

The Idaho Angle

(Continued from page 1)

justly so, that we are losing ground in maintaining good fisheries. If the mere production and distribution of fish was the panacea that people have long been led to believe, then we should not have lost ground. I believe we all realize that fish hatcheries have a place in any well rounded program, but I cannot help but feel that many of our ills of today are the direct result of fish cultural practices.

The general mechanics of operating a fish hatchery are not difficult to learn. As a result, during the early days of fish culture the hatchery man was usually an individual with little or no training as to what were the habitat requirements of the various species of fish. This, coupled with the old spoils system, led to a promiscuous fish planting program. This promiscuous fish distribution through the years is having its effect today on the productivity of many of our waters.

Planting Often Wasted

I know of cases where mackinaw and brown trout have been planted in high mountain lakes, and in so doing have been just about as far removed from their respective habitats as is possible to do. The same very often applies to the rainbow. I know of many high mountain lakes in Idaho that at the present time support a population of stunted trout. The population has become stunted because of one or a combination of reasons: Namely, (1) an improper species was planted, (2) the lake was overstocked to begin with, (3) lack of fishing pressure after the lake was stocked, and (4) suitable spawning areas have allowed the species to reproduce its kind in excess of the available food supply. About the only hope we have for rehabilitating these waters is that some day nature will take its course and the populations will die out.

There are many other mistakes that have been made, particularly in the distribution of our warm-water species, notably the largemouth bass, the black crappie, the yellow perch, and the brown and black bullheads, which have been introduced into many lakes which are valuable trout waters. It is unfortunate that these warm-water species, and particularly the yellow perch and the bullheads, have survived at the expense of the trout, even



Idaho Mule Deer

though the habitat requirements of the two groups are quite different. As a result, we have large populations of stunted warm-water fish, and no trout, and the waters have become valueless to the fishermen. Here I think the fisheries worker must be on his guard, for in spite of the past mistakes which most sportsmen recognize, we are continually besieged with requests for further introduction of other exotic species, such as walleye pike, northern pike and muskalonge.

Remember the Carp

Not all of the mistakes have been made by fisheries workers. Some of the most serious have been made by overzealous sportsmen. The first introduction of carp into California was made by a so-called enterprising individual before the inception of the California Fish and Game Department. For the first few years after the carp was introduced its fame spread and as a result there was wide distribution of the species over the western states. It was only a few years, however, until its nuisance value was realized, and today the introduction of this exotic species stands out as the greatest mistake that has been made in the history of fisheries management.

Live Bait Detrimental

Another mistake which has been made, and here we can lay the blame almost entirely at the door of the sportsmen, is the transfer and release of live bait, particularly members of the minnow family, from one drainage to another. The release of these

exotic species has on many occasions been the near ruination of the waters where they were liberated.

We are confronted with many other problems in our fisheries management. For example, most of our streams and lakes harbor ever increasing populations of non-game species, principally members of the sucker and minnow families. Inasmuch as members of these families are not sought after as game fish and their natural enemies are, in many waters, on the decrease, we find them gradually taking over trout waters.

We are faced with the changing of the physical conditions of many of our streams. This is particularly true in areas where there has been heavy over-grazing, areas where the cover has been burned off, or over-utilization of timber by logging, and waters which are subjected to deposits of mining wastes.

Fortunately, we still have many of our waters which have not been adulterated by the introduction of undesirable exotic species; we have waters which are not affected to any great extent with changing physical conditions; we still have many mountain lakes which are virgin waters. It is for the fisheries workers of today insofar as is possible, to see that the mistakes of yesterday are not repeated. It is necessary that we see that intelligent fisheries management is followed—that intelligent regulations are passed.

Facts Must Be Faced

We have a great public relations job to do. But we cannot do a good job of public relations or of fisheries management unless we have factual information upon which to base our decisions. It is regrettable that scientific fisheries investigation has not in the past received the impetus and consideration that our bird and big game programs have. But it is my belief that if we are to manage our inland fisheries intelligently we must lean more and more upon the fisheries investigator and research worker.

Pessimistic as some of these views may sound, it is my firm conviction that we, the people of the Northwest, can boast the best trout fishing and the greatest number of lakes and streams still available to the general sporting public of any section of this country. Eternal vigilance, hard work, and a sound management program can keep them that way.

FISHES OF IDAHO No. 1

Rainbow Trout*Salmo gairdneri irideus*By JAMES C. SIMPSON
Idaho Fish Culturist

The rainbow trout is the most popular game fish in Idaho. Its popularity is due primarily to the fact that it may make one or more spectacular leaps into the air when hooked. It takes a fly readily.

The color varies greatly in different waters. Fish taken from murky or discolored waters are often silvery and almost totally without spots, while those from clear waters are usually darker, with a rainbow colored lateral band, and many spots. (It is from the stripe that it gets its name.) Occasionally there is a faint tinge of red on the throat similar to that of the cutthroat trout. The spots may be large or small and are generally numerous over the entire body. There are from 120 to 145 scales in the lateral line.

The steelhead and kamloops trout are in reality rainbow. The steelhead is a sea-run form, while the kamloops, a rainbow which grows to a large size (37 pounds in Pend Oreille Lake), is native to some of the waters of British Columbia. The steelhead in Idaho is native to the Snake River and its tributaries below Shoshone Falls. However, the construction of dams on many streams has reduced its range considerably. The young of the steelhead remain in fresh water until they are two or three years of age, and then migrate to salt water. These young fish furnish a great deal of angling for fishermen, particularly in the waters tributary to the Clearwater River. The average size of these young fish is eight inches.

