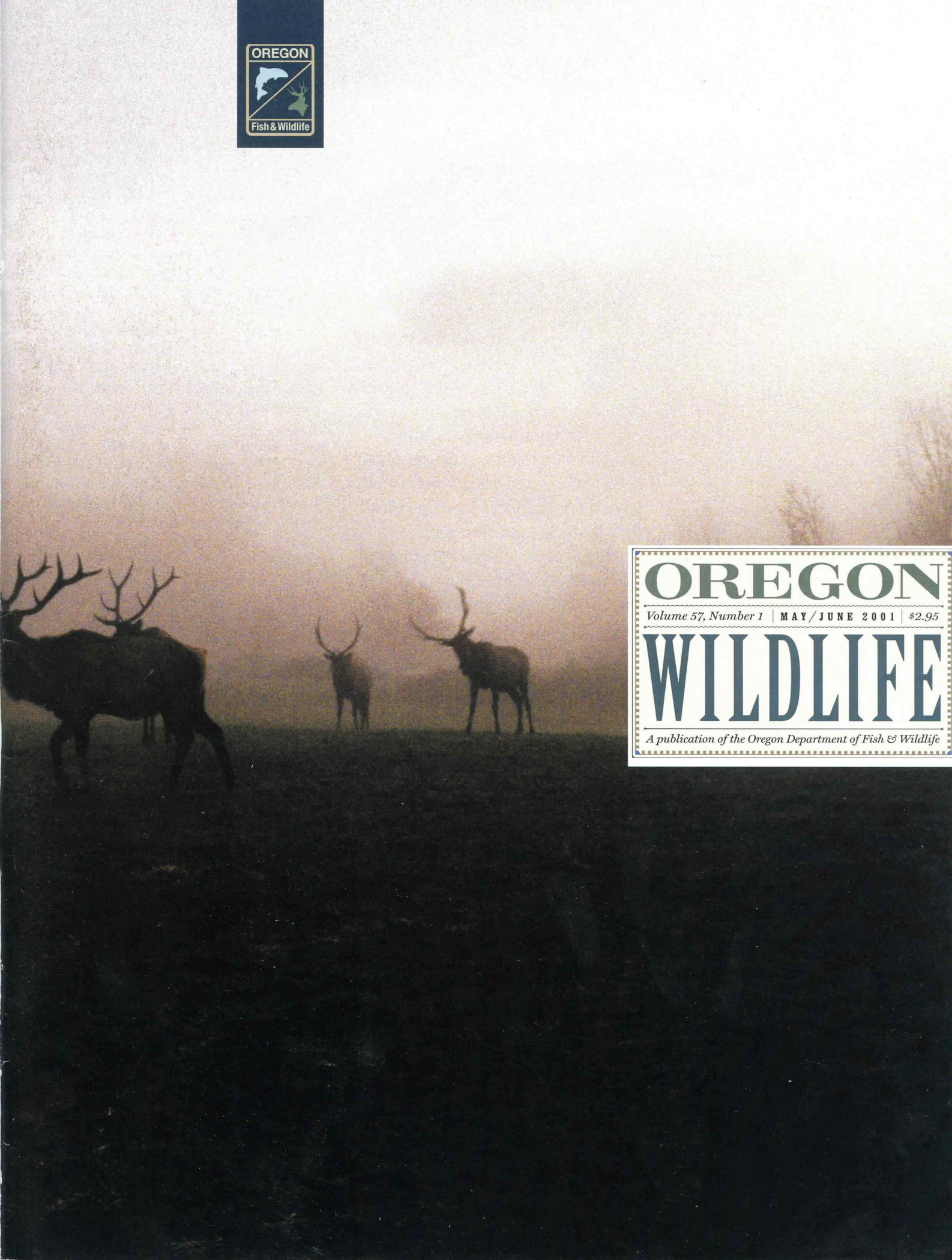

OREGON WILDLIFE

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A publication of the Oregon Department of Fish & Wildlife

Our mission is to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations.

