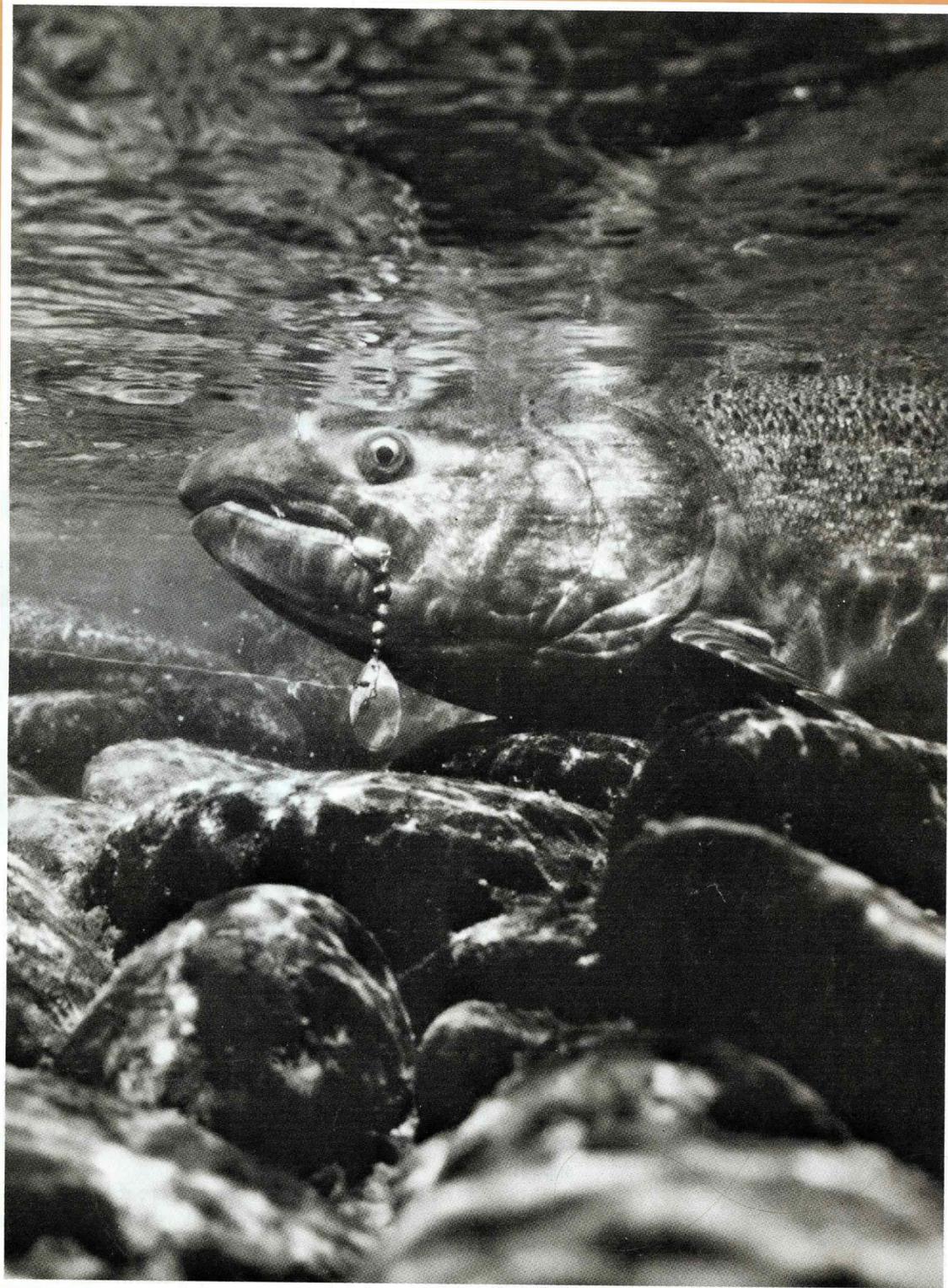


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# OREGON WILDLIFE

March-April 1990



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March-April 1990  
Vol. 46, No. 2

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Box 59, Portland, OR 97207.

## The Cover

Scott Ripley caught this unique glimpse of a salmon hooked by an angler. The photo won first place in the Wild and Fishy photo contest Fishing Scene category. Winning photos begin on page 8.

## HUNTER EDUCATION PROGRAM

February - March 1990

Instructors Approved .....	20
Total Active .....	781
Students Trained .....	719
Total to Date .....	348,987
Hunting Casualties Reported in 1990	
Nonfatal .....	1
Fatal .....	0

# 1990 Oregon Gamebird Stamps Selected



© 1990 OREGON DEPT. OF FISH AND WILDLIFE

A golden retriever searches the sky for ducks and geese in a Roger Cruwys painting that has been selected as the design for the 1990 Oregon waterfowl stamp art.

Cruwys, of Bozeman, Montana, was selected by the Oregon Fish and Wildlife Commission as the winning artist from two dozen entrants.

Oregon's first upland bird stamp will feature a ruffed grouse, painted by Portland artist Kenneth H. Catlett. The \$5 stamp will be required of all upland bird hunters in Oregon beginning in the 1990 season.

Proceeds of state upland bird stamps are used to finance upland habitat preservation and improvement as well as restocking efforts.