The rainbow trout prefers lakes and larger streams and rivers. It can withstand a wide range in temperature, but prefers a temperature range between 50° and 65° F. It is the easiest of all the trouts to rear in hatcheries. Rainbow eggs supplied to Idaho hatcheries are taken from hatchery brood stock and from wild fish. The brood fish held at American Falls and Hayspur are fall spawners, and spawning takes place between September and December.

Coffeepot Rapids spawning station on Henrys Fork of Snake River is the

only station from which eggs are taken from wild rainbow. Spawning takes place between March and May. The largest egg take at this station was in 1945, when 11 million eggs were taken. The egg take for 1948 was 7,500,000.

Rainbow are normally spring spawners. However, through the activities of fish culturists, they have been bred up so that they will spawn in the fall. Most fall spawning rainbow will revert to spring spawners in the wild if winter water temperatures drop near freezing.

The natural food of the rainbow consists of other fish, aquatic insects, terrestrial insects and crustaceans. Other aquatic forms such as frogs are also included in its diet.

When rainbow and cutthroat are present in the same waters, the spawning of the rainbow usually precedes the spawning of the cutthroat, but there may be an overlapping. When this occurs, hybridization may take place

STANLEY LAKE GIVES COOL RECEPTION TO GIANT RAINBOW

Kamloops rainbow have disappeared from Stanley Lake. They did not take hold as the fish and game department hoped they might when plants were made in 1945 and 1946.

Extensive surveys in the summer of 1948 showed no sign of a kamloops which should have grown to a large size by that time if they followed the pattern set in Pend d'Oreille Lake which produces the world champions.

James C. Simpson, fish culturist, and Forrest Hauck, biologist, who conducted the investigation, said it was clear that something about the Custer County lake made it unsuitable for kamloops production. The fish, they believe, went down the outlet to Salmon River.

STREAMLINED POLICY

Colorado has streamlined its big game management by means of flexible hunting regulations permitting seasons of varying length, extra local seasons, and open seasons on either sex of a species at the discretion of the fish and game commission. Regulations are adopted after hearings with federal agencies, sportsmen, and stockmen.

Idaho follows the same general policy.

Buck Hunt Slated in Owyhee County on Test Basis

Bucks will be hunted in Owyhee County next fall.

The entire county has been closed to big game hunting for two seasons. It was closed because of opportunities to build up the deer population on several areas of abundant summer and winter range. A report to the fish and game commission in April indicated that some increase had been made, that a certain amount of hunting in 1948 was justified, but that a general season all over the county would be out of the question. Therefore, after long deliberation, the commission decided on a short buck hunt on an experimental basis.

Antlered bucks will be shot October 8 to October 12 in all of the county west of the Mountain Home-Mountain City highway. There will be no drawing. Number to be taken is not limited. It is a special hunt, however, and hunters will be required to report at one of several checking stations that will be established by conservation officers.

"Policy of the game department is against buck hunts," said T. B. Murray, director. "This shoot in Owyhee County is for research work to determine on home ground certain facts about shooting deer that have been brought to light in other states. In most instances it has been found that protection of does year after year is poor game management. The hunt for bucks only in a small portion of the state this fall is not to be construed as a reversal of that policy in Idaho. The hunt can prove valuable in providing definite data for big game harvests. It will be watched closely and the results will be studied with interest."

In all other Idaho hunts this year wherever deer or elk are in season either males or females may be shot.

LEOPOLD DIES

Aldo Leopold, wildlife scientist, for 15 years professor of wildlife management at the University of Wisconsin, and member of the Wisconsin state game commission since 1943, died April 21. He was author of many articles and several books, among them "Game Management" which is considered the most complete text in the field.

Biologists Take Trash Fish Toll

Trash fish of the St. Maries area have been attacked by the fish and game department under a new policy. The former idea of paying commercial fishermen by the pound for removal of tench and squawfish was abandoned by the commission in January. A three-year program by which the state will hire men to do the job was started, with Tim Vaughan, biologist of the fisheries division, in charge.

Two men were employed. Edward Rousar of St. Maries is foreman of the fishing operation. More men will be added as conditions warrant.

Fishing is by hoop nets. The actual operation is the same as carried on formerly by commercial fishermen. Fish are sold to a Spokane rendering works for about \$17 per ton. When catches are too small to justify a haul to Spokane they are butchered and returned to certain waters where they serve as fertilizer.

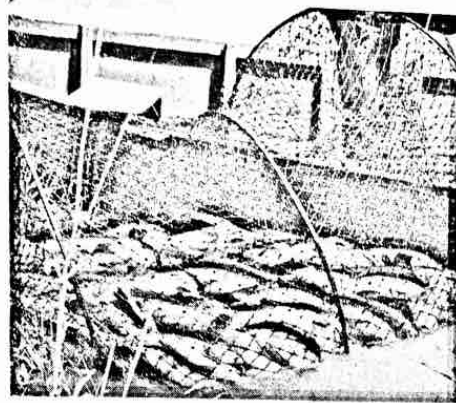
Vaughan said he expected to use a 1500-watt shocking device during the summer. Several spots on the St. Joe and St. Maries rivers will be tried with this electrical stunner.

HUGE FISH TANK HAULS MORE TROUT

A tank truck capable of holding 2000 gallons of water and a ton of fish was delivered to the fish and game department early in July. The huge tanker, five times as big as anything heretofore used for planting or transporting trout in Idaho, was immediately put on the road hauling fish to various parts of the state. The big piece of equipment will enable the fisheries division to haul much larger loads than before. It will be used largely in transferring trout from southern Idaho hatcheries, such as the new spread at Hagerman, to other parts of the state.

