

A black and white photograph of a forest landscape. In the foreground, two large, dark tree trunks frame the left and right sides of the image. A river flows through the middle ground, surrounded by dense evergreen trees. In the background, a snow-capped mountain peak rises above the forest line under a bright sky.

OREGON WILDLIFE

MARCH 1983

OREGON WILDLIFE

MARCH 1983
Volume 38, No. 3

OREGON FISH AND WILDLIFE COMMISSION

Kenneth Klarquist, Chairman Portland
Fred Phillips, Vice Chairman Baker
Donald Barth Newport
Jane Capizzi Corvallis
Herbert Lundy Lake Oswego
R. Gene Morris Ashland
William H. Neel Eugene

JOHN R. DONALDSON, Director

Oregon Wildlife (ISSN 0094-7113) is published monthly by the Oregon State Department of Fish and Wildlife, Portland, Oregon. Volumes 1 through 28 were entitled Oregon Game Commission Bulletin. Oregon Wildlife is circulated free of charge with second class postage paid at Portland, Oregon. Material may be reprinted, credit would be appreciated.

Readers and POSTMASTER: Send address changes to:

Oregon Wildlife
P.O. Box 3503
Portland, OR 97208

When sending address changes, be sure to send in both old and new address complete with zip codes.

Ron E. Shay, Editor
Ken Durbin, Managing Editor

Cover — The headwaters of the Metolius River is among Oregon's most scenic spots. And the Metolius itself is one of the state's most popular trout streams. The article in this issue by Fishery Biologist Ted Fies takes a closer look at this stream and its management.

Photo by Ron Shay

THINGS ARE HAPPENING

When the nongame checkoff was first enacted by the legislature and during the following two years, many folks who donated became a bit frustrated by the lack of visible action. Almost three-quarters of a million dollars had been donated and nothing was being done.

The reason for the inactivity was a legal one. As is the case with all state agencies, the budget of the Department of Fish and Wildlife is approved biennially by the legislature. Until the money collected from the nongame checkoff was incorporated into the department budget and approved by the legislature, none of it could be spent. This meant a time lag of many months and some folks interpreted this as foot-dragging by the department.

This was not the case. We hope you read our November 1982 issue in which Bill Haight, our nongame staff specialist, told of the projects and other activities going on in the state for the benefit of this group of creatures. If you missed the issue, let us know and we'll send you a copy of the article.

The point is . . . things are happening. In his article, Bill listed some 40 projects being financed by the checkoff funds. And we might mention, the majority of the projects are being undertaken through contracts with knowledgeable private individuals, and colleges and universities around the state. Valuable information is being obtained and the funds are not being heavily used to increase department staff or pay for administrative costs.

In addition to the projects designed to gain basic information about various species, the funds have been used to acquire small tracts of habitat critical for nongame species. Also, an attempt was made to introduce the endangered peregrine falcon back into some of its former range.

The donations of state tax refunds to the nongame fund for the tax year 1981 dropped from previous years. Though the average gift was larger, the number of participating taxpayers decreased from 11 percent to eight percent. We have no sound explanation for this, but two things are strong possibilities. The Arts Commission refund checkoff took effect in the 1981 year and this may have siphoned off some of the donations that would have gone to nongame. The other explanation is rather obvious. Oregon's economy is hurting and we suspect many taxpayers felt the refund they were getting was more important in the family coffers than in the nongame fund. This is very understandable.

The one thing we did want to make clear though is that the donated funds are now being put to what we believe is good use. The program is off and running, and the nongame advisory committee is working closely with biologist Haight in setting the course for the future.

Soooo . . . if you have a state income tax refund coming this year, we'd like to remind you that it is a simple matter to donate all or a portion of it to the nongame wildlife fund. It's your chance to "do something wild." And we appreciate it. □

R.E.S.

HUNTER EDUCATION PROGRAM

INSTRUCTORS APPROVED

Month of January 15

Total Active 1,739

STUDENTS TRAINED

Month of January 256

Total to Date 301,438

HUNTING CASUALTIES

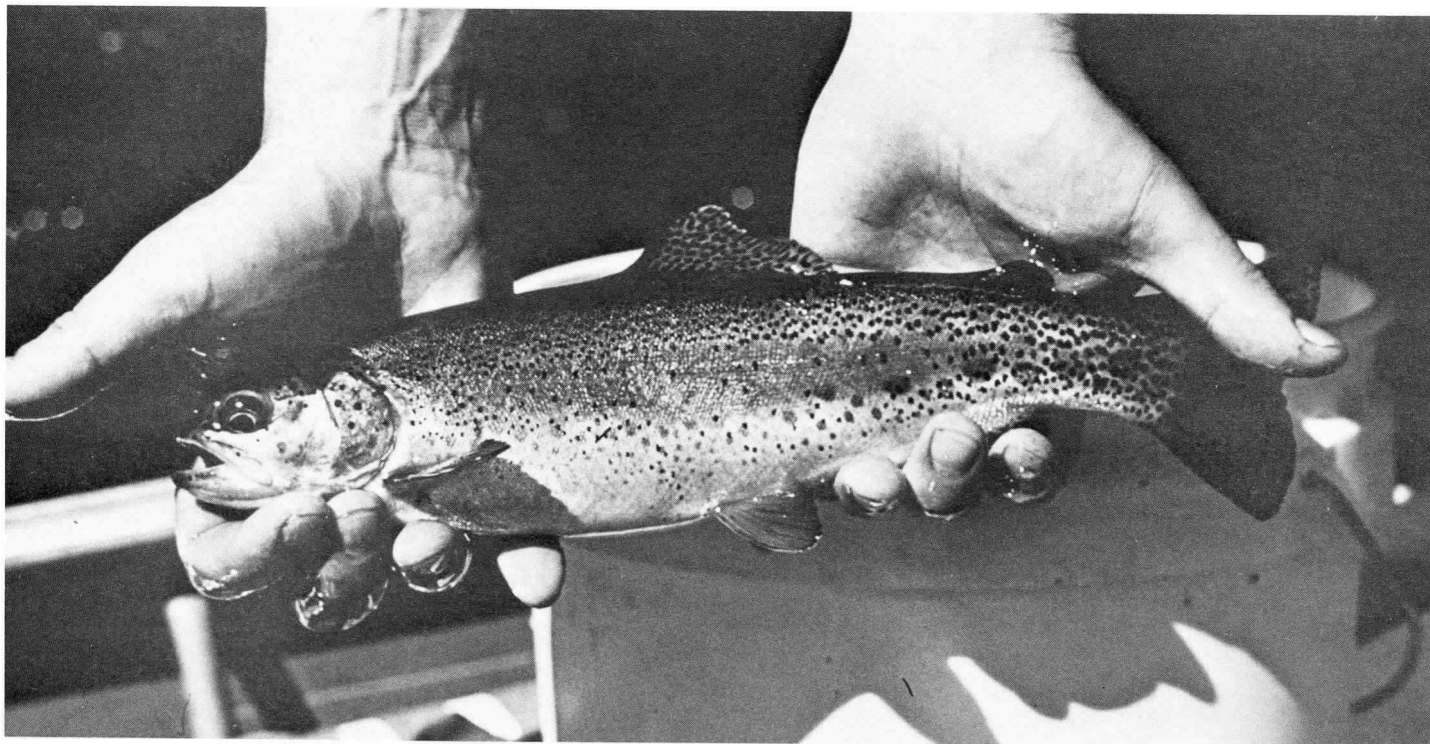
REPORTED IN 1983

Fatal 0

Nonfatal 1

COMMISSION MEETING

The Fish and Wildlife Commission will conduct a general business meeting beginning at 8 a.m. on Friday, March 18. The meeting will be held in the conference room at Fish and Wildlife Department headquarters, 506 SW Mill Street in Portland.



The Metolius is best known for its rainbow trout (above) although brown trout are increasing and whitefish are the most numerous.

WILD FISH AND THE METOLIUS

*By
Ted Fies
District Fishery Biologist, Bend*

The Metolius River is located in Jefferson County on the eastern slopes of the Cascade Range. It flows north from its origin at the base of Black Butte to Lake Billy Chinook, a distance of 28 river miles. Prior to reservoir formation, the river flowed 41 miles before joining the Deschutes River.

The Metolius is truly an "instant river." The headwaters are comprised of two groups of springs which produce a total flow averaging 100 to 111 cubic feet per second (cfs) year around. The water temperature is a constant 48 degrees Fahrenheit. The Metolius gains an additional flow of about 1,333 cfs from springs and tributary streams before reaching Lake

Billy Chinook. Several of the springs and tributaries are as cold as 40 degrees. Consequently, the river cools to a 45 degree average at Wizard Falls Hatchery. The river averages 50 feet in width and is fast moving, especially downstream of Bridge 99. The river drops an average of 35 feet per mile.