# "UPDATE"

## Tip of the Hat

Community service is becoming a popular form of restitution, and often requires poachers to help the animals they are convicted of killing.

District Court Judge Thomas Branford in Newport recently handed down a stiff sentence to a man who failed to validate his salmon/steelhead tag. It was the defendant's second offense — he was arrested a year earlier for illegally taking a sturgeon. The sentence included:

- \$296 fine
- Two year loss of hunting and angling privileges
- 100 hours community service
- 15 days in jail

The judge warned the defendant that any game violations during his next year's probation would mean serving one year in jail.

Across the state near Wallowa, a man was found guilty of killing two white tail deer out of season and wasting the meat.

His sentence, handed down by Wallowa District Court Judge Eric Valentine, included:

- \$441 in fines
- \$700 in restitution to ODFW
- \$500 restitution to Oregon Hunters Association
- Loss of hunting privileges for two years
- 40 hours community service to ODFW by August 31, 1990.
- Must enroll in a Hunters Safety Course class

In Portland, a resident was fined \$200 and sentenced to 60 days in the county jail for selling steelhead.

Circuit Court Judge John Lowe acknowledged the severity of the crime by handing down the sentence. An Oregon State Police trooper working undercover bought several of the fish out of the convicted man's house last summer. He was found guilty in Clackamas County Circuit Court for illegal sale of game fish. □

## Game Regulations Coming Soon

Proposals for deer, elk and cougar hunting seasons will be heard by the Oregon Fish and Wildlife Commission Wednesday, May 9 at Fish and Wildlife Headquarters, 2501 SW First Avenue in Portland. Final regulations will be adopted Saturday, June 2.

A series of meetings to review season proposals will be held statewide during the weeks between May 9 and June 2 to hear local comments. Check with the local Fish and Wildlife office for the date, time and place of a meeting in your area. Anyone wishing to receive a mailed notice of the local big game meeting dates should send a self-addressed stamped envelope to Big Game Meetings, PO Box 59, Portland, OR 97207. □

## Leave Young Wildlife Alone

Spring is a time of birth and renewal in the wild. The Oregon Department of Fish and Wildlife appeals to all people who see young wildlife to leave them alone. Disturbing or removing these animals from their living places may cause their death. Such actions are also against the law.

Deer fawns or elk calves in the woods, or seal pups on beaches and rocky areas are not necessarily abandoned. Their mothers are likely off foraging for food. Seal pups, for example, have been known to be left alone for up to two days.

Well-meaning people who remove these animals frequently contact the Department of Fish and Wildlife or law enforcement agencies only after the animal has been in possession for some time and starting to cause problems. Holding deer or other wildlife without a permit is against state law. Possessing or even touching any marine mammal is a federal violation. Also, seals can carry bacteria or viruses that can be transferred to humans. □

## OCEAN SALMON SEASONS ADOPTED

Recreational salmon fishing in ocean waters off Oregon will once again start May 1 along much of the coast. The Columbia River fishing area north of Cape Falcon, however, will hold off until June 24 under regulations adopted by the Pacific Fishery Management Council and the Oregon Fish and Wildlife Commission.

The coho quota north of Cape Falcon is up slightly this year, but the coho limitation south of Falcon has dropped by 50,000 fish to a quota of 235,000 coho. Stretching quotas for as long as possible will be the objective of some season-extending clauses in all fishing areas.

Sunday through Thursday fishing will remain in effect off the Columbia River. South of Falcon will be open seven days a week, except for a June 23-29 total closure between Cape Falcon and Humbug Mountain designed to preserve fish for harvest later in the season.

## OREGON 1990 Ocean Recreational Salmon Seasons

(Single-point, barbless hooks required in all seasons)

### Leadbetter Pt. to Cape Falcon

Open Season Dates: 6/24-Sept. 20 (or quota reached)  
Sunday - Thursday only.

Coho quota: 122,500

Chinook guideline: 13,100

Bag: Two fish per day, all species

Minimum sizes: Chinook 24" Coho 16"

### Cape Falcon to Humbug Mountain

Season Dates: 5/1-5/27 (Inside 27 fathom line)

5/28-6/22 (0-200 Miles)

Season Closed 6/23-6/29

Reopens 6/30 and continues through 9/16  
or until coho quota is reached

Open 7 days per week

Coho Quota: 235,000 (Applies Falcon to Mexico)

No chinook quota

Bag: Two fish per day, all species

Possession: Six fish in seven consecutive days

Minimum sizes: Chinook 20" Coho 16"

### Orford Reef to Horse Mt., CA

Season Dates: 5/1-9/9 (0-200 miles)

Open 7 days per week

No chinook quota

Coho quota: included in south of Falcon limit.

(Season will remain open to scheduled end even if coho quota reached)

Bag: Two fish per day, all species, except 6/30 - 8/15  
only one may be a chinook

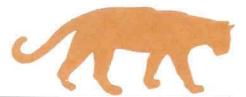
Possession: Six fish in seven consecutive days

Minimum sizes: Chinook 20" Coho 20" □

# Broad-based Studies Improving Knowledge Of Mountain Lions In Oregon



MARK HENJUM



*Calm but intent, an Oregon cougar surveys biologists as they prepare a safety net on the ground below. An estimated population of 2,150 cougars roam the forested lands of Oregon.*

By Pat Wray

The snow covered mountains of northeast Oregon absorb sound like a sponge absorbs water; what little is left is quickly whisked away by the wind. Even so, a change in the pitch and tempo of a distant harmony of depthroated howls carries as distinct a message to the waiting group of wildlife biologists as if they had received a telephone call.