It is 25 feet long, not counting the truck that pulls it. The tank is divided into two compartments and is equipped with a battery of aeration pumps.

Getting damp isn't the only way to catch cold. Ignoring the safety catch on your gun may give you a coffin spell.



Tons of trash fish taken from northern lakes. The trash fish removal program is advancing in the St. Maries area. Shown here is a haul of tench dragged out by department men.

Moose Limited To New Hunters

Idaho moose will be spread around.

Lucky guys who got in on the hunt for big bulls last year and in 1946 will sit on the sidelines this fall when a new group of 30 people combs the thickets of Ashton big game refuge for the rare and gigantic beasts.

Hunters who scored before can't come again in 1948. That's the verdict of the commission. The regulation barring successful gunners of the past two years was adopted at the April meeting and supported by an opinion of the state attorney general who said such a rule comes within the powers of the commission.

Moose hunting is so limited and so many people want to hunt them, the commission reasoned, that the sport should be distributed to as many ladies and gentlemen as possible. There were several repeaters on the event last autumn, the second year of the moose affair. More than 300 eager sportsmen flocked to the application barrel. Several were disturbed that the right to kill a moose should be granted two years in a row to some people while hundreds of others were unlucky. The commission agreed and did something about it.

The 1948 hunt for which 30 permits will be issued is slated for September 26 to 30—more than a month earlier than last year—and is divided into three areas. Ten permits will be allowed for each zone.

Application fee is \$30, including tag.

Things ain't what they used to be and they never wuz.

Cottontails Earn Closed Season; Bag Limit Fixed

Cottontail rabbits, the animals that produce more pounds of game meat on a national scale than any other species, are recognized in Idaho this year for the first time with a closed season and a bag limit.

Acting on recommendations of conservation officers, the commission has specified that cottontails may be shot only from October 1 to January 31. Bag and possession limit is four. They may be hunted with rifle, shotgun, or bow and arrow. Rifles of .22 calibre are included with the permitted weapons.

The little rabbits have afforded considerable sport in the state for many years. Cottontails have been in the same boat with jackrabbits, which are classified as predators. No closed season has been specified and no bag limit has been set. A hunter could pop off all the cottontails he was able to hit at any time of the year, winter or summer. The fact that the cottontail is a valuable game species and is considered important enough to have a closed season and a set of regulations governing its protection in many other states was given consideration by the Idaho commission before taking the step.

Jack rabbits are still legal game the year around. The common black-tailed and white-tailed jack of desert areas may be bombarded at any time by any person who has a hunting license or a gun license. The gun license is good for the hunting of predators only. It entitles the holder to carry a rifle or shotgun on public domain. Hunting for anything on public lands with a firearm is against the law, unless either the hunting license or the gun license is carried.

Popularity of the cottontail as a sportsmen's delicacy is expected to advance with the new regulation. Increase in the rabbit population is anticipated during the summer of protection from guns.

All streams of Idaho, 6500 of them, have been catalogued for fish planting. The program outlined by fish biologists will be carried out as rapidly as possible in accordance with available trout.

FISHES OF IDAHO No. 2

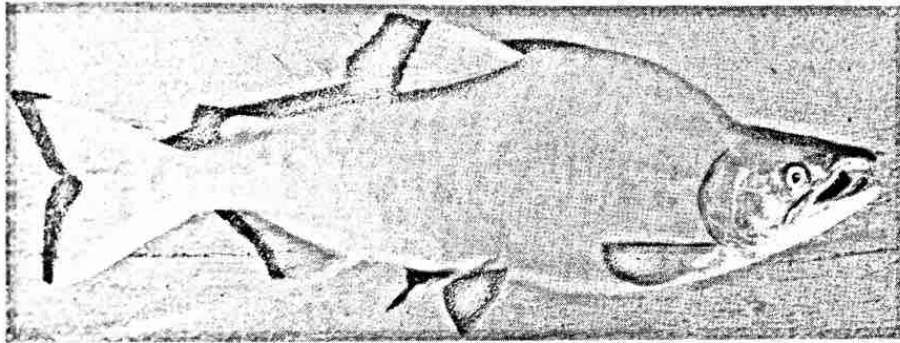
Kokanee*Oncorhynchus nerka kennerlyi*

By

JAMES C. SIMPSON
Idaho Fish Culturist

The kokanee is known by a variety of common names, the more familiar of which are blueback, redfish, sockeye salmon, and silver salmon.

At one time the kokanee in Idaho was an anadromous species, that is, it lived part of its life in salt water, but returned to fresh water to spawn. It was common in Payette Lakes and many of the lakes in the Stanley



Kokanee—A fish of many names and colors

Basin. The runs from the ocean disappeared some years ago. The kokanee, unlike the other species of Pacific salmon, is able to live and mature sexually in fresh water. It has, therefore, been rather widely scattered throughout the state in recent years. When the kokanee originally ran from the ocean it seemed to prefer those streams with lakes at their sources. The species would pass through the lakes and spawn in the tributary stream above the lakes. Probably the reason for this is that the principal food item of kokanee is plankton. Therefore, the young would drift, soon after hatching, into the lake where suitable food could be found. A close relative to the kokanee, the true blueback salmon, at one time was found in Idaho and frequented the same waters as the kokanee. However, as this subspecies is an ocean run variety, it is not found in the state at the present time.