The Metolius flows in a well-defined channel due to its spring fed source and volcanic rock river bed. It changes character dramatically in its 28 mile length from a gentle flowing stream flanked by ponderosa pines and meadows at the headwaters to a large whitewater river moving through a remote deep canyon.

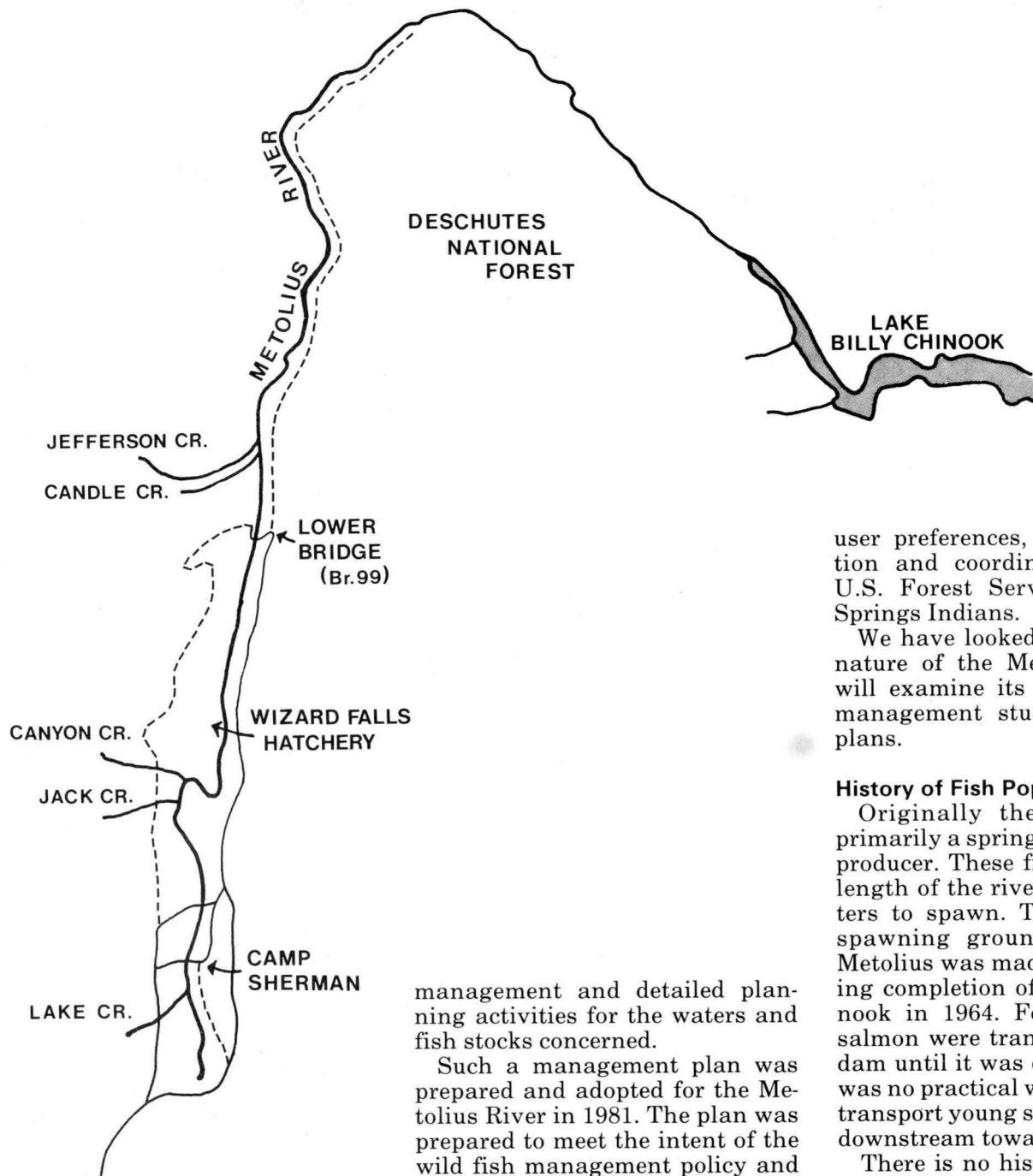
Water quality is excellent and can be summarized in two words — clear and cold! Most of the suitable gravel for trout spawning in the entire Metolius system is located in the mainstem upstream from Camp Sherman, and in Lake and Spring creeks.

Wild Trout Policy

In recent years, the public has voiced a growing concern to the department and its commission regarding the need for better management of wild fish in Oregon waters.

In May 1978, the Oregon Fish and Wildlife Commission adopted a wild fish management policy. The policy is aimed at the protec-

WARM SPRINGS INDIAN RESERVATION



tion and enhancement of wild fish. It lists three options for managing Oregon waters in this order of priority: (1) wild fish only, (2) wild plus hatchery fish, and (3) hatchery fish only. The policy also calls for the development of written management plans for all waters of the state. When these plans are adopted by the commission, they serve as specific guides to future

DESCHUTES
NATIONAL
FOREST

LAKE
BILLY CHINOOK

JEFFERSON CR.

CANDLE CR.

LOWER
BRIDGE
(Br. 99)

CANYON CR.

WIZARD FALLS
HATCHERY

JACK CR.

CAMP
SHERMAN

LAKE CR.

user preferences, public information and coordination with the U.S. Forest Service and Warm Springs Indians.

We have looked at the physical nature of the Metolius. Now we will examine its history, current management studies and future plans.

History of Fish Populations

Originally the Metolius was primarily a spring chinook salmon producer. These fish migrated the length of the river to the headwaters to spawn. The last chinook spawning ground count in the Metolius was made in 1966 following completion of Lake Billy Chinook in 1964. For awhile, adult salmon were transported over the dam until it was determined there was no practical way to collect and transport young salmon migrating downstream toward the ocean.

There is no history of steelhead using the Metolius; they favored the warmer Deschutes River and others of its tributaries.

Dolly Varden, rainbow trout and whitefish were also native to the Metolius. Brown trout and brook trout are introduced species.

Dolly Varden are present today, but in low numbers. Few have been observed in angler catches in recent years or during sampling by department crews. Dolly Varden were trapped and removed from some tributaries in the late 1930's

management and detailed planning activities for the waters and fish stocks concerned.

Such a management plan was prepared and adopted for the Metolius River in 1981. The plan was prepared to meet the intent of the wild fish management policy and to address increasing concerns expressed by organized angling clubs and individuals that the department was not enhancing wild trout in the Metolius River.

The Metolius management plan specifies that the river will be managed for both wild and hatchery fish. It also lists specific management objectives directed primarily at enhancing wild trout populations. These objectives address stocking, habitat improvement, fishing regulations, whitefish,

MARCH 1983

because of predation on salmon. Possibly, part of their life history involved downstream migrations into the the Deschutes River which is now blocked by Lake Billy Chinook. The loss of the chinook salmon runs may have affected Dolly Varden by removing a large part of their food supply.

Brown trout are present and their numbers appear to be increasing. Brook trout are not abundant and are found mostly in the upper river and some tributaries.

The Metolius and many tributaries are used by several thousand kokanee (landlocked sockeye salmon) which migrate up the river to spawn each fall from Lake Billy Chinook, or downstream from Suttle Lake. Lake Billy Chinook supports very large populations of suckers which are now occasionally found in the Metolius River.

The mountain whitefish is the dominant fish in the Metolius River, both in numbers and poundage. They occupy virtually every deep pool and their numbers have most likely increased as habitat was vacated by the declining Dolly Varden and chinook salmon populations.

Stocking

The Metolius River and tributaries were first stocked in 1938 with rainbow trout fingerlings. Yearling or catchable size rainbow trout were first stocked in 1947. Stocking of approximately 40,000 catchable size rainbow annually has continued through 1982. Wizard Falls Hatchery is located on the Metolius River and was built primarily to raise trout for the Metolius, following complaints of poor fishing in the late 1930's and 1940's. The status of trout populations in the Metolius River prior to stocking in 1938 is not well documented.

Beginning in 1983, the number of hatchery rainbow stocked above Camp Sherman will be reduced by 50 percent, or 5,000 trout. Stocking in the remainder of the river will be unchanged from previous years.

Regulations

Anglers upstream from Bridge 99 are restricted to fly fishing only

and portions of that reach have been restricted since 1939. A catch and release regulation requiring barbless flies was imposed in 1968 on a one-half mile section of the river above Camp Sherman. The regulation reduced the number of fishermen; was not popular, and was removed in 1969. The river from Lake Creek upstream to the headwaters is closed to all angling to protect spawning areas.

In 1982, a new regulation to protect wild trout was adopted for the entire river. This regulation requires the release of all wild trout.