"Hot track," says Mark Henjum.

"Shouldn't be long now," adds Walt Van Dyke.

Almost as if he had willed it, the dogs begin a frantic series of barks and bawls that sends an even more electric message to the men.

"Treed," says Mike Kemp. Already they are moving back toward their trucks. A communication radio in Henjum's truck is crackling when he opens the door. The call is from Rocky Campbell, one of five La-Grande houndsmen who have volunteered their time and dogs to help these Oregon Department of Fish and Wildlife biologists conduct the most extensive study of cougar population ever attempted in Oregon. He has been running with his dogs since the hounds were put on this track. Rocky gives quick directions to his position and the trucks are on the way.

While driving, Mark Henjum talks about the study. "This will be our 14th cat," he says. "We started collaring in the Catherine Creek Unit last year (1988) and we plan to finish next winter (1990). We're trying to put tracking collars on every cougar this unit. We hope to determine the size of the population and learn a great deal about their movements and habits."

Catching and collaring cougars is

essentially a winter activity because snow on the ground makes it easy to find tracks. Without snow the hunters would have to run dogs over bare ground, hoping to cut a scent by chance. "It can be done," says Henjum, "but the time and expense involved would be prohibitive."

Compounding the problem of finding the secretive and wide-ranging cat is its relative lack of scent. "A cougar doesn't leave much scent," explains Henjum. "Not anything like a bear, which the dogs can often smell from a passing vehicle."

Even a relatively fresh scent can be quick to disappear as well. They had started dogs on this track earlier today, but it had faded away on a windswept hillside one-half mile from the beginning. Only after finding a fresher portion of the track within a protected stand of timber had the dogs been able to stay with it.

And now the trucks stop on a backcountry road as close to the baying hounds as vehicles can get.

All three biologists quickly hoist prepared backpacks to their shoulders with an efficiency borne of much practice and start off down the hill. The packs contain everything they will need to take care of the cougar.

The noise of the hounds is deafening at the tree. The cougar is lying on a single branch 30 feet high with its eyes closed, seemingly bored with all this hooplah.

"I've seen them go to sleep on a branch while the dogs are going crazy below," says Henjum. "Unless they've been treed before, they feel completely safe in a tree."

While Mike Kemp is unpacking

and readying the safety net, Henjum and Van Dyke are estimating the cat's size and measuring the dose of tranquilizer that will be used to immobilize it. In just a few minutes all is ready. Henjum aims the dart gun through the branches. Seconds later the dart is imbedded in a tawny rump. After a flurry of motion, the cougar settles down again and the waiting begins.

"Nice looking cat," remarks Van Dyke.

"Really healthy," said Henjum.



Across the state, at ODFW's Southwest Region Headquarters in Roseburg, George Keister looks up from his computer and echoes Henjum's words.

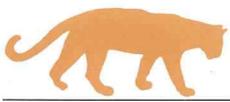
"Really healthy," he says, but he is referring to Oregon's cougar population in general.

Keister has constructed a computer model which has allowed the Oregon Department of Fish and Wildlife to develop a long-term population profile of mountain lions, without the traditional methods of visual census used for deer, elk and other more visible wildlife species.

Computer modeling is not easily understood, but Keister explains that it boils down to a fairly simple idea.

"We know a lot about the biology of the animals including their reproductive rate and natural mortality rate. We know how many are taken by hunters, how many are road kills and how many are taken to limit livestock depredation. Then it's a question of calculating the population that must exist, given those rates.

"We know, for example, that



BUD LYONS

Wildlife biologists Mike Kemp (left) and Mark Henjum carry a sedated cougar to a waiting ta where she will be radio-collared, measured, weighed, and tagged before her release.

adult cougars breed about every 21 months and that litters average around 2.6 kittens in Oregon. We know that kittens will stay with momma until she is ready to breed again and then leave to establish their own territories. We know that not many wild cougars live past the age of 12.

"Then we crank in what we know about Oregon's cougar population in the past and the picture gets a little more clear. Numbers of cougar tags issued over the last 20 years have been gradually increasing and hunter success rates have remained high. At the same time, cougar damage complaints are on the rise. Road kills and other accidental losses are also increasing. It becomes obvious pretty quickly that there are quite a few cats out there."

Keister's model is considered accurate for several reasons. It agrees with past population profiles, including an estimated 1961 baseline of 214 cougars. Also, it is based on known biological factors and agrees with analysis of current harvest data.

The big cat was hunted as a bountied predator continuously

from 1843 through 1961, when the population had become dangerously low. Mountain lions were classified game animals in 1967 and given complete protection until 1970, when 25 hunting tags were issued. Since then, the number of tags issued has been gradually increased to keep pace with an increasing population. Present data indicates there are about 2,150 cougars in over 55,750 square miles of habitat in Oregon.