Both Sexes Turn Red

This species, like all Pacific salmon, can be distinguished from the trouts by the greater number of rays in the anal fin. In salmon the anal fin contains from 13 to 17 rays (usually 15

Federal Aid Funds Increase in Idaho

By VERNON B. RICH

Federal Aid Co-ordinator for Idaho

Word has been received from the secretary of the interior that Idaho's appropriation for federal aid in wildlife restoration for the fiscal year 1949 will be \$222,195.51. This money is available to the Idaho Fish and Game Department to use in approved wildlife restoration projects, providing the state will match these funds 25 cents on the dollar. The total, including state funds, is \$296,260.68 available this year for benefit of Gem state birds and mammals.

The federal appropriation is derived from excise tax on arms and

ammunition. The recent urge to take to forest and field for recreation has skyrocketed federal appropriation to the states. It has also placed a proportionate heavier drain upon our wildlife. This places a definite obligation to see that sound management policies are effected for production, protection and harvest of wildlife.

Game Lands Obtained

Federal aid projects are confined to the purchase and development of lands, the restoration of natural environment, the carrying on of research into problems of wildlife management, and the maintenance of completed projects.

Some of the projects that are presently being carried on by the Idaho department through expenditure of these funds are listed below:

Acquisition and lease of big game winter ranges along the Middle Fork and South Fork of the Salmon River.

Trapping and transplanting which provides for trapping game birds and animals in depredation or over-populated areas and planting them in suitable range and habitat throughout the state where they do not presently exist. This project also provides for predator control in stocked areas.

Star Lake Improved

Development work at Star Lake Refuge. Here two dykes have been
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with flashing lures such as spinners and spoons. Its mouth is tender so care must be exercised to prevent tearing out the hook.

Tasty Table Dish

Only the fish which will mature sexually during the year are taken by fishermen. For some reason kokanee do not take lures except during the summer prior to spawning season. The flesh is very tasty except during the spawning season. The majority of these fish range in size from seven to 12 inches. However, one specimen was collected from Snake River at American Falls in September, 1948, which weighed 4½ pounds. It had been raised in Walcott Lake and had migrated up the river to spawn.

Each year from one to two million eggs are taken from the kokanee in Pend Oreille Lake for use in stocking and establishing cycles in other lakes in the state. Several thousand pounds of these fish are also salvaged for use as fish feed in state hatcheries.

or 16), while in trout the number ranges from 9 to 12. The color is silvery with a bluish cast on the head and back. Just prior to spawning both sexes turn red, the degree varying from a dirty red to a bright red. The underparts, including the ventral and pectoral fins, remain a dirty white or gray. The young develop large round parr marks, which appear above the lateral line.

Spawning takes place in the fall, usually between August and December. Kokanee enter the small streams where there is suitable spawning gravel. As many as 75 salmon have been observed on one small spawning bed at one time and, no doubt, the beds are used several times during a season. They cease feeding before starting their migration to the spawning ground. Like all Pacific salmon, they die when spawning is completed. No effort is made to return downstream to the waters where they were raised. Recent scale studies indicate that the majority of kokanee in Idaho spawn in their third year.

This species has become very popular as a game fish. It is taken by still fishing with small baits or by trolling

IDAHO WILDLIFE REVIEW
PUBLISHED BI-MONTHLY

BY
**THE IDAHO STATE FISH AND
GAME COMMISSION**
BOISE, IDAHO

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WILDLIFE POLICY

"All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated and managed. It shall be only captured or taken at such times or places, under such conditions or by such means, or in such manner as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state, and as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping. "It shall be the authority, power and duty of said commission to administer and carry out the policy of the state in accordance with this act."

—From the Idaho Fish and Game Commission Initiative Act.

Conservation is today's business. Tomorrow may be too late.

Deer are poor pets. They should be left in the forest. It is against the law to molest young game animals.

During September there were 157 arrests for violation of Idaho fish and game laws. The number is nearly twice the total of 82 for the same month a year ago. The September report brought the 1948 figure up to 726 compared with 671 last year.

Idaho ranked eighteenth among the states in sale of federal duck stamps during the last fiscal year. The figure was 39,470.

OFF the CHEST

LETTERS TO THE EDITOR

SIRS: Please put my name on your mailing list. I am a mailman and I don't get to read all the Review as I deliver them to other people. I'd like a copy to read after work.—D.B., Pocatello.

SIRS: Information is requested as to whether or not the state of Idaho grants resident game licenses to members of the military service stationed outside the state.—Maj. G.R.D. McClellan, Calif.

ANS.: Members of the armed forces stationed and lodged in Idaho are entitled to purchase resident licenses. Idaho men in any branch may obtain free permits to hunt and fish while at home on furlough on presentation of papers to the local conservation officer.

SIRS: Is it unlawful to have in your possession, while hunting with a large calibre rifle, a rifle or revolver of .22 calibre rimfire.—M.S., Wallace.

ANS.: The regulation says: "It shall be unlawful to use in the killing or taking of any game animals in the state of Idaho, the .22 calibre firearm using a rimfire cartridge, except in the taking of cottontail rabbits." A .22 rimfire weapon may be possessed but may not be used in the killing of big game.

SIRS: Here is my small contribution of appreciation. When the present fishing season opened Springfield Lake was so surrounded by fishermen that it seemed impossible that any rainbows could be left. The mob and its persistence led me to try fishing on the fifth day and I caught as large a lot as I have taken any time during the 43 years we have lived beside the lake. . . . I have been begging, whenever I thought I would be heard for a season on sagehen like the one just permitted. Hunters were thick everywhere. . . . and I know of no one who did not get birds. I talked with hunters I knew and nearly all of them got their birds. There were thousands of birds. I write in appreciation of what the game commission is doing to keep Idaho a paradise for those who like wildlife of any kind.—A.J.S., Springfield.