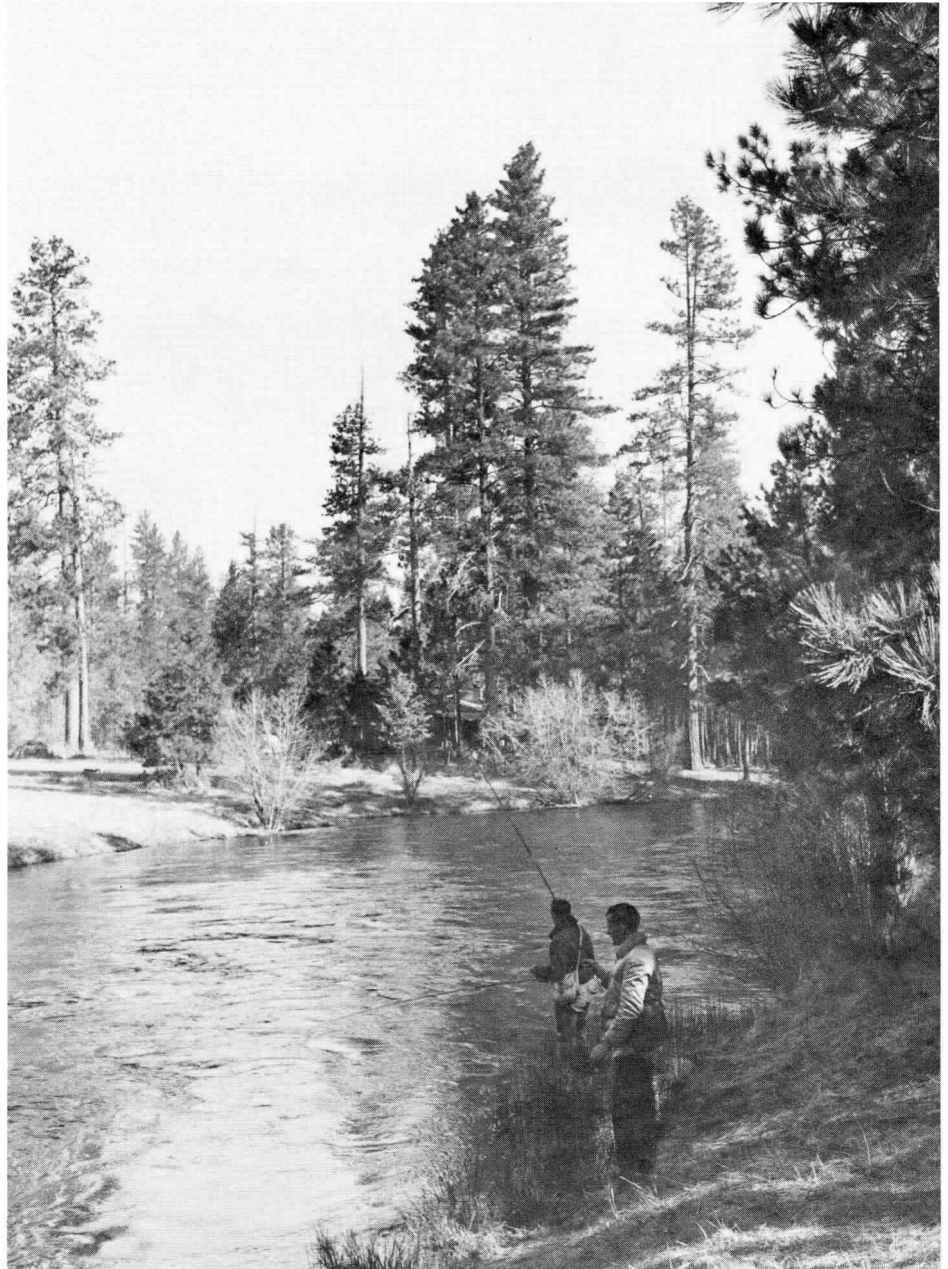
Only hatchery rainbow trout, identified by a clipped adipose fin, whitefish and kokanee may be kept.

In 1983, fishermen in the fly fishing only area will also have to use barbless hooks. As in 1982, all stocked rainbow trout will be marked by removing the adipose fin.

Fishing from boats is prohibited.

Recreational Use

Thousands of people use the recreational facilities along the Metolius. There are 12 camp-



The Metolius is popular from the chill of opening day in April through the chill of close on October 31. Because it is spring fed, its flows are fairly constant.

grounds, 108 summer homes and six resorts along the river. Most of the use occurs in the upper ten miles. In 1980, the U.S. Forest Service estimated 74,300 visitor days for the campgrounds alone.

A department study done in 1976 estimated 28,000 anglers fished 50,000 hours to harvest 14,369 fish of which 96 percent were hatchery rainbow. About 33 percent of the anglers fished in the unrestricted area below Bridge 99.

The river is very popular with fishermen for a host of reasons. It can be waded in many areas and access is generally good. Scenery, modern campgrounds, pleasant weather, paved access, viewing of the headwaters, Wizard Falls Hatchery, summer homes, feeding large trout at Camp Sherman Bridge, and challenging fly fishing combine to attract tremendous use.

New Studies

Following adoption of the Metolius Management Plan by the commission in 1981, the department began working on specific objectives listed in the plan.

Information was lacking about the status of fish populations in the Metolius, primarily because the river is difficult to work in. New techniques were used and new equipment designed to cope with the problem. Snorkeling and electrofishing have proven to be the best "non-kill" methods of sampling wild trout populations. Snorkeling is done in the deeper fast moving portions while electrofishing equipment has been used

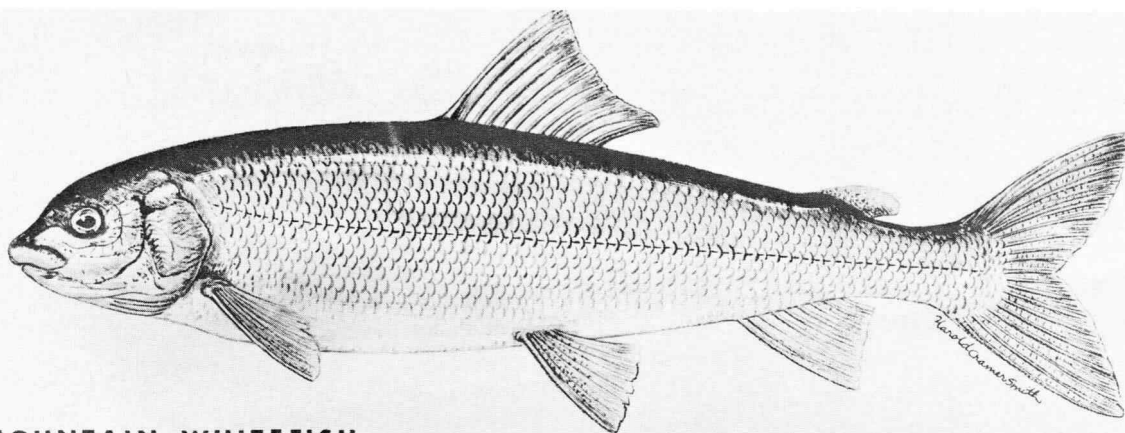
from Camp Sherman upstream to the headwaters.

During field work in 1981 and 1982, a considerable amount was learned about fish populations in the Metolius. This can be summarized as follows:

1. The deep pools, especially where the river is fast moving, are dominated by whitefish. For example, between Wizard Falls Hatchery and Bridge 99, whitefish made up 97 percent of the total fish observed.
2. There are very few wild rainbow trout larger than 12 inches upstream from Camp Sherman. Only seven wild rainbow out of an electrofishing sample of 1,041 were 12 inches or larger. A total of 348 (33 percent) wild rainbow were larger than six inches, the minimum legal length.
3. Wild brown trout are occupying the best stream habitat and reach larger size (up to 18 inches) than wild rainbow above Camp Sherman.
4. Dolly Varden are scarce above Camp Sherman.
5. The river upstream from Camp Sherman supports good numbers of wild trout, mostly rainbow and brown trout less than six inches in length. This section of the river is an important rearing area for young trout.
6. Preliminary sampling indicates that it takes about three years for a wild rainbow trout to reach ten inches and become sexually mature.
7. Cold water slows growth rates of all species.