"In fact, our model indicates that at present harvest rates, cougar numbers will continue to increase until they are naturally limited," says Keister. "In the absence of harvest, cougar populations are limited by territoriality and prey density."



Back at the tree, one of Oregon's 2,150 mountain lions is not worried about habitat, but why she suddenly feels numb and sleepy. Her sense of balance is eroding and she shifts herself around in an effort to maintain her perch.

On the ground beneath her, four men are stretching the corners of a safety net in readiness for her arrival.

"They don't always fall," says Van Dyke. "Sometimes they sack out in the tree and we have to climb up and lower them down with a sling. That gets a little more complicated."

The mountain lion begins to weave unsteadily, she tries to dig her claws into the tree, but slides smoothly out through the branches and into the net. Things start happening very fast now, Henjum puts a noose around her neck, Kemp grabs her tail and both men steady the cat as they wait for the tranquilizer to take full effect. Nothing happens for several minutes until the animal slowly rolls onto her side. Then the noose comes off and work begins.

The biologists unroll a tarp and carry the cougar to it. Then they fit a transmitter collar to her neck.

Beneath her smooth skin, the young lion's body is incredibly muscular, especially around her shoulders, neck and forelegs.

"They need muscles like that," explains Van Dyke. "Remember, that 80-pound animal lives on deer and elk, which might outweigh it by, four or five times. Cougars put their lives on the line every time they try to eat dinner and their strength is



Biologists Mark Henjum (left) and Walt Van Dyke put a radio collar on a cougar in the mountains of northeastern Oregon. The collar will transmit the animal's location for about three years, providing a great deal of information about the big cat's movement and habit patterns.



BUD LYONS

one of their primary assets."

"This collar should transmit her location for about three years. With it we can plot her movements and get a feel for her habits," says Henjum. He cradles the cat's head in his hands as if she were a sick youngster.

She also receives tags and a tattoo in her ears for future identification. Once the dart is removed the cat is weighed and measured and a lubricating salve is put into her eyes. This helps replace the blinking response that stops under the tranquilizer's effects.

"Just a youngster," says Kemp, pointing to the shadow of striping on the inside of her forelegs. This external indication of her youth is very helpful because cougar are particularly difficult to age.



Across the state, research biologist Chuck Trainer is at work on that very problem in the wildlife research lab in Corvallis. Trainer is a recognized authority in the process of wildlife age determination. He has helped to develop new techniques of cougar aging using the animals' teeth.

"We are using sections from the

tip of the tooth root where age lines can be read, much like the growth rings on trees," says the 30-year department veteran.

The aging process, which is carried out at a private lab in Montana, involves a chemical treatment to remove the calcium, followed by the removal of a very thin slice for microscopic evaluation. "It's not quite as simple as counting tree lines," says Trainer. "Different types and sizes of lines mean different things in different species. That's why Mark Henjum's work is so important to us. When he collars and tags a kitten, that is a known-age animal. If and when it is harvested we will have a known-age tooth that can help provide baseline, confirmed information that will help us evaluate the age of all subsequent lions."



All that remains to be done at the tree in northeast Oregon is to make the young female lion comfortable so she can recover at her own pace.

"We have found that a little covering helps tranquilized cougars come out from under the effects of the drug," says Henjum as he arranges pine boughs on the snow. "It will help keep her warm and in the

dark and feeling safe, so she won't be likely to try to jump up and run off before the drug has worn off."

Carefully encased in her protective shelter, the cougar rests for an hour after the biologists' departure. She is attended only by a writer sitting quietly on a stump 20 yards away. Without warning, she emerges from the shelter and begins to walk away. Her pace parallels the condition of her species in Oregon for the last 30 years. She moves slowly at first, then more strongly with each step. □

#### *Editor's notes:*

*At the time of publication, 22 cougars have been collared in the Catherine Creek study area and Mark Henjum estimates at least four other cats remain uncollared.*

*ODFW wishes to thank northeast Oregon houndsmen Rocky Campbell, Gale Culver, Ted Craddock, Byron Henry, Mark Moncreif and Rick Hankins for their extensive volunteer efforts on behalf of this cougar study. It would not have been possible without them.*

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# WILD & FISHY

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photo contest

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*The entries in Oregon Wildlife's second annual Wild and Fishy Photo Contest prove there are some excellent photographers in this state. Deciding which entries were the best was a challenge. Following are the top choices, but the Oregon Wildlife staff was pleased with the quality of all entries and extends thanks to all entrants for their interest and efforts. Rules and categories will be the same for Wild and Fishy 3. The entry form and contest details will be included in the May-June issue of Oregon Wildlife.*



*Scenic — Keith Swenson, Portland*

*And the winners are . . .*

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# First Place

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*Keith Swenson of Portland is the top choice in the Scenic category with his photo of Elowah Falls in the Columbia River Gorge. Diane Cowden of Joseph entered a great horned owl photo which proves that having your camera handy at all times lets you catch some unique shots. She earned top spot in the Wildlife category. Scott Ripley of Springfield wins the Fishing Scene category with a spectacular underwater photo of an unlucky salmon.*