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MANAGING TO SUCCEED

WHAT MOST people don't think about as they travel across the state to clam, fish, and hunt sage grouse is how these activities are managed to ensure fish and wildlife habitats exist for future generations to enjoy. As early as the 1930s, a few citizens were thinking about the future and how hunting and fishing add quality to people's lives. Their actions created a legacy that has stood the test of time and provided millions of hours of public enjoyment of natural resources.

In the early 1900s, habitat loss and overharvest were decimating North American fish and wildlife populations. Bison, elk, moose, beaver, wading birds and waterfowl suffered tremendous losses across North America in the late 1800s and early 1900s. Market hunting, foreign commerce in illegally taken game, and commercial harvest were the greatest factors contributing to declining fish and wildlife populations.

The Federal Aid in Wildlife Restoration Act, commonly known as the Pittman-Robertson Act, was introduced in 1937. The act was created to provide funding for the selection, restoration, rehabilitation and improvement of wildlife habitat, wildlife management research, and the distribution of information produced by both. In 1970, the act was amended to include funding for hunter education programs and the development, operation and maintenance of public shooting ranges.

Where do the dollars come from? Outdoor enthusiasts pay an 11 percent federal excise tax on sporting arms, ammunition and archery equipment, and a 10 percent excise tax on handguns. One-half of the tax on handguns and archery equipment is provided for hunter education and target ranges. State agencies are the only entity eligible to receive the monies collected by sporting arm and ammunition manufacturers, and the amount apportioned to each state is based on a formula that considers the size of the state and number of licensed hunters. States pay for the full cost of their projects, then are reimbursed by the federal government for 75% of the project expenses. Each state must pay their 25% share from non-federal sources.

There are many species that have made significant comebacks as a result of the 53-year old P-R program. In the 1920s, there were about 25,000 pronghorns, less than a million white-tailed deer and less than 100,000 elk in North America. Wild turkeys were scarce, and wood ducks, one of the most beautiful birds in North America, nearly met their demise because of uncontrolled forest clearing and market hunting. Today, North America boasts 750,000 pronghorns, over 14 million white-tailed deer, over one-half million elk, over two million turkeys and, much to the relief of avid fly fishermen that value the bird for its unique feathers that make superb wet and dry flies, wood ducks are once again the most common breeding waterfowl in the lower 48. These achievements are a result of over $2 billion in federal funds that have been matched by more than $500 million in state funds in the past 53 years. Hunters spend $10 billion every year on equipment and trips.

What does Oregon do with its P-R/D-J dollars? Oregon uses P-R funding to maintain 13 wildlife management areas across the state.

The second federal act that was introduced was the Federal Aid in Sport Fish Restoration Act, commonly known as the Dingell-Johnson Act, that was signed into law by President Harry Truman in 1950.

The Sport Fish Restoration Act supports sport fish restoration projects using taxes on fishing tackle, motorboat fuel and pleasure boats to fund three of every four dollars spent by state fish and wildlife agencies and territories on approved sport fish restoration projects. Since 1950, the Sport Fish Restoration Program has provided close to $4 billion to state fish and wildlife agencies to increase recreational fishing and boating opportunities. Fishing enthusiasts and boaters acknowledge that the result is among the most successful "user pays, user benefits" programs anywhere in the world. In the past 10 years, the Sport Fish Restoration funds have helped to build 1,700 brand new boating access and 3,300 new fishing access areas, educate more than 4.7 million students in fishing skills and aquatic ecology, and fund thousands of research and inventory projects to restore and manage fish populations.