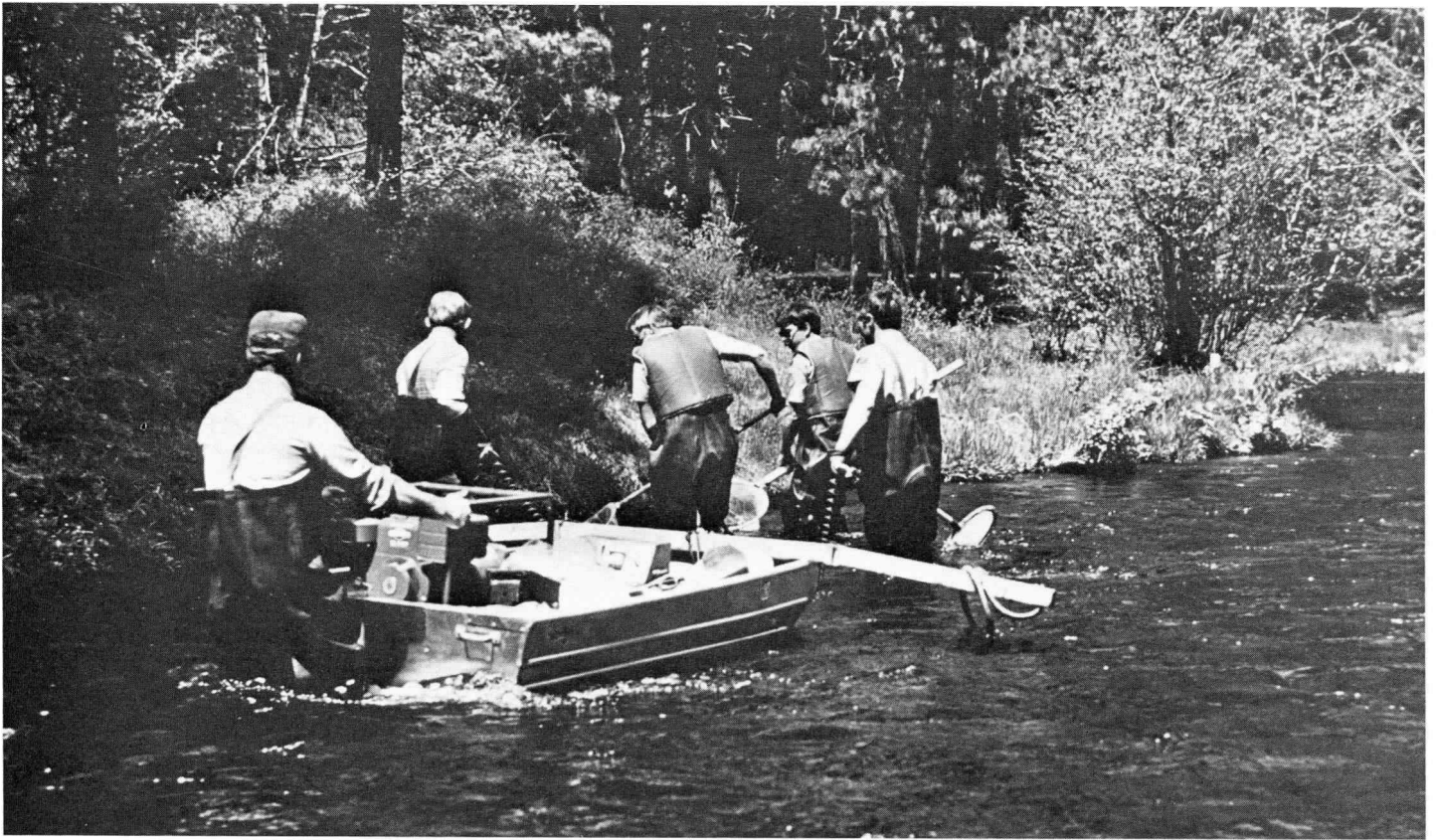
To determine how fishermen on the Metolius felt about the river and its management, an angler preference survey was conducted during the 1982 season. A total of 566 anglers were interviewed from May 1 through September 4 throughout the length of the river. The responses were totaled and the more important answers follow:

1. The most important reasons for fishing the Metolius (in order of priority are:
 - a. Enjoy out-of-doors.
 - b. Unique area.
 - c. Fly fishing.
 - d. Fishing as a sport.
 - e. Catch a few fish.
2. The least important reasons for fishing the Metolius are to:
 - a. Catch lots of fish.
 - b. Catch big fish.
 - c. Catch wild fish.
3. The present number of fishermen using the Metolius was acceptable to 60 percent of those interviewed.
4. Releasing all wild trout was considered a good idea by 86 percent of the anglers.
5. Ninety-four percent of the anglers were aware of the new regulations requiring release of wild trout.
6. Forty-five percent would like an increased level of wild trout management while 42 percent were satisfied with maintaining or decreasing wild trout management.
7. Wild trout over 12 inches were preferred by 45 percent and wild trout under 12 inches acceptable to the other 55 percent.



MOUNTAIN WHITEFISH

Prosopium williamsoni (Girard)



Electrofishing is one of the methods used in the past few years to learn more about the Metolius River's trout population.

8. Sixty-seven percent approved the 1982 regulations while another 14 percent preferred to catch or keep any fish.

Water temperature studies were undertaken in 1982 at several locations between the headwaters and Bridge 99. Water temperatures were recorded constantly from late May until mid-September. Temperatures ranged from a high of 55 degrees at Camp Sherman to a low of 41 degrees at Bridge 99.

Studies of insects in the Metolius were started in 1982 to see how much potential trout food was available. Nine individual square-foot samples were taken at three locations from Lake Creek to Camp Sherman. All insects were removed from rocks and debris in each of the square foot samples. The insects were identified and counted. The average number of insects per square foot sample was 723. A preliminary comparison with other well-known trout streams in the west shows the Metolius is a good insect producer, at least for the areas sampled.

In addition to these studies, informational brochures on wild trout and the Metolius were prepared and distributed, new fishing regulation signs were posted and a department employee spent the summer of 1982 on the river interviewing anglers, checking catches and answering questions.

Future

In 1983, work will continue on many of the studies done in 1981-82. Fish populations, food production and water quality studies will continue. We plan to spend considerable time on mapping and evaluating existing trout habitat, primarily upstream of Allingham Campground. A specific habitat improvement plan will be developed as a cooperative effort with the U.S. Forest Service.

A public workshop is to be held at Camp Sherman in early summer to discuss management of the Metolius, regulations and results of department field studies.

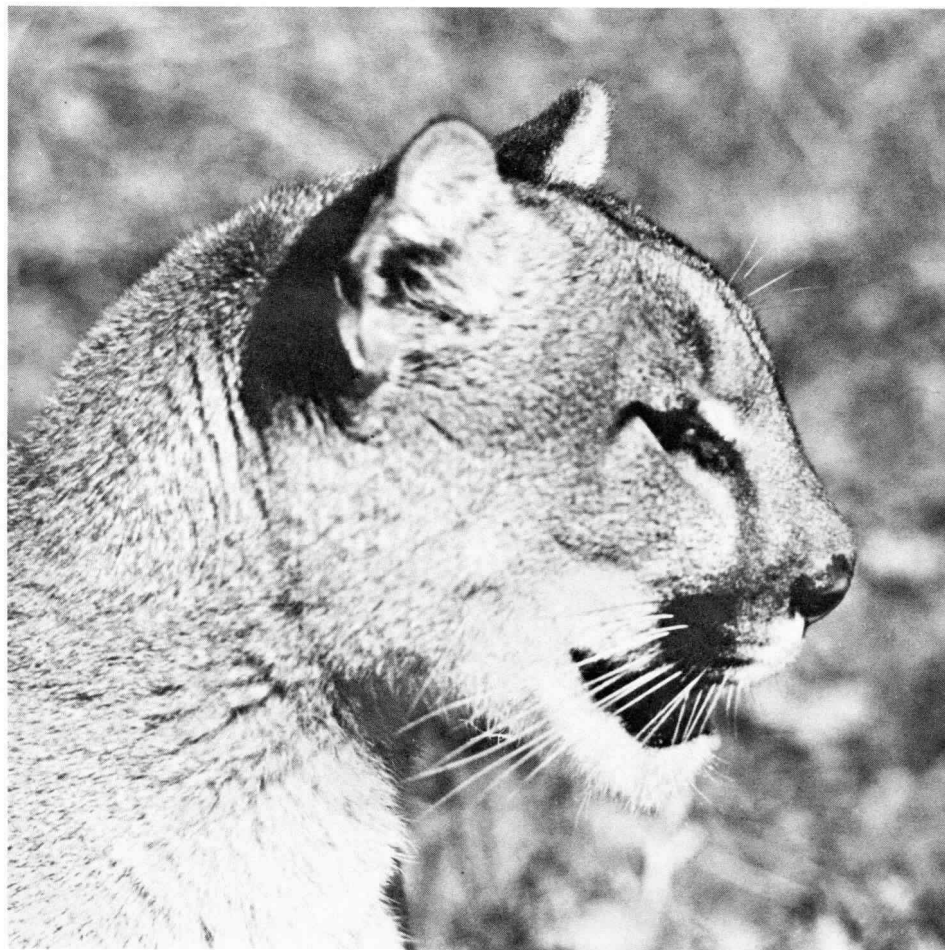
What is the goal or purpose of this work and what will it mean

for wild trout in the Metolius and fishermen who use the river? The department needs to find the best management program for the river. Many questions need answers:

1. Are hatchery trout adversely affecting wild trout numbers? How much stocking is needed and where?
2. What type of fishing regulations are needed to provide a wild trout fishery without harm to the populations?
3. Can the large whitefish population be better utilized without harm to wild trout?
4. How can the department best manage the fish resources of the Metolius to meet the wishes of a diverse group of anglers ranging from children fishing for the first time to the highly skilled fly fisherman?