*Wildlife — Diane Cowden, Joseph*

*Fishing Scene — Scott Ripley, Springfield*



*(also featured as the cover photo)*

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# Second Place

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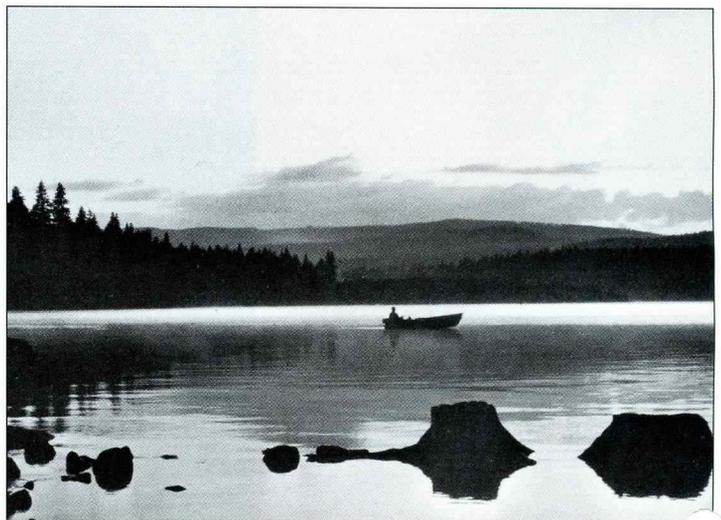
*Dennis Potter of Lebanon won the runner-up award in the Scenic category with a photo he labeled "4th of July on Steens Mt." Keith Swenson is back again with a Wildlife category photo we are calling "Eye of Newt." R.A. Higgins of Tigard gets honors for his Fishing Scene entry of an angler on Timothy Lake.*



*Scenic — Dennis Potter, Lebanon*



*Wildlife  
Keith Swenson  
Portland*



*Fishing Scene  
R.A. Higgins  
Tigard*

## Third Place

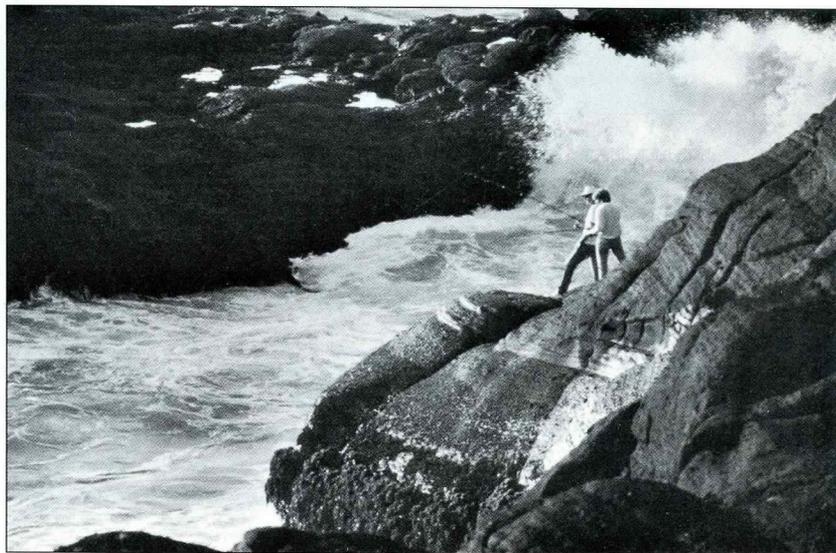
*Keith Swenson again? You bet. This time the Portlander is recognized for his winter shot of Mt. Hood from the Mirror Lake Trail. Dennis Potter also repeats with a photo of a mule deer in snow taken near Sisters. Marlynn Rust of Lake Oswego completes the winners list with her photo of adventuresome surf anglers on the coast.*



