears to be somewhat surprised at the attitude taken by such experienced frontiersmen as Bridger and Archambault, who directed the hunt.

The report also gives interesting insight into the hunting and butchering methods employed by these hardy mountain men. Excerpts from Stansbury's journal follow:

Tuesday, September 24 (1850) . . . Early in the morning a large herd of buffalo was seen quietly feeding on the side of a hill about a mile to the southward. Archambault was soon in the saddle, and, approaching through a ravine which concealed him from their sight, he reached the top of the hill immediately above them, undiscovered. The whole herd was in full view of the camp, then busily engaged in packing the mules for the day's march. Soon the crack of a rifle and the sudden fall of one of the dark objects on the hillside gave notice that the work of destruction had commenced.

Keeping himself concealed behind a large rock, the hunter very leisurely shot down four of these monsters, although one was much more than we could carry with us. When satisfied with his morning's success, he showed himself from behind his breastwork, and the whole band scurried off as fast as they could 'tumble ahead.' I rode up to the scene of this wanton butchering and for the first time witnessed the operation of cutting up a buffalo. This is called butchering 'mountain fashion,' and a most barbarous fashion it it.

Contrary to the custom among us, the skinning process commences by making an incision along the top of the backbone and separating the hide downward, so as to get more quickly at what are considered the choice parts of the animal. These are the 'bass,' a hump projecting from the back of the neck just before the

shoulders, and which is generally removed with the skin attached: it is about the size of a man's head, and when boiled resembles marrow, being exceedingly tender, rich and nutritious.

Next comes the hump and the hump ribs, projections of the vertibrae just behind the shoulders, some of which are a foot in length. These are generally broken off by a mallet made of the lower joint of one of the forelegs cut off for the purpose. After these come the 'fleece,' the portion of the flesh covering the ribs: the 'depuis,' a broad fat part extending from the shoulders to the tail; the 'belly-fleece'; some of the ribs called 'side ribs' to distinguish them from the hump ribs; the thigh or marrow bones, and the tongue. Generally the animal is opened and the tenderloin and tallow secured. All the rest, including the hams and shoulders, indeed by far the greater portion of the animal, is left on the ground.

It is vain to remonstrate against this wholesale destruction . . . All intercession in favor of the poor buffalo is looked upon by these old mountain men with a strange mixture of wonder and contempt . . .

EUROPEAN PARTRIDGE—

[Continued from Page 6]

partridge frequents cultivated land, often where vegetation is scant. Its greatest increases in the United States have also been made in areas where large sections are devoted to agricultural crops. and where there is occasionally an area of hav or wasteland interspersed.

Through the greater part of the year, the Hungarian partridge ranges in flocks or coveys. In spring, however, the partridges separate into pairs. The nest is usually a slight depression in the ground, lined with leaves and grass. Occasionally it is found under shelter of bushes, but more commonly in open meadows sheltered only by green vegetation. Eggs vary from nine to 20 in number and are olive-brown in color. Occasional sets, however, are whitish or blue.

European partridge feeds and sleeps on the ground. Its tremendous speed and secretiveness make it an excellent game bird. and it is capable of thriving under conditions unfavorable to the native grouse of the prairie regions. In its native home, this partridge ranges over most of Europe, including the British Isles.

The first record of a plant of Hungarian partridges in Wyoming is in 1923, when the Sheridan Rod and Gun Club in cooperation with the State Game and Fish Commission liberated 27 pairs. The plant was successful, and an open season was declared on this species in Sheridan County in 1940. The birds are scattering over an ever-increasing area, chiefly in a northerly and southerly direction.

The Wyoming Game and Fish Commission has no complete record of all plantings made in Wyoming, since a good many of the plantings were made by individuals or clubs. However, in data secured on plantings of which there is record, there have been no conspicuous failures.

BOOKS

WILDLIFE CONSERVATION IRA N. GABRIELSON The Macmillan Company, New York, \$3.50

Here is a manual of sound conservation practice, done by a man whose position and experience qualify him to speak with authority on the subject of wild life and its programs of use, past and present. Dr. Gabrielson is Director of the United States Fish and Wildlife Service, and in addition to being acquainted with the fundamentals of wild life conservation, he has a fine grasp of the basic problems underlying the controversies that result in any conservation program when conflicting interests collide, as they do so frequently in wild life conservation.

The book is comprehensive and discerning, and its pleasing style makes it easy to read. It is especially refreshing in this day when so many seemingly uncorrelated agencies are working toward the conservation of this or that, to find a common perspective through which all may be viewed impartially. Dr. Gabrielson offers his reader this perspective, in addition to constructive theories designed to solve many of our controversial wild life conservation problems to the best interests of the most individuals.

The book opens with an outline of the principles and elements which regulate relations between wild life and environment, and works toward a consideration of these ecologies as related specifically to men. It stresses the need for more research into today's problems of conservation, and for further education of the public through creation of more active conservation groups which can take the lead in pressing for the adoption of constructive conservational policies.