Answers to these questions will take time and work, but are essential to make the best decisions possible for wild fish in the Metolius and for the people who enjoy them. □

THE COUGAR IN NORTHEASTERN OREGON



By

Walt Van Dyke, Enterprise

and

Mark Henjum, LaGrande

The cougar is the second largest cat in North America, exceeded in size only by the jaguar. It is recognized by a number of other names including mountain lion, puma, panther, painter and catamount. Although it is one of North America's most powerful predators, it is a very secretive animal. Despite the many hours recreationists spend outdoors, few people can say they've been privileged to see a cougar in the wild.

Distribution

Before the white man came to North America cougars were present throughout most of the lower 48 states as well as parts of Canada and Mexico. The progress of civilization has greatly reduced the cougar's range. At present it is

found primarily in the western United States, and portions of Canada and Mexico.

Within Oregon the greatest numbers are found in the wildest areas of the state's northeast corner including the blue and Wallowa Mountains and the Snake, Imnaha, Wenaha and Grande Ronde River drainages, as well as the Cascade and coast ranges of the western half of the state.

History in Oregon

A decline for the cougar began in this country with the westward migration of the white man and his domestic livestock. The cougar, and other large predators including wolves and the grizzly bear, found these domestic stock easy

prey and as a result were considered a serious threat to the establishment of the livestock industry in early Oregon.

In 1843, the territorial government offered a bounty for each cougar taken and this system was continued until 1961, when the law was repealed by the Oregon Legislature. The continued decline in cougar numbers following repeal of the bounty law prompted the Oregon Game Commission to seek authority from the legislature to declare the cougar a game animal. Doing this would take the cougar from the unprotected predator category and place it under the regulatory control of the commission. The legislature approved the change, and a statewide closed season was established in July 1968.

MARCH 1983

In December of 1970, the commission established the first controlled hunting season for cougar in a limited portion of Wallowa County where an increase in cougar numbers and livestock depredations had occurred.

Habitat Characteristics and Food Habits

The habitat of the cougar varies from heavily forested areas to more open types like brushlands or rocky areas. For the most part, they are highly adaptable creatures.

Cougars eat a wide variety of food items ranging from elk to grouse, berries to mice. Their diet is apparently related to food availability.

In Oregon, deer, elk, porcupines and deer mice make up a majority of the diet in winter. Without a doubt, deer are the primary food of the cougar throughout its entire range. Rarely has man been prey to the cougar.

Cougars kill only what they need to eat and will return to a kill until it has been consumed. But they will seldom eat spoiled meat.

Mountain lion densities are not necessarily dependent on food availability. In fact, there is some information which indicates their numbers are regulated by territory size. Cougar densities range from one per ten square miles to one per 100 or more square miles. Territory size is apparently regulated by the tolerance of one cat for another.

Reproductive Biology

Breeding by female cats usually begins at 2½-years of age and may take place during any month of the year. Most young are produced during the summer months, however. Pregnancy is about three months in duration and as many as six kittens can be produced although two or three is more common.

The female usually has the young in some type of den which may range from a crevice in a rock outcropping to a hollow under a fallen log. The dens usually are not elaborate and bedding is not used. Dens provide a place where the young are protected from inclement weather.

Basis for Hunting

As biologists we are frequently asked, "How many cougars are there?" or "How do you know you are not over-hunting the cougar population?"

The shy nature of this large cat makes it difficult to census. The best population information has been gathered where intense studies were conducted in a relatively small area. Frequently such studies have demanded extensive manpower and the use of sophisticated and expensive techniques, including radio telemetry.

State wildlife agencies are experiencing manpower and budget constraints and must generally resort to other methods to assess population health. Our basis for hunting seasons stems from four primary factors.

First, as biologists we are continually searching for cougar sign. Tracks, scrapes and kills are all signs which indicate a cat's presence. Cougar sightings in new locations also fall under this category and indicate an expansion of range to outlying areas.

Secondly, since hunters are required to check in any cougar they kill, we can plot kill locations from year to year to assess population expansion. Third, livestock damage complaints are used as an indicator that social pressures within an expanding cougar population may be forcing lions into new territories where contact with domestic livestock is more likely to occur. Any stockman has the right to kill a cougar that is destroying personal property. Frequently we will send a hunter to a particular area with hopes that he can kill the marauding cat before any further damage occurs.

And finally, when hunters check in their kills, a variety of measurements are taken and the reproductive organs are collected. We can use this information to help assess population health. At present, quantitative assessment of these factors indicate the cougar in northeastern Oregon is doing quite well.

Hunting Can be Costly

Hunting cougars can be more

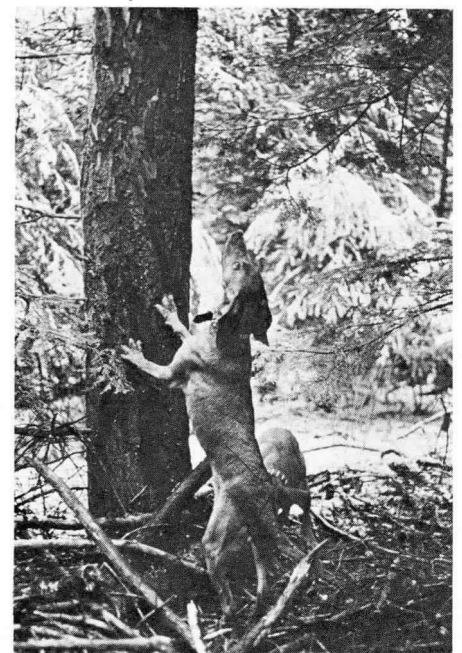
costly in terms of money, time and physical effort than many hunters realize. It has become evident over the past few years that many sportsmen successful in drawing a cougar tag do not actually participate in a hunt. Some of this may be due to personal reasons or last minute difficulties. But in many cases, we believe, the hunter simply did not know what he was getting into when he applied for the tag.

One of the overriding factors responsible for this lack of participation is undoubtedly the cost. To expect reasonable chances for success, a cougar hunter must have access to well-trained hounds. Not everyone has the time, desire or money to justify maintaining a pack of dogs for the possibility of hunting a cougar. A few people do, however, and these individuals are usually available with their dogs and ready to hunt when called upon. But when a tagholder calls to arrange a hunt he usually gets a price quote from the houndsman far higher than expected.

As a tagholder, what can you expect a cougar hunt to cost? These days the figure will usually run from \$1,000 to \$5,000 unless you have a friend with dogs. Why so high?

A typical houndsman may have from four to ten dogs. Over the

Here he is, boss!





A cougar was here!

course of the year it will cost the owner about \$200 to maintain each dog. This price includes such items as food, vet bills, licensing, etc. Multiply this figure by six or eight and you've got quite a chunk of money wrapped up just in dog maintenance. This does not include any compensation for the time it takes to care for the pack, for training, or for other equipment such as snowmobiles, truck and trailer, dog housing, dog crates and dog sleds.

A hound's worth is primarily based on what it will chase. A hound that can tree cougar, bear, bobcat and raccoon is worth \$2,000 to \$3,000 on today's hound market. Keeping a pack of hounds is expensive and much of this expense is passed on to the hunter.

A typical vehicle-oriented hunt will cost from \$100 to \$200 per day and, if successful, a \$300 to \$400 kill fee is added. The length of the hunt is dependent on snow conditions and movement of the cats. A hunt may last from two to seven days. Consequently, such a hunt will cost from \$500 to \$1,000 or more.

If the hunt takes place in a remote area, such as the Snake River Wilderness, a packstring will be needed. In this instance as much as \$35 per day per horse and \$75 per day for the wrangler can be expected. Rates like these rapidly

push the hunt price into the \$2,000 to \$3,000 range.

These costs don't include getting to and from the hunt, food and lodging. Nor do they include taxidermy costs which usually run about \$55 per linear foot for a rug mount and around \$1,000 for a life-sized mount.

Each year sportsmen who have never hunted cougar apply for and receive tags. Oftentimes they are not aware of the costs involved if they do not have access to hounds. This results in disappointment for the hunter, and the tag goes unused.

Cougar hunting can be a challenging and rewarding hunting sport, and the trophy is something to cherish for a lifetime. But it is definitely not without its price. □

HENRY HAGG TREATMENT POSTPONED

Chemical treatment of Henry Hagg Lake in Washington County to remove an over abundance of rough fish, has been postponed for at least another year. The treatment was scheduled for the fall of 1983.

The popular angling reservoir has a large and growing population of suckers and other nongame fish, now estimated at 70 percent of all the fish in the reservoir. These fish compete with rainbow trout fingerlings stocked in the reservoir each spring, and, in themselves, provide little or no angling.