*Scenic — Keith Swenson, Portland*



*Wildlife  
Dennis Potter  
Lebanon*



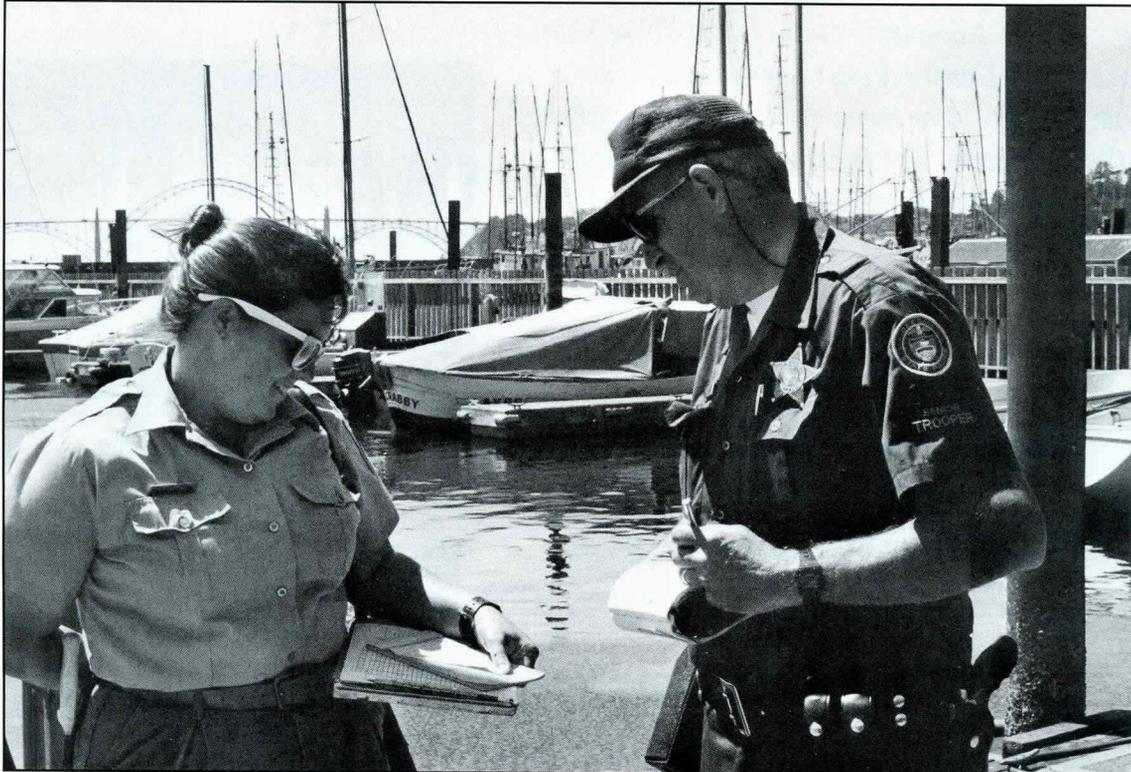
*Fishing Scenes — Marlynn Rust, Lake Oswego*

*There were not enough entries in the Hunting Scenes category this year to select winners. The category will remain for next year, however, so keep those cameras ready hunters.*

*First place winners this year will be offered a day in the field with one of the department's biologists. Second place winners will receive their choice of an Oregon "Watchable Wildlife" T-shirt or a collector edition replica of an antique fishing lure. Third prize will be a copy of the "Oregon Wildlife Viewing Guide." Congratulations to all on some fine photography. □*

# Ocean Salmon Management: From the Dock Up

by Pat Wray



PAT WRAY

*Fish sampler Kim Wilson compares notes with an Oregon State Police game officer on the Embarcadero dock in Newport.*

Joel Kachmarek's day starts early when he counts boats from Newport's South Jetty. The OSU sophomore is on the jetty before first light, recording the numbers and types of boats heading out to sea after salmon.

The weather is a bit brisk on the jetty. Even after the sun arrives, there is a bite to the breeze that whispers out of the northwest. Kachmarek would describe it as a strong wind screaming . . . and so would anyone else that spent eight hours on the jetty. Kachmarek is glad he only pulls this duty once a week.

Counting boats, though not tremendously exciting, is an important first step in a process that leads to management of our ocean salmon. The information Kachmarek collects will be combined with catch rate records to provide an accurate estimate of the total salmon catch off

the Oregon coast.

Kachmarek's day is over by 1 p.m., since relatively few boats cross the bar in the afternoon after the northwest winds really kick up. A few free hours in the afternoon help to make up for his early morning boat counting cycle. Tomorrow he will be on the docks, talking to returning ocean anglers, counting fish.

Today it is Kim Wilson's turn to interview anglers. Her proper title is creel checker. Like Kachmarek, she is a college sophomore, employed by the Oregon Department of Fish and Wildlife (ODFW) as an Experimental Biologist's Aide. By 8 a.m. Wilson is at her assigned post on the Embarcadero dock. She has already visited Kachmarek to see how the morning's effort shapes up and to learn if boats have started to return. She is one of three creel checkers who work in Newport. The other two are

stationed today at the South Beach Marina. They all work on weekends, but get staggered days off on weekdays. There are 16 other sport samplers spread along the entire Oregon coast.

Wilson positions herself on the dock to talk with an arriving charterboat captain and clients. How many fishermen were on the boat?" she asks. "How many shakers (under-sized fish released)?" Then she gravitates toward the cleaning benches to count the catch. She makes note not only of the salmon species, but also of rockfish, lingcod and other bottomfish.

"The ladies who clean fish probably know as much about what is going on in the charter fishery as anyone else," Wilson says. She spends several minutes there talking with the ladies whose sure hands and flashing knives clean the bulk of Newport's charter-caught fish.

PAT WRAY



Salmon fishing is one of Oregon's most popular outdoor activities. Management of these ocean travelers requires cooperation between nations, states, provinces, tribes, agencies, organizations, commercial and sport fisherman.



PAT WRAY

Less than half the salmon landed by sport anglers must be tallied in order to derive an accurate assessment of total numbers caught.

In addition to count information, Wilson collects snouts and scales from certain hatchery fish. These she recognizes by their clipped adipose fins. Coded wire tags were inserted into the snouts of those fish as juveniles. Valuable information about hatchery practices, migration routes and stock contribution to fisheries can be derived from the returned coded wire tags.

All the while, Wilson is keeping a close eye on the marina entrance. As new boats arrive, she watches to see which slip they enter, then hurries off to interview the occupants as they unload. She records the efforts of unsuccessful anglers as well as successful ones to get the catch rate for the day. Sometimes it's hard for her to move from one group to another. Her uniform makes her a popular target for tourist questions. "How's fishing?" is perhaps the most common question, followed closely by "Where's a good place to eat?" and "Where is the bathroom?"