**Trash Fish Killed
To Benefit Trout**

Sublett Reservoir in Cassia County was purged of its trash fish late in September. The fish and game department treated the 34 acres of surface water with a chemical that killed all fish life and left the reservoir clean for stocking with trout next spring. The operation was conducted by James C. Simpson, fish culturist, and Forrest Hauck, biologist. They said it was highly successful.

The project was the first of its kind in Idaho. Approximately 800 pounds of toxic material with rotenone base were used. An estimated 65,000 chubs were destroyed. Most of them sank shortly after the treatment.

Years ago the reservoir provided good trout fishing. Chubs took hold and multiplied to the exclusion of nearly all game fish after the chubs were introduced by fishermen using them as bait.

A HUNTER'S CREED

"... Two seconds of hesitation may save a lifetime of remorse."

**Angling Sans License
Adds to Expenditure**

A businessman from Council took it with a smile when he was arrested and fined for fishing without a license. In his next ad in the weekly paper he wrote this suggestion:

"Timely tip to fishermen—Be sure your fishing license is up to date. You will find the local warden very polite and courteous, but there is an added charge for the privilege of fishing without a license and I can't see that they bite enough better to be worth the difference, when you consider that you have to put your pole in hock a day or so.

"Yours for bigger and better fish. We don't need a bigger or better warden. He is doing OK."

Jack salmon are young chinook males that follow the migration of mature fish.



Long-range Fishing Policy Based on Factual Research

(Editor's Note: The fish and game department has long-range policies for the management and use of wildlife. The following article sets forth the broad program of the fisheries division. Policies for other phases of conservation by the commission and department will be detailed in later issues.)

By JAMES C. SIMPSON, Fish Culturist

The first matter to be considered in this statement of policy is the operation of hatcheries. It is the intention of the department to operate all state hatcheries to capacity. Emphasis will be placed on number of fish that can be held over the winter in order that the greatest possible number of legal-size can be raised for release into the more heavily fished streams and lakes. Throughout the state many streams are completely fished out soon after the opening of the fishing season. Therefore, to a large extent as is possible, these streams will be planted two or more times annually in an attempt to furnish catchable fish to the greatest number of fishermen.

Rearing Space a Problem

The bulk of fish grown to legal size in a fish hatchery should be harvested by the fishermen during the year they are planted. The hatching capacity of our state hatcheries is far greater than our rearing capacity. Therefore, we will continue to plant a large number of trout fry and small fingerlings. Those stations which have possibilities for further pond expansion will be enlarged as funds are available.

The survival of hatchery fish planted in the fall is very low. Most of the creeks and rivers should not be planted until after high water, if good survival is to be expected from hatchery fish. Stocking of the waters of Idaho should be done between May 15 and August 15. The proper species and number of fish as determined by fisheries biologists will be planted.

Brood fish of fall spawning rainbow, kamloops and brook trout will be developed and maintained in order to insure a sufficient supply of eggs of these species for hatchery needs. The eggs of blueback salmon, cutthroat, spring rainbow and brown trout will be taken from wild stock or will be purchased from other states or private sources.

Rough Fish

In many of our lakes and streams rough fish are on the increase. In some they have increased to the point where they have taken over the waters, thus crowding out the desired game fish. In those waters, particularly lakes, the entire population will be eradicated if it is found to be economically feasible. The waters will then be restocked with game fish. In those waters where it is not economical to eradicate the entire population, an attempt will be made to hold the number in check by seining by commercial fishermen or department personnel.

Particular emphasis will be placed on the control of the introduced carp and tench, and the Columbia River squawfish and Utah chub. Suckers will be controlled when their numbers get out of balance.

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Idaho Wildlife Federation Ready For Annual Convention in Boise

Sportsmen representing fish and game clubs in all parts of Idaho will come to Boise January 8 and 9, 1949 for the annual meeting of Idaho Wildlife Federation at Owyhee Hotel. The program, recently announced by Theo. H. Wegener, president, and Harold "Buck" Jones, secretary, will include discussion of all phases of the wildlife conservation program, reports by the fish and game department, and adoption of recommendations to the state legislature which will begin a two-month session in Boise January 3.

Several conservation leaders from other states have been invited. Wegener said the speakers at the banquet January 8 would be Elliott Barker, New Mexico game warden, and Ross Leonard, former Utah director who is now a field representative of Wildlife Management institute. Members of the legislature will be guests.

Suggestions on fishing seasons and bag limits will be offered for consideration of the fish and game commission, which will be in session shortly after the federation conference. Fishing seasons are customarily determined at the January meeting.

Public Ideas Welcome

Public discussions will be conducted the first day, Wegener said. "We want it clearly understood," Wegener emphasized, "that any club member or any sportsman is welcome to offer suggestions. We want as wide a range of opinion as time will permit."

Reports will be made on opening day by T. B. Murray, director, and other members of the fish and game department. Questions will be answered.

Committee reports will take up most of



A bull elk bugles a challenge—Photo by Jack Rottier

(Continued, page 2)

(Continued, page 2)

Big Game Census Will Begin Soon

A census of Idaho's big game population will begin in January, Ted Wiladeau, big game supervisor, has announced. Conservation officers will participate in the largest inventory to be made by the game department in several years.

Deer, elk, and moose will be counted. Horses, planes, snow tractors, skis, snowshoes and snowmobiles will be used in the counting operations. No census on mountain goat or sheep is planned.

The game count will provide information to aid the game commission and the department in setting seasons in Idaho next fall. Some of the Gem state's most inaccessible areas will be combed during the intensive count, which is expected to take three months.

Big game hunts in some areas are correlated with the federal aid restoration program.