Chemical treatment with rotenone, a natural fish toxicant, has been proven an effective method to remove or reduce the numbers of unwanted fish species in a reservoir, thus permitting restocking with more desirable fish species and a return to more productive angling.

Fish population sampling and interviews with anglers in the past few years have clearly shown that Hagg Lake needs to be rejuvenated. But funding shortfalls and rising costs of rotenone have forced its delay.

The lake will be stocked with pan-sized rainbow trout this spring to supplement production from fingerling releases last year, and at least fair angling can be expected this spring and early summer. □

DEER POACHER GETS JAIL

This month's tip of the sportman's hat goes to Bend District Court Judge Joe Thalhofer.

In December of last year a father and his son came before the judge on charges relating to the taking of a deer out of season. The son was the one actually charged with taking the deer and his father was charged with aiding in the violation since he assisted in taking care of the poached deer.

Judge Thalhofer sentenced the son to 15 days in jail, a fine of \$162 and confiscated his .22-caliber rifle. For his involvement in assisting, the father received five days in jail. Both lost their hunting privileges for two years. □

PEREGRINES ON REBOUND

The Cornell University Laboratory of Ornithology reports that times are good for the peregrine falcon. The lab says that information from many parts of the world indicates that the swift falcon is recovering from its long bout with DDT and other pesticides.

The news from Great Britain is especially encouraging. A peregrine population that was reduced to 350 pairs in 1963 now numbers more than 1,000, with no signs of slackening. This is the highest known level of peregrine nesting in the British Isles during this century.

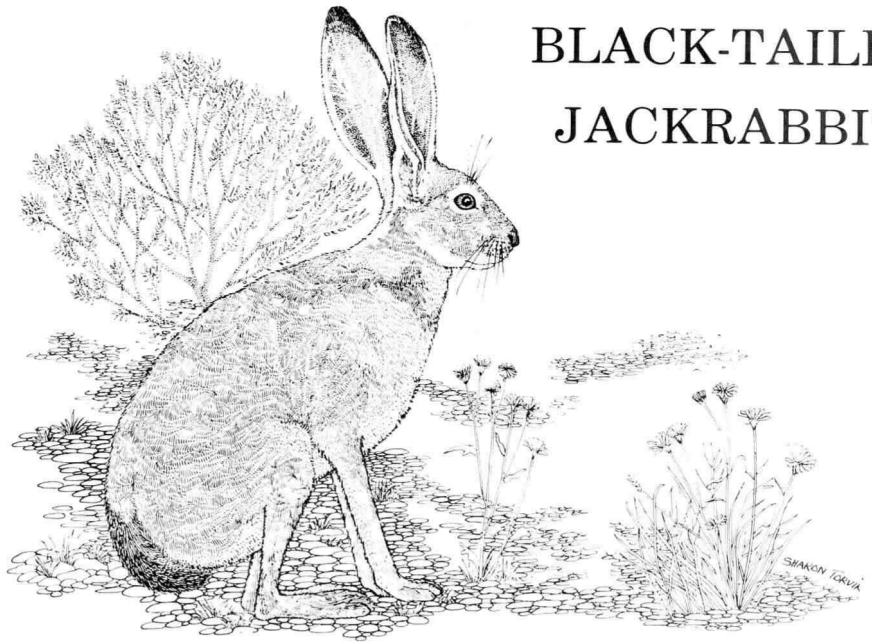
In North America, the Cornell Lab reports, arctic and boreal nesting peregrines have increased substantially in numbers since 1975. Alaska's peregrines are making steady gains. This year on the Colville River of the Arctic Slope, 27 cliffs were occupied by the falcons, compared with only 13 to 15 in the 1970s. Peregrines have been nesting along the Yukon River at or above their 1950 levels for several years. Even on the Tanana River, where the falcons experienced their most severe decline in Alaska, there are several nesting pairs compared to a single pair in the early 1970s.

These improvements in the numbers and productivity of the arctic and boreal nesting peregrines of Alaska, Canada and Greenland have been reflected by larger numbers of fall migrants being counted along the Atlantic and Gulf coasts. Last fall at Cape May, New Jersey, two all-time records of 50 or more peregrines were seen on a single day. Researchers on Assateague and Chincoteague islands, Virginia tallied more than 600 peregrines passing through during 1982.

Nesting peregrines in the U.S. south of Canada, however, remain severely reduced. No more than five to 10 percent of the original population remains. But recovery plans are beginning to operate and the future looks brighter.

Wildlife Management Institute
OREGON WILDLIFE

BLACK-TAILED JACKRABBIT



Walking through the sagebrush of eastern Oregon can be a startling experience when a rabbit suddenly bursts from under a bush and bounds away across the desert.

In most of eastern Oregon, that rabbit is likely to be the black-tailed jackrabbit, known scientifically as *Lepus californicus*. Its long black-tinged ears and black tail give the animal its common name and also distinguishes it from the white-tailed jackrabbit which shares similar habitats.

Black-tail fur is grayish-brown year around, while the slightly larger white-tail has a grayish coat and white tail during the summer and a light gray or completely white coat during the winter.

The "jackrabbit" was a name coined by the early settlers of the west for this animal which ranged from western Missouri to the Pacific Coast. In truth, this denizen of the desert is not a rabbit, but a hare. The hare family is distinct from rabbits in several ways.

The major difference is that young hares are born fully furred with their eyes open. Rabbit young are born blind and naked. Nesting habits are also different. Jackrabbit young are born in a shallow depression called a "form," while rabbit young enter the world to a formal nest lined with fur and plant material. Young hares may begin moving away from their birthsite within 24 hours after delivery.

A black-tailed jackrabbit female can bear young two or more times during a breeding season that may last several months. An average of 14 young are born each year.

The jackrabbit feeds on a variety of plants ranging from sagebrush to prairie grasses. The jackrabbit also eats some of its own droppings. This reingestion process is called coprophagy. Scientists have found these pellets to be high in protein and vitamin B.

The jackrabbit is a favorite prey species of many desert predators including hawks, eagles and coyotes. The presence or absence of jackrabbits has a documented effect on coyote populations and alternative feeding habits.

While jackrabbits seem born to be eaten, they are also equipped with a good means of escape. By bounding on their powerful back legs, these hares can reach speeds of almost 40 miles-per-hour for short distances. □

Jim Gladson

U.S./CANADA SALMON TALKS FRUITFUL

Whose fish? Which fish? Your fish? My fish?

Salmon which originate in Oregon are wide ranging. This migratory behavior leads to catches by fishermen from other states and Canada. In turn, fishermen from Oregon catch fish which are produced by Canada and other west coast states. For the past 13 years negotiators from Canada and the United States have been trying to reach agreement on how their fisheries could be managed to give the most benefit to the originating state or country without unduly penalizing traditional fisheries.

Oregon is now pleased to announce that after many hours of exhaustive negotiations, an agreement has been signed by the two chief negotiators, Dr. Michael Shepard for Canada and Dr. Dayton Alverson for the U.S., and by a large majority of the user-group participants to the negotiations. This agreement must now be approved by the Department of State and ratified by the U.S. Senate. A similar process is occurring in Canada.

IMPORTANCE TO OREGON

The salmon resource has always been important to Oregonians, particularly in coastal and Columbia River area communities, and the chinook salmon has historically been the species prized most. Unfortunately, the chinook is a particularly wide-ranging species. Many Oregon stocks of chinook are known to range as far as the Gulf of Alaska. On their homeward migration they are exposed to intensive fisheries along the Washington, British Columbia, and Alaska coasts. Up to 95 percent of the harvest of Oregon chinook stocks occur outside Oregon waters.

This migration through other fisheries, and the resulting catch of Oregon fish, is nothing new. Concern, however, has been growing because some stocks such as

By
Malcolm Zirges
Marine Region

Columbia River spring, summer, and recently fall "bright" run chinook, are falling short of minimum spawning goals. Management of fisheries on Columbia River stocks in particular, which includes allocation to Indian and non-Indian gillnet fisheries, the ocean troll fishery, and both the ocean and in-river sport fisheries, has been complicated and severely compromised by the problem of interceptions to the north.

As can be seen from the accompanying figure, fishermen in one area or country intercept fish from other areas at different rates. The figure depicts the estimated balance of interceptions for the year 1976. U.S. fishermen clearly had an advantage in sockeye interceptions, actually catching almost 1.5 million Canadian fish of that species compared to a Canadian catch of less than 20,000 U.S.-origin sockeye. But for chinook, the species of most concern to Oregon, the tables were turned, with Canadians having the advantage by over half a million fish.

THE NEGOTIATING PROCESS

The basic goal of the negotiations was to satisfy the desire by each country to receive salmon equivalent to those produced in its own streams. Each side recognized the value of traditional fisheries and the virtual impossibility of eliminating all interceptions in fisheries harvesting local stocks. This meant that each country could not realistically expect to get literally the same fish, in species or numbers, that its streams produced.