As the morning ages and more fishermen arrive, Wilson's pace picks up. Soon, she is practically skipping from dock to dock, and still she cannot contact them all. Luckily, it is

not necessary that all be contacted.

Laimons Osis, Ocean Salmon Project Leader, figures that samplers coastwide survey 44 percent of sport-caught salmon, including both charter and pleasure craft. From the actual boat count and angler interviews, Osis and his co-workers on the Ocean Salmon staff are able to estimate total numbers of anglers and fish caught, which are used in the constant tracking of salmon catch quotas that takes place each summer.

On the commercial side, nine salmon samplers are stationed in the major ports where they work out of fish plants. All buyers are required to fill out fish tickets, recording the pounds of salmon bought. The samplers look for tagged fish and obtain average weights of salmon being landed. Average weights allow for a quick conversion of pounds to numbers of salmon to determine total harvest. Samplers also interview commercial fishermen to find out how many days were spent fishing and where the catch was taken.

The collected data, whether sport or commercial, is carefully checked and entered on department com-

puters under the guidance of Data Supervisor Phil Flanders and his assistant Donna Lamb of the Ocean Salmon staff. It then is provided to the Pacific Fisheries Management Council (PFMC) and the Pacific Salmon Commission (PSC). Here, the data is combined with similar information from other states, Indian tribes and Canada to monitor current fisheries and to support comprehensive plans for regional salmon management and harvest regulations.

Regional salmon management is a very complex process. Restrictive regulations are often necessary to protect weak stocks and these restrictions can be difficult on people whose economic well-being is closely tied to the salmon harvest.

"Salmon season is a very intense time," says Osis, "because the data is being used to close seasons or adjust regulations. Many people take a close personal interest in our actions and recommendations. I am comfortable with our field personnel and the quality of our data, but there is no denying it . . . sampling the salmon fishery is a challenge!" □

Thousands of years ago, for reasons unknown to us, a family of red foxes found that they could live more easily by foraging in the desert than in the forested mountains where they traditionally lived.

These foxes adapted to their desert home by eating small birds, rodents and other small animals of the high desert. They dug holes to escape the heat, and their red fur faded to a dusty yellow-grey. The foxes' descendents became lighter colored and smaller, and never returned to the forest. Through the process of evolution, the *kit fox* became a distinct species.

The small kit fox was once a familiar sight in the southeast corner of Oregon and other semi-arid regions of California, Nevada and Idaho. But they are nearly — if not completely — gone from the state. In biological terms, the kit fox may be *extirpated*.

The definition of *extinct* is well known: there are no remaining members of the species and no way for it to be re-established.

But the definition of *extirpated* is a little less clear. A standard dictionary definition closely resembles that of "extinct." But in biological terms, *extirpated* means that an animal no longer exists in a given region.

A study is now underway to determine if the tiny kit fox is indeed gone from Oregon or if there are still a few out there. None have been seen in several years, and biologists hope it's not too late.

About the size of a house cat, the kit fox is slight in build with thin legs, a narrow snout, dainty body and large ears. Their light-colored fur sweeps back to a fluffy tail tipped with black.

The kit fox has also been called a burrowing fox because of the way they swiftly and skillfully dig burrows. It doesn't stray far from its hole-in-the-ground, and will raise as many as four pups a year there.

Birds, eggs, insects and small rodents are the favorite foods of the kit fox. But they have been seen

# The Kit Fox

By Randy Henry

Unseen  
or  
extirpated?  
The  
search  
begins



wrestling down unsuspecting prairie chickens in other areas of their territory.

The kit fox has been described as a "cute little beast of an entertaining character," according to one textbook. Unlike its cousins of the red

and gray persuasion, the kit fox is neither suspicious nor sly, and its less-than-clever nature probably contributed to its decline in the 20th century. Its dwindling numbers are linked to agricultural development of habitat and poisoned bait set out to control coyotes and rodents. Its rapid decline was noted at the turn of the century. The last-known kit fox family in Oregon was seen near Burns Junction in 1987 living in a culvert under a road.

The animal may now become a textbook example of how Oregon's Threatened and Endangered Species act works. The act was passed by Oregon lawmakers in 1987, and is designed to ensure that animals don't become rare enough to be classified threatened, endangered or extinct.

An animal is considered *endangered* if it is declining towards extinction. *Threatened* means that a species is dwindling and its decreasing population may soon require that the species be classified endangered

The terms threatened and endangered are used by both state and federal agencies. When the state act was passed, animals listed on the federal register were included on state lists. The kit fox, however, is on the state list only. It is possible for an animal to be considered threatened or endangered in Oregon but not in jeopardy on a national level. While considered threatened and possibly extirpated in Oregon, the kit fox is not listed on the national level because it still exists in limited numbers in other states.

In April, wildlife biologists began trying to find kit foxes in Oregon. If they are successful, a recovery plan will be written and implemented to help the animals' population increase.

The kit fox is one of several animals in Oregon currently listed as threatened or endangered. A number of birds, amphibians and fish are also listed and each is afforded extra protection from dangers that could lead to extinction. □

# Close Encounters of the Lyme Kind

By Bill Hastie

**H**as Lyme disease come to Oregon? Many hunters, anglers, and others that spend time in the outdoors are asking that question. The answer — certainly. Lyme disease is here. And, yes, those of us who find ourselves in the field should be concerned. Why? In a word — TICKS!