Wildlife Conservation will be valuable as a text and reference to students of wild life.

Questions to the Editor

Send questions concerning Wyoming wild life to the Wyoming Game and Fish Commission, Cheyenne, Wyoming

Q. Birds are taking fish from our local Sportsman's Club rearing pond. What steps should we take to prohibit this? - G. A., Worland.

A. Heavy expenditure for wire and screening devices is not practicable for most rearing ponds, although complete screening is the only way to end all bird predation. This predation can be reduced greatly, however, if the following three suggestions are observed in construction and administration of rearing ponds:

1. Cut all shore line vertically, so that there will be no water less than three feet deep anywhere in the pond. This will prevent the wading birds (heron) from fishing.

2. Remove all posts, poles, wire, trees, etc., that might serve for the kingfisher, which must dive

from a perch.

3. Place loosely-bundled willows or brush in the pond's deep areas to provide shelter for young trout when pursued by the diving and swimming birds (mergansers, etc.).

Q. Can the Wyoming Game and Fish Commission authorize general set-line fishing in the lakes of Wyoming ?-J. G., Lov-

A. No. The set-line may be used legally for winter-ling fishing only, when the fisherman is setting the line through holes in the ice. At all other times, the line must be held in the hand, as in other types of fishing. This is in accordance with Section 86, Chapter 65 of the Wyoming Game and Fish Law, and the Commission cannot draw regulations contrary to the law.

Q. Where are raccoons found in the State of Wvoming?—J. J., Calpet.

A. Raccoons are found in two areas in Wvoming. They are most abundant in Crook County along the Belle Fourche River and the scrub oak areas of that region. They are also found on the Platte River through Lingle and Torrington. Stray "coons" are reported occasionally from other places in the State, but are not considered residents.

Q. My son purchased a hunting and fishing license and soon after was inducted into the army. This license has not been used, so could I have it transferred to me? -S. T., Winton.

A. There is no provision in the game and fish law to allow for transfer of licenses or for rebate of fees paid. In other words, the license must be considered used from the moment it is purchased.

MONTHLY ARREST REPORT FOR GAME AND FISH VIOLATIONS

Cases Lost 0

April. 1941 Arrests 22 Convictions 22 Cases Pending 0 Cases Dismissed 0

Department Directory

DIVISION HEADS

LESTER BAGLEY. State Game Warden

JAMES R. SIMON. State Fish Warden

GEO. R. Wells, Supt., State Bird Farm W. E. BANKS, Chief Clerk, Office

OFFICE

S. J. JIACOLETTI, Deputy

CHARLES RITTER. Deputy

NELLE W. KONKEL, Stenographer

DEPUTY GAME WARDENS

R. G. Atkins, Casper R. P. Bandy, Buffalo Ronald O. Bell, Dubois Boyd Bennion, Meeteetse Lyman Brown, Laramie Robert C. Brown, Moran Fred H. Deyo, Jackson Robert E. Frison, Newcastle Newell K. Gardner, Evanston C. W. Hanseum, Afton Dwight King, Cody Harry E. Klein, Pinedale William Lakanen, Rawlins

Kenneth W. Martin, Thermopolis Sam McPike, Tensleep J. D. Otey, Douglas Archie Pendergraft, Wheatland Fielding B. Peterson, Kemmerer Floyd Pipher, Torrington H. B. Sanderson, Greybull C. W. Sheffner, Rock Springs O. W. Shreves, Gillette Donald Simpson, Saratoga Howard N. Snyder, Sheridan Floyd Thompson, Lander J. A. Underwood, Dayton

HATCHERIES

T. R. BARD, Supt., Story

R. R. ROUSSEAU, Supt., Cody BLISS BAYNE, Supt., Tensleep A. W. STOCK, Supt., Cokeville FRANK COOK, Supt., Laramie HALLECK STONE, Supt., Dubois ED L. HADAMAN, Supt., Daniel Bernard W. Johnson, Foreman, Rock River

FISH TECHNICIANS

James C. Simpson, Stream Survey EUGENE E. BJORN. Rearing Ponds FLOYD ROBERTS, State Spawner

PITTMAN-ROBERTSON PROJECTS

GAIL M. THOMAS, Coordinator

CARWIN TOLMAN, Leader, Beaver Survey GLEN SHIPPEN

RALPH F. Honess, Supervisor, Bighorn Sheep Survey NEDWARD M. FROST

MALCOLM D. MARTIN, Supervisor, Sage Grouse Survey WARREN J. ALLRED

WYOMING GAME AND FISH COMMISSION CHEYENNE, WYOMING

RETURN POSTAGE GUARANTEED

Douglas Coffee Shop Douglas, Wyo. Iva Trelheney

SEC. 562, P. L. & R.

U. S. POSTAGE

Permit No. 4