Range study and game census schools for game department officers and co-operating forest service personnel were conducted in December as a preliminary to the statewide inventory.

Record 239 Arrests Made in November

Hunters and fishermen in Idaho were caught in 239 violations during November, one of the heaviest months for arrests during 1948, conservation officials reported.

Bird hunters committed 131 violations of hunting laws; big game hunters, 53; trappers, 49; and fishermen five.

Two Payette men received the heaviest fines levied during November, \$300 and 30 days in jail for transporting illegally taken elk meat. Two out-of-season moose hunters paid \$200 each in fines in Fremont County.

A north Idaho deer hunter recently killed a six-foot nine-inch cougar near Trestle Creek. The big cat was to be stuffed and displayed at a Priest Lake resort.

LONG RANGE FISH POLICY OUTLINED

(Continued from page 1)

Fisheries Investigation

In order to more intelligently manage our fisheries resources, increased emphasis will be placed upon the investigation of fisheries problems. More information is needed to determine the carrying capacity of our streams and lakes. We need information on the survival of various size groups of hatchery trout. Biologists will make recommendations for stream improvement and conduct the control of rough fish.

It is the plan to divide the state into three units with a full-time biologist stationed in each area. At the present time the fisheries division has two full-time biologists and will hire a third when a qualified individual can be obtained.

The salvage of trout from irrigation canals will continue and will be expanded as rapidly as possible in order to prevent the loss of fish which might otherwise be harvested by sportsmen.

Trout and Warm-Water Fish

A stocking plan with particular reference to the species to be planted in each water has been developed. It shall be the policy of the division to plant the species of fish in the waters where habitat is most suitable for the species.

In most instances it is not necessary to make more than one planting of any of the warm water fish species in order to maintain a population of the species. Further introductions tend to detract from rather than increase a desirable fish population. Therefore, the distribution of these fish will continue to be limited. Every effort will be made to prevent further introduction of the warm-water species into trout waters.

Chinook salmon and steelhead, two species that provide a great deal of sport fishing in Idaho, require special attention because of their migratory habits and a number of influences that affect their annual supply. It is the policy of the Idaho department to afford protection to spawning salmon and to permit hook and line fishing only. Efforts to restore a run of salmon in Clearwater River are in progress. A complete analysis of the salmon and steelhead situation will be made in another issue of Wildlife Review.

Idaho whitefish enthusiasts are expected to begin serious angling in several streams and lakes during the latter part of December. Maggots on a hook wound with red thread are used for bait by a great number of whitefishermen.



Fred W. Huggins, Boise, president of the Idaho Wildlife Federation, will direct the annual meeting of the group in Boise January 5 and 6.

FEDERATION TO DISCUSS LEGISLATION AT MEETING

(Continued from page 1)

the second day. Some committees such as legislative and pollution-control have been working several months. Others will be organized shortly before or during the meeting.

Club officers said four matters of legislation were brought to the front at a July meeting and were still commanding the most attention. They are: (1) A packers' and guides' law; (2) Elimination of shipping permits for upland birds and fish; (3) Readjustment of non-resident license fees; and (4) Control of pollution.

Fish Rules on Agenda

"Numerous other subjects are to be aired," Wegener said. "Among them are the advisability of setting aside certain waters for fly fishing, prohibition of salmon eggs, and regulation of certain types of tackle."

"Any club that may have important legislation in mind should refer it to R. E. Adamson of Carey or George Scholer of Twin Falls, co-chairmen of the committee. It is our intention to have major matters analyzed as soon as possible. It is important that legislation be thoroughly considered and ready to submit before or at least very early in the session."

Arrangements have been made through Robert Bach of the fish and wildlife service to obtain half a buffalo from the federal bison range in Montana. The game meat will be served during the convention.

Prior to the state federation meeting, each of the five district federations has met to hear local suggestions and proposals of a statewide hearing.

Bighorn sheep in Colorado are being moved to new homes. Overstocked areas are being relieved of excess mountain sheep populations, and suitable habitat in other sections of the state is now supporting the curly-horned mountain dwellers.



Here, from left, Tom McLeod and Earl Fiches enjoy some Boise River duck hunting.

Second Half of Duck Season Opens December 23; Northern Flight Due

Idaho duck and goose hunters are mapping strategy to be employed in the second half of the 1948 split season, which opens December 23, and runs through January 8. The first migratory waterfowl season extended from October 29 to November 14.

Hunters of the wily webfeet reported generally plentiful supplies of birds, at least during the opening days of the first half of the 1948 season. Weather was favorable, and local ducks that live in Idaho the year around were on hand to test the hunter's aim.

"Duckologists" in Canadian breeding grounds said the main body of migrating ducks and geese had not left Canada during the early portion of the season. Barring severe winter storms, which would precipitate earlier movement of the birds, the supply during the second shooting period should consist largely of "Northerners" en route to the southland.

Higher altitude areas probably will have poorer hunting during the second run, as watercourses will be frozen over.

Shooting hours will be from one-half hour before sunrise until one

hour before sunset, except on the opening day, December 23, when shooting begins at noon.

Shotguns must be able to hold only three shells, and repeaters must be plugged so the plug cannot be removed without disassembling the weapon.

Bag limit is five ducks in the aggregate, with 10 in possession. Goose bag and possession limits are two birds.

Time tables listing shooting hours for each section of Idaho are available at license vendors.

Pilot Joins Department On a Part-time Basis

The game department got its wings in November. By a co-operative agreement the department shares the services and plane of Edward J. Monaghan, Jr., formerly a pilot for the U.S. fish and wildlife service. Half the time is taken by the state aeronautics director and half by the game department.