The bacterium that causes Lyme disease is transmitted to humans through the bite of the western black-legged tick (also known as the Pacific tick). Its scientific name is *Ixodes pacificus*. The Oregon Health Division reports 81 confirmed and 25 suspected cases in Oregon between 1975 and 1989.

While the common name we use for the disease is relatively new, the disease has always been with us. Discovered in pre-World War I Europe, its namesake is actually American. During 1975, people in the community of Old Lyme, Connecticut were hit by an unusually high number of illnesses that appeared to be juvenile rheumatoid arthritis.

Study of the outbreak did show a relationship between the disease and the range of the deer tick in Connecticut. It took another nine years for scientists to determine that a previously unknown, corkscrew-shaped bacterium found in the tick was also the disease bacterium associated with the Connecticut outbreak. Lyme disease, and the bug that caused it, had been officially discovered.

Now, how can you discover if you have Lyme disease? Since the effects of the illness can vary greatly — the diagnosis is best left to a doctor.

Common early symptoms can include a red, circular rash within 30 days of a tick bite, fatigue, mild headaches, muscle and joint pain and stiffness, fever and swollen glands.

Some victims believe they have nothing more than a mild case of flu, while others suffer joint inflammation and other arthritis-like symptoms. The disease has also caused nervous system damage, loss of memory and muscular coordination, headaches, depression and facial paralysis.

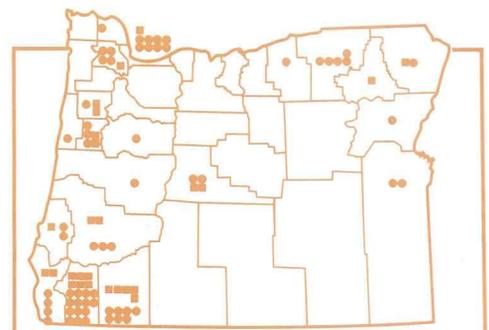
Fortunately, the disease is rarely fatal and can be treated with antibiotics. Early visits to your doctor are a key factor for people who think they might be infected.

Of course, the best way to deal with Lyme disease is to avoid getting it. That means taking precautions when afield, and not giving a tick a free ride. Most insect repellents work against ticks, especially those containing diethyltoluamide (DEET), indalone, dimethyl carbate or methyl phthalate. Treat shoes, socks and pant legs as well as skin to repel the critters.

Make periodic checks for ticks. Dark ticks are more visible on light clothing. Also, long sleeves and pant legs add protection. Brush off clothing before going indoors. When the outing is over, undress and check for ticks. Bathe as soon as possible to wash off missed ticks — ticks usually crawl around for several hours before attaching.

In Oregon, adult ticks are most active in spring and summer, but can also be found in fall. Larval and nymph stages are also active. Their extremely small size makes them difficult to detect.

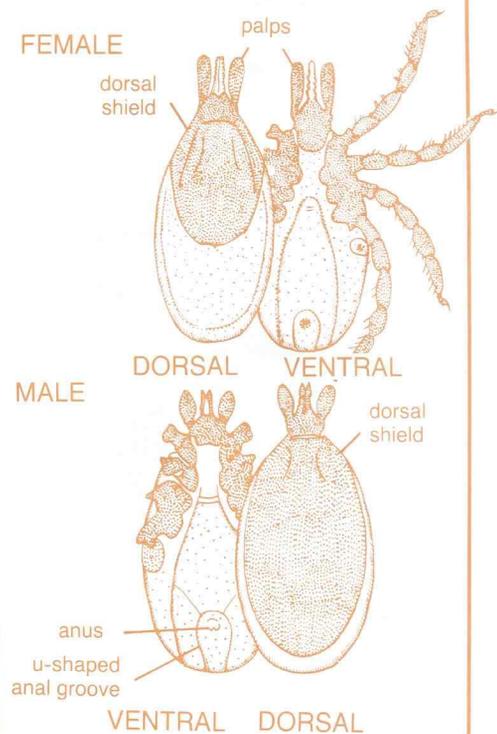
Before a fear-of-ticks phobia confines you to the indoors, however, consider these facts. Only one to five percent of the *Ixodes* ticks actually carry the disease. Considering the number of Oregonians in the field every year, incidence of the disease is quite rare. A little knowledge and some common sense will prevent most tick encounters and Lyme disease. □



Reported cases of Lyme disease in Oregon, 1975 through 1988, by County of residence

● confirmed ■ suspected

As shown by this map showing actual or suspected cases through 1988, Lyme disease was most commonly reported in southwest Oregon. Note that this map shows where cases were reported, not necessarily where the disease-carrying ticks were acquired.



## Adult *Ixodes* Ticks

Dorsal shield, head and legs solid black, remainder of body usually reddish

Palps elongate, paddle-shaped, narrowly attached at base

Anal groove surrounding anus, U-shaped

No eyespots at side of dorsal shield

Female 4-5 mm in length unengorged, male 3-4 mm

TR



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\*some exceptions

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