Oregon participated in the negotiations with the hope that any

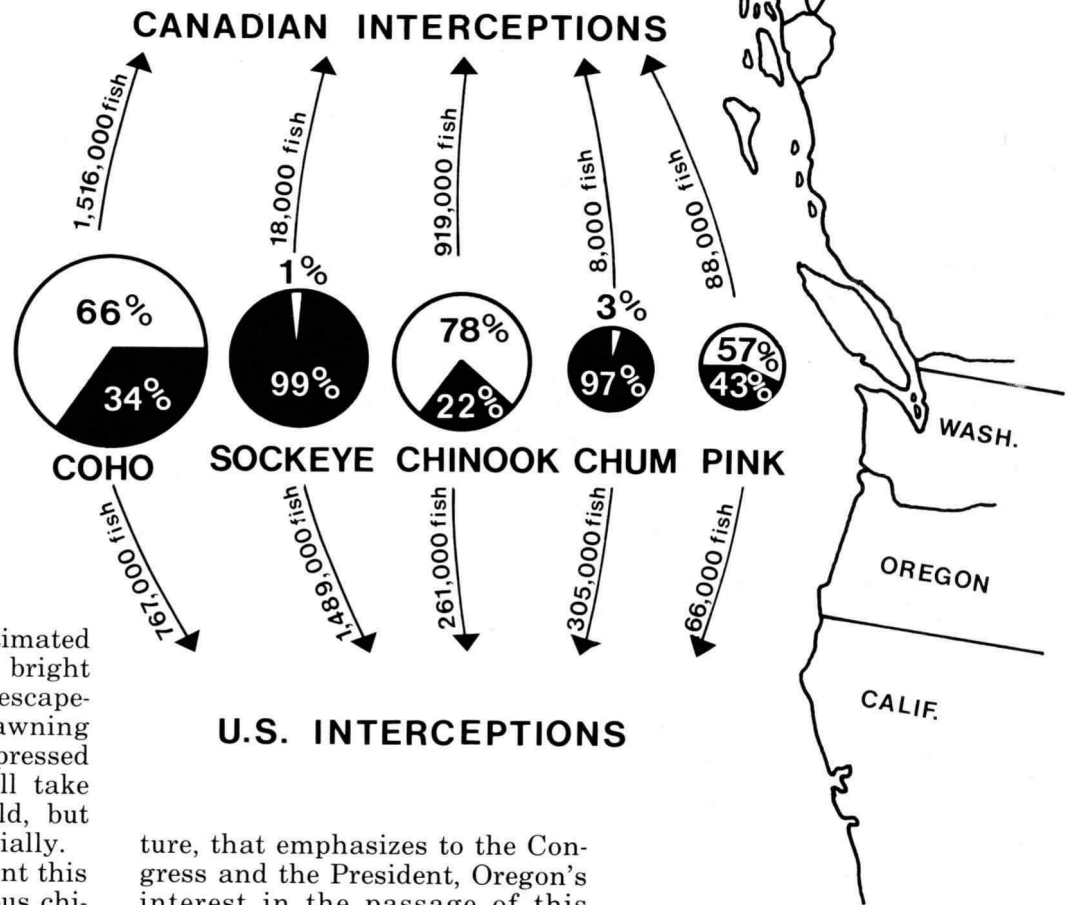
agreement obtained would at least halt future increases in interceptions of Oregon-produced chinook salmon, and to try to discourage tradeoffs of chinook for other species. It was felt that any form of cooperative management was preferable to the complete lack of control existing without an agreement. Other participants were hoping for different concessions or safeguards.

The framework agreement that was negotiated contains the overall goals of both countries: to cooperate on management and enhancement of salmon; to work toward equity; and to conserve salmon stocks. It lists guiding principles which define how to reach these goals.

Chinook salmon were targeted for special conservation measures. The two countries agreed to develop a coordinated salmon management program designed to prevent the further decline of chinook spawning escapements. They also agreed to restore the production of naturally spawning chinook stocks by achieving escapement goals within a ten-year period, beginning in 1983. Specifically, the countries agreed to enact regulations in 1983 and possibly for 1984, reducing the catch of chinook off southeast Alaska and British Columbia by about 25% from the 1978-81 averages. These measures will benefit Oregon chinook

MARCH 1983

The illustration shows the division of catch of all salmon produced on the west coasts of the U.S. and Canada. The goal of negotiations was that each country receive salmon equivalent to those produced in its own streams.



stocks. For example, it is estimated that the Columbia River bright chinook stock may reach escapement goals in a single spawning cycle (5 years). Other depressed Columbia River stocks will take somewhat longer to rebuild, but will also be helped substantially.

You can see how important this treaty is to Oregon's precious chinook resource. There is no hiding the fact that Oregon has much to gain, and very little to lose by the agreement. The long term benefits from meeting escapement goals means more and better fishing for everyone in the future. It also means better control over the fisheries we choose to enhance with hatchery releases or improved environmental practices.

The Governor of Oregon and the Oregon Fish and Wildlife Commission have indicated their strong support for the treaty. A senate Joint Resolution is currently before the Oregon Legisla-

ture, that emphasizes to the Congress and the President, Oregon's interest in the passage of this treaty.

WHAT CAN YOU DO?

Needless to say, groups, agencies, and individuals can help convince the Department of State and the U.S. Senate that there is strong support for the treaty. It is no secret that strong opposition campaigns have been mounted in Canada, Alaska and Washington by user groups which stand to lose short term fishing opportunities if the agreement is ratified.

You are encouraged to write and express your feelings to the Pacific Fishery Management Council,

which will discuss the agreement at their March 16-17 meeting in Portland. Their address is: Pacific Fishery Management Council, 526 S.W. Mill Street, Portland, Oregon, 97201.

And you can ask your U.S. Senators and Congressmen to use their influence to get this treaty into force. If you would like more information, or a copy of the proposed treaty, please write to the Oregon Department of Fish and Wildlife, P.O. Box 3503, Portland, Oregon 97208. □

THIS AND THAT

Compiled by Ken Durbin

SHOCKING EXPERIENCE

In the Cedar Bayou country of Texas recently lightning apparently struck a flock of wild geese in flight, killing 129 of the birds and injuring others.

Texas Parks and Wildlife Department officials said residents of the area reported seeing dead and dying geese scattered over a five-acre area of pine and hardwood forest. Texas wildlife officials consider the incident highly unusual, saying it was the largest such incident in at least 25 years.

"Flying geese are somewhat more likely to be hit by lightning than geese on the ground, but either way it's extremely unusual for them to be struck, especially in such large numbers," said a department official.

Biologists investigating the kill found 127 dead snow geese and two Ross' geese. Several other snow geese also appeared dazed but still able to fly. The heads of several geese were neatly sheared off by the lightning bolt's force.

*

KLAMATH EAGLE BROCHURE

Klamath Basin is the site of the largest wintering concentration of bald eagles in the lower 48 states. In January and February more than 500 are usually present. The area also affords a fine opportunity for those interested in wildlife to view this magnificent bird.

A brochure entitled "Bald Eagles of the Klamath Basin" has been produced by the Fish and Wildlife Department, in cooperation with the U.S. Fish and Wildlife Service. Aimed at providing information about our national symbol in the Klamath area, the brochure also provides information about viewing opportunities in the basin. Individual copies of the brochure are available free by writing the department at P.O. Box 3503, Portland, Oregon 97208.

GAME TO NONGAME RATIO SMALL

Of the 796 bird species in the U.S., only 74 are huntable, and an even smaller number of the mammals that roam the country are legal game.

The North Carolina Wildlife Resources Commission recently reported that only 35 of the 914 mammal species are sought by sportsmen. Yet, all these species benefit from the conservation and management practices supported by hunting license revenue.

*

FARM PROGRAM COULD HELP WILDLIFE

The U.S. Department of Agriculture is gearing up to take about 20 million acres of cropland out of production. Properly handled, the program could be of tremendous benefit to wildlife.

America's farmers are producing more food, feed and fiber than the market will bear. USDA buys and stores the goods, but it's running out of storage space. As in the past, USDA wants to pay farmers not to grow certain crops. This time around, the goal is to idle about 20 million acres.

The key to getting wildlife benefits from this new farm program is how the "set-aside" acres will be managed when taken from production. Unless the land is seeded and maintained in vegetation that provides food and cover, the program will not have much benefit for wildlife.

In past years, USDA did not require that landowners manage their retired land to produce food and cover for wildlife. Surveys showed that most of the idle acreage was not seeded. And a lot that was planted in grasses and legumes was mowed or plowed during the spring and early summer which disrupted the production of pheasant, quail and other ground-nesting birds.