Airplane service will be used by the game department on enforcement patrol, game survey, and general reconnaissance.

Idaho Trout Plant Exceeds 16,000,000

Fish plantings for 1948 have been completed. A total of 16,621,826 game fish weighing 91,197 pounds were handled by the fisheries division this year.

Distribution of the fish was facilitated by acquisition of a transport tank truck which enabled planting stock to be successfully transferred from Hagerman hatchery to waters of northern Idaho. Hatching and rearing facilities at Hagerman, Idaho's largest trout hatchery, are favorable to the raising of large numbers of legal-size planting fish, but formerly lack of suitable fish transportation to desirable areas prevented the fullest utilization of the large hatcheries.

Bear Lake mackinaw trout plantings, made several years ago, have shown satisfactory natural reproduction, and anglers have been catching mackinaw regularly. Bear Lake is the only Idaho body of water to be planted with, or contain the mackinaw.

Cutthroat trout led the planting list in numbers, with 7,389,367 fish weighing 11,626 pounds. Next largest was the rainbow planting of 7,052,078 fish totaling 59,945 pounds. Eastern brook numbered 966,465, with a total weight of 13,854 pounds.

After no plantings of German browns in 1947, the department this year planted 174,463 of this species weighing a total of 713 pounds. Kamloops plantings of 46,915 totaled 210 pounds, and the 4,770 mackinaw trout planted weighed 477 pounds. Chinook salmon were planted in an effort to revive the annual run in the Clearwater River. Plantings of kokanee were 889,698, totaling 546 pounds, and of the Chinook, 36,400 totaling 65 pounds.

Smallmouth bass planting numbered 12,000 fish, totaling 195 pounds, and 4,165 largemouth bass were planted.

During the biennium, the fisheries division has raised and planted 32,102,227 fish, totaling 202,152 pounds.

With a 17-day duck season still on the agenda, Idaho's 1948 hunting accident toll from firearms is 13 killed. The 1947 hunting season's total was 14 dead.



MOTHER NATURE SPENT A MILLION YEARS PUTTING UP PRESERVES FOR US—NOW LOOK AT 'EM!



P.S. AND THE WORLD SPENDS THE REST OF HISTORY FIGHTING FOR WHAT'S LEFT OF SUSTAINING RESOURCES



Time To Take An Inventory of Our Pantry

FISHES OF IDAHO No. 3

Rocky Mountain Whitefish*Prosopium Williamsoni*

By

JAMES C. SIMPSON
Idaho Fish Culturist

The Rocky Mountain whitefish is found in most of the major streams and lakes throughout the state. It seemingly prefers a lake environment, although it is found in some abundance in most of the major rivers of Idaho. In lakes it prefers comparatively deep water except during spawning season, which occurs during October and November. The whitefish prefers to search out small streams with gravel bottoms for spawning. Not much is known concerning whitefish spawning. However, it is believed that the spawning act is much the same as that for trout except that they do not fan the gravel or whip out nests, but merely deposit their eggs over gravel beds. Both sexes have small pearly tubercles on the scales on the sides of the body during the spawning period.

The Rocky Mountain whitefish is known locally by a number of common names, the more common of which are "grayling" which it resembles only slightly, and "mountain herring" or "herring."

Whitefish may attain a length of a foot or slightly more. Large specimens may weigh as much as three or four pounds. The average weight is a pound or less. Scales from fish taken from the Payette River showed that all fish were in their third year of growth or older. There were indications that all the fish examined had spawned at least once. The body of the whitefish is slender, the head short and the mouth is small and slightly inferior. The color is gray with a bluish tinge above, silvery on the sides, and white below. The dark blotches on the sides of the young are known as parr marks and may persist for a year or more.

Feed on Plankton

The food of the whitefish consists almost solely of plankton and small aquatic insects. In lakes where whitefish are native and kokanee have been introduced, there has been a noticeable decline in the whitefish population. The apparent reason is the keen competition between the two species.

In several sections of the state the whitefish is very popular among win-

Selway-Lochsa Game Kill Heavy in 1948

Big game kills in district two, comprising Latah, Clearwater, Nez Perce, Lewis, and Idaho counties, were the second largest this fall in the past six years, according to Harry Palmer, Lewiston, second district conservation supervisor.

A review of figures compiled at checking stations in the Selway and Lochsa areas showed that only in 1946 was the total kill of big game animals larger.

The total kill of elk, deer and bear has increased about 100 per cent in the last six years. The number of hunters has increased about 500 per cent, and the number of out-of-state hunters has increased about 1,000 per cent in six years.

Hunters in the area totaled a record 15,929 with 912 of this number non-residents. Elk kill was 3,675 compared with 4,386 in the record 1946 kill, and 1,851 in 1943. This year, 2,178 deer were killed, compared with 2,800 in 1946, and 1,071 in 1943. Bear killed in the district numbered 77, compared with 99 in 1946 and 131 in 1943.

The Kooskia station led with 3,036 hunters checking through. Other stations were located at Deep Creek, South Fork, Weippe, Powell, Cedars, and Lost Horse.

ter fishermen as a game fish. In fact, its popularity in recent years has increased to the point where it has been necessary to reduce the creel limit. In other areas, particularly where trout fishing remains excellent, the whitefish is still discriminated against by fishermen, notably in summer.

The department has artificially propagated the species in an effort to replenish the stock in streams where the population had been depleted. The largest number of eggs taken was in 1946, when 10,000,000 were hatched at the Sandpoint hatchery.

The baits preferred by winter fishermen are grubs and maggots. However, in summer whitefish are easily taken on both dry and wet flies with particular preference shown for the caddis-fly and stone-fly varieties.