Conservationists are encouraging USDA to develop guidelines for the current set-aside program that will require landowners to manage retired acres in ways that prevent soil erosion and aid wildlife.

Wildlife Management Institute

WALLEYE RECORD EDGED AGAIN

The record for Oregon's largest sport-caught walleye, broken twice in 1982, has been beaten again, by a small margin.

Ted Fies, district fishery biologist with the department in Bend, reports a new record of 13 pounds, two ounces. The fish was taken from the Columbia River near Rufus by Gale Cavallin of Redmond. Cavallin caught the fish, which edges the previous record by two ounces, on January 30. His fish measured 32½-inches in length and 18½-inches in girth. The fish was officially weighed and witnessed on a grocery market scale and species was confirmed by Fies.

Fies also reports he has since seen two mounted fish which were larger, but which were not officially weighed and submitted for state record. Rumors of considerably larger fish from the Columbia River have also been reported, but none have been submitted for record.

The world record walleye stands at 25 pounds and was taken from Old Hickory Lake in Tennessee in 1960. Many biologists and anglers believe the next world record walleye may come from the Columbia River.

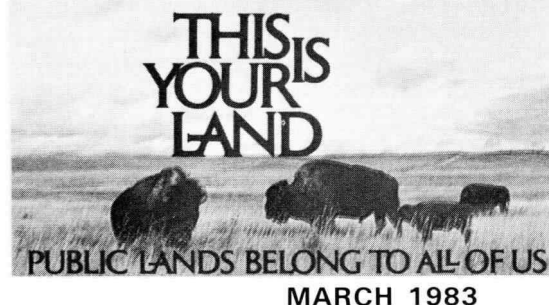
*

SAFE YOUNG HUNTERS

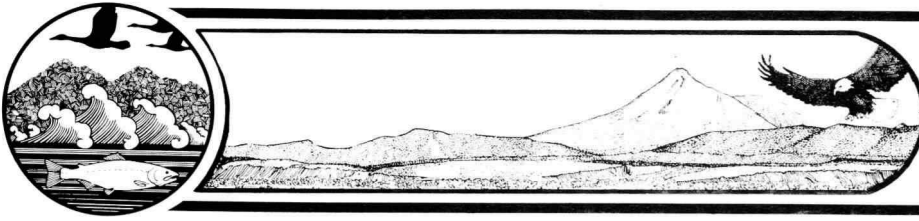
More than 700,000 young hunters complete hunter safety education courses in the U.S. each year, according to the National Shooting Sports Foundation. In Oregon an average of 10,000 young people successfully complete the department's hunter education course annually. Courses are taught in Oregon by more than 1,700 volunteers throughout the state who donate their time and services.

*

NATIONAL WILDLIFE WEEK: MARCH 20-26, 1983



THE WAYS OF WILDLIFE



Learning By Experiencing

TRACKING DOWN TRACKS

Animals come and animals go, sometimes without leaving a trace. But when just enough Oregon rain has softened a sandy river bank or a forest floor, animals leave evidence of their daily activities — Tracks! When man depended on wildlife for food, it was very important to be able to “read” tracks. From tracks, man learned what animal had been there, how large it was, what direction it was headed, and how fast it was going.

Today we probably aren't as good at reading tracks as early man, but animals are still making tracks and we can learn much from them. One way to study animal tracks is to collect them. This is an easy way to become an expert. Follow the directions below to start your track collection.

For additional information on casting animal tracks, drop a request to Oregon Department of Fish and Wildlife, Education Section, P.O. Box 3503, Portland, Oregon 97208.

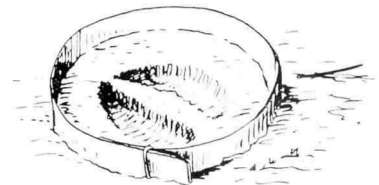
The following publications will help you identify tracks and learn more about the animals that make them:

Tracks of the Pacific Northwest by Karen Pandell and Chris Stall, The Mountaineers, Seattle, 1981, \$3.95.

A Field Guide to Animal Tracks, second edition, by Olaus J. Murie Houghton Mifflin Co., Boston, 1974, \$8.95. □



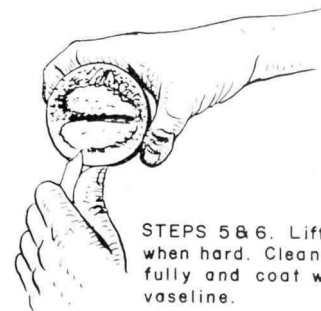
STEPS 1&2. Clean track and spray with shellac or plastic.



STEP 3. Encircle track with band of cardboard pressed into soil.



STEP 4. Pour plaster of Paris mixture over track.



STEPS 5&6. Lift cast when hard. Clean carefully and coat with vaseline.



STEP 8. Separate the two layers of casting. Clean vaseline from track and smooth with knife blade.

STEP 7. Surround casting with wide strip and pour plaster level with mold.



STEP 9. When caste is dry point inside of track with black India ink.

MORE TURKEYS BROUGHT TO OREGON

Fifty-two more Rio Grande turkeys have arrived from Texas and have been turned loose at two locations in southwestern Oregon. This year's release is part of continuing efforts to establish this hardy bird as a permanent resident of southwestern and south central Oregon.

It is another step in a program that began in a small way in 1975. That year the department obtained 20 Rio Grande turkeys from the California Department of Fish and Game. These birds — 15 hens and five gobblers — were turned loose in the foothills east of Medford. They took well to this area and soon began expanding both their numbers and their range. A first limited hunting season was authorized in the spring of 1980.

Biologists had great hopes for this bird in the oak-pine-manzanita habitats which cover much of the southwestern one-fourth of Oregon. The Rio Grande turkey, one of six recognized subspecies of wild turkey in the United States, had already shown excellent promise in similar habitat in northern California.

California had stocked its first Rio Grande turkeys in 1968. Within six years numbers had increased sufficiently so that both spring and fall hunting seasons were authorized, and in 1974 some 2,000 birds were taken.

Encouraged by the success of the 1975 release in Oregon, Upland Bird Biologist Ralph Denney went looking for more birds last year to speed the process of establishing this bird in the state. The Texas Parks and Wildlife Department graciously agreed to provide some birds, and 52 were received last spring. These were split into two groups and released in separate locations, one in the South Ump-

qua drainage southeast of Roseburg, and the other in the Pokemama area west of Klamath Falls.

Good evidence of reproduction has since been seen from both groups, and these birds appear to be rapidly filling the local habitat with more of their own kind.

Texas has had two extremely successful nesting years resulting in a bumper crop of turkeys. This year they offered to provide additional birds for Oregon's program. Fifty-two more birds arrived by commercial airline at Portland, and were transported by highway to Roseburg. There the birds were separated into two groups containing five male birds and 21 hens each. These were taken to separate release sites south and southeast of Roseburg.

Rio Grande turkeys have now been released at five separate sites in Jackson, Douglas and Klamath counties. More birds will be obtained for release in additional sites as they are available. Biologists in Texas indicated they may be able to send yet another shipment this year, and other birds may also be coming from Kansas.

Turkeys are hardy birds. Last year the turkeys which arrived from Texas were only 24 hours from capture in Texas to release in Oregon. This year the airline connections were not so good. The birds spent one night in their cardboard shipping boxes at Denver. The next day they arrived too late to be driven to Roseburg in time for release before dark, so they spent a second night in their crates.

Although these birds were 48 hours without food or water, biologists in Texas had allowed them to feed heavily on corn before releasing the drop net which captured them. In the wild, turkeys are known to stay on a roost without

feed or water for several days during severe storms.

In any case, these birds all arrived at their release sites in excellent health, and flew strongly when released to nearby cover. So far not a single Rio Grande turkey has been lost or seriously injured in the transport or release process.

Another recent transplant effort involved the Merriams turkey, another subspecies, found predominantly in Wasco County, but also in scattered small groups throughout northeast and central Oregon.

A project is underway now to trap and transplant up to 30 Merriams turkeys from the White River Wildlife area in Wasco County to the Bridge Creek area west of Silver Lake in Lake County. At this writing 13 birds have been transplanted, 12 hens and one gobbler. Trapping efforts are continuing and biologists hope at the very least to add a few more males to the area this winter.

Radio transmitters have been fitted to four of the birds so their movements can be followed. This helps in several ways. Additional birds can be released in the vicinity of birds from the earlier plants, and the transmitters provide useful information about seasonal movements, habitat preferences in the various seasons, preferred nesting areas, etc.

The wild turkey is the largest upland game bird in the United States and is considered by many to be the most challenging of all game birds to hunt. An adult gobbler will sometimes weigh more than 20 pounds although the average is smaller, hovering around 16 pounds. The hens are substantially smaller, averaging about ten pounds.□

Ken Durbin



506 S.W. MILL STREET
P.O. BOX 3503
PORTLAND, OREGON 97208