The taking of whitefish by commercial fishermen is still permitted in Peuld d'Oreille and Priest lakes. The catch in recent years has dropped considerably.



Walter Fiscus, Potlatch, who concludes ten years' service on the Idaho fish and game commission when his present term expires this year.

Governor Will Name Three Commissioners

Terms of three members of the Idaho fish and game commission end in December. The members are Walter Fiscus of Potlatch, R. G. Cole of Boise, and Alton R. Howell of Idaho Falls.

Appointments will be made by Governor C. A. Robins.

Fiscus has been a member of the commission since 1938. He has served two terms. Cole was appointed in 1946 to fill an unexpired term and has been secretary of the commission during his service. Howell resigned in November after serving since 1938. Two years of his second term remain.

The other two members are George Moody of Calder, chairman in 1948; and Paul Thoman of Twin Falls.

Fiscus has announced that he is not a candidate for reappointment.

First commission meeting of 1949 will begin in Boise January 10. Fishing regulations for the year will be set.

California sportsmen are instituting an intensive campaign to halt pollution of watercourses both as a fish preservation measure and a public health aid. Viruses and pathogenic bacteria are abundant in polluted streams.

Raccoon is Canny Member of Idaho's Bear Family; Trapping Season Open

One of Idaho's lesser known fur-bearing animals is the raccoon. This diminutive cousin of the bear family is a canny and versatile resident of many sections of the United States. In Idaho, raccoons are not hunted to the chorus of baying hounds, but are trapped for their fur.

The raccoon's Latin name, *Procyon Lotor*, identifies one of its unique characteristics, that of washing its food. *Lotor* means "the washer," and the cleanly little banded raccoon has a reputation for washing its food religiously. Frogs and crayfish, which live in the water, are washed as methodically as berries or mice.

In diet, raccoons are not particular. Although predominantly vegetarian, they also relish bird eggs, and even ducklings and an occasional farmer's hen. Fish form a portion of the coon's diet, and it catches them with its long, dextrous black fingers.

Raccoons make excellent pets if captured young, and are known for their mischievous conduct, both in captivity and in the wild. They are easily recognized by the black mask on the face, and furry, black-banded tails. Usual weight is between 10 and 25 pounds, although specimens up to 45 pounds have been taken.

Fur trappers in Idaho's southern counties trap a few 'coons along marshy areas, lake fringes and in timber patches near streams. Courage and resourcefulness are exemplified by these clever woods-dwellers, who have been known in other states to drown a hound dog by jumping on its head in the water and holding it under.

Coons mate polygamously, with one male having several mates. After a gestation period of about seven weeks, the young are born in litters of four or five. They are nocturnal in their hunting habits, and roam about at night, often as much as three or four miles from their family den, in search of food.

Although sure-footed in trees, raccoons use them mainly for living quarters or places of refuge, and prefer to travel and take food on the ground. The animals are quite vocal, in a bird-like way.

When food becomes too scarce in northern winters, 'coons just give up

hunting, and go to sleep. They do not truly hibernate, as respiration and metabolism are not lowered, as in bears and other winter-sleeping animals.

Skins do not bring a large price, but have been as high as \$15 on some markets in boom times. Their prodigious appetites, and relatively small returns, discourage the raising of 'coons on fur farms.

The U.S. Fish and Wildlife Service has expanded its staff of flyway biologists from four to eleven men, and plan to have at least one airplane for each of the four migratory waterfowl flyways in service for duck and goose survey work.

Geese on the Horseshoe Lake refuge in Illinois must have thought they mistimed their migration and had arrived just in time for the Fourth of July. The game department "bombed" the geese with aerial grenades, and fireworks to break up heavy concentrations of the honkers in the highly agricultural area, where the large flocks were causing crop damage.

A large cougar has been known to kill 100 deer a year.



Patsy—young mountain goat

Kamloops Mystery Puzzles Anglers On Pend d'Oreille

Fish culturists and the general angling public are pondering the perplexing problem. What has become of the famous Kamloops trout of Lake Pend d'Oreille? After the first fingerlings of the phantom fighters planted in 1912 grew to adulthood in Idaho's largest lake, they began breaking records, and during 1946 and 1947 made Pend d'Oreille secure as the home of record rainbow.

The 1948 season has produced a single large specimen, a 31 pounder, six pounds short of the 37-pound world's record monster boated last year. The season came to a close November 30. Comparatively few fish were caught.

Several theories for the off year have been offered. An exceptionally high water this spring kept many anglers off the lake during the choice opening weeks. Some have ventured the theory that the big fish migrated down to the Columbia and hence out to sea. This theory has not been supported.

Meanwhile, fishermen have been taking great quantities of kokanee, or bluebacks out of Pend d'Oreille Lake, indicating that the natural feed supply of the Kamloops is at a high level.

Spawners on Job

Until 1947, plantings of Kamloops had not been made since 1943 in Pend d'Oreille Lake. Brood stock from which original plantings were made, have been retained in the Clark Fork hatchery, and this year the take is expected to be nearly 1,000,000 eggs, nearly 40 times the former eggs available. Sizeable plantings were made in 1947 and 1948. Plentiful feed supplies should mean a larger number of adult fish, weighing in at better than 20 pounds in the next two years.

A geodetic survey of the lake indicates various strata of water temperature, and the theory has been advanced that the fish tend to inhabit a water strata approximating 40 degrees, which is the temperature of their spawning beds in the spring. Support of this thesis is claimed by the records of best fishing for Kamloops in the early and extreme late parts of the season, when surface waters are colder.