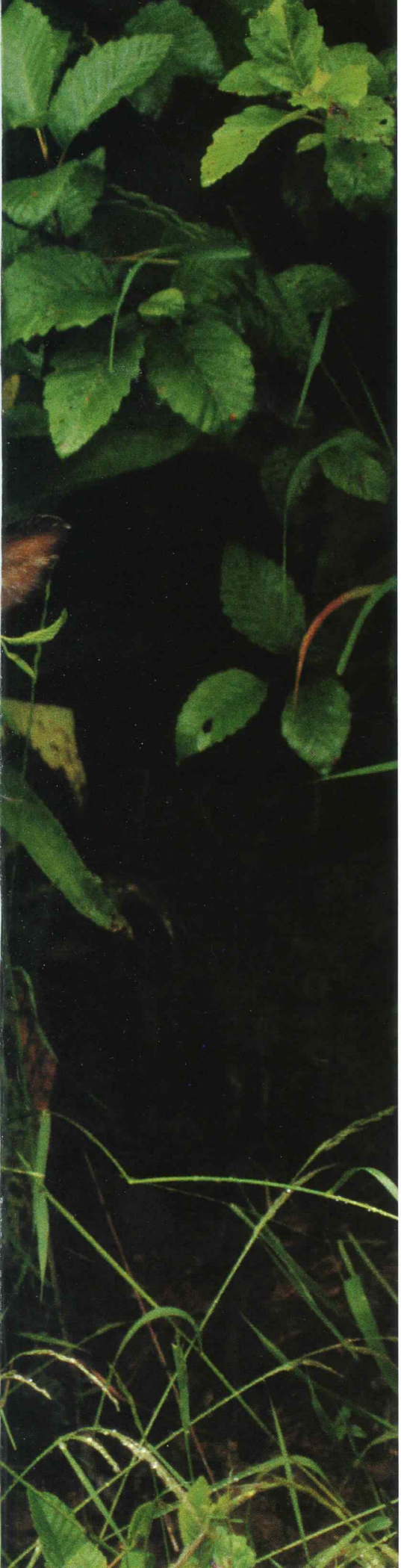
This issue of Oregon Wildlife Magazine is dedicated to the Sport Fish and Wildlife Restoration Programs and our federal partners that help fund fish and wildlife programs that improve the health and welfare of Oregon's fish and wildlife species for all Oregonians.

Volume 57, Number 1

contents

DEPARTMENTS

COVER PHOTO: Elk at Jewell Meadows, *photo by Bryan Swearingen*



JEWELL MEADOWS STAFF

Even with Oregon's many wide open spaces, we find it's still important to set aside special areas specifically for wildlife. And while these places provide birds and animals the unpopulated expanses they need to thrive, they also provide enthusiasts a special opportunity... if they're willing to take it.

ROOM WITH A VIEW

by MEGHAN D. COLLINS

ACROSS THE STATE of Oregon, islands of land are tucked away, havens for birds, migrating waterfowl, deer and elk and a myriad of wildlife. The call of the wild beckons hunters and wildlife watchers alike to explore ODFW's Oregon Department of Fish and Wildlife's 14 wildlife areas, many of which are easily accessible from urban centers.

Although each area has its own unique history, habitat and scenery, all are brimming with wild activity. Migrating waterfowl rest in wetlands and refresh themselves on a bounty of crops planted just for them, deer and elk browse on wheat, grasses and forbs, and ducks dabble in marshes and ponds.

Hunting is allowed and encouraged on most of the wildlife areas. "Sportsmen provide the funding to acquire the areas," said Tony Faast, staff biologist with the U.S. Fish and Wildlife Service's Division of Federal Aid in Portland. Each wildlife area is funded up to 75 percent with federal funds acquired through the Pittman-Robertson Act. The "P-R" dollars come from an 11 percent excise tax on the sale of hunting and archery equipment.

JEWELL MEADOWS STAFF

ABOVE: *–Feeding Elk at Jewell Meadows Wildlife Area*

Bird hunting is popular on most of the state's wildlife areas, and people can also hunt for deer and elk on many of the areas. Other uses include fishing, bird watching, wildlife viewing and hiking along nature trails. Some wildlife areas have permanent blinds for photo enthusiasts.

Close to the Portland metro area, Jewell Meadows Wildlife Area is a paradise for elk-watchers. Visitors receive the added benefit of viewing elk as they feed them from a hay wagon in winter. Herds of Roosevelt elk roam the 3,000-acre wildlife area that was established in 1969. "Our objective at Jewell Meadows is to provide food and habitat for wintering elk," said manager Bryan Swearingen. "It's one of the few places in Oregon that you can see Roosevelt elk on a regular basis."

The elk are most visible from November through April, and on winter days, people could see 75 to 200 elk feeding and resting in the meadows. Chances of hearing elk bugle are greatest during the breeding season from mid-September to mid-October, and elk calves can be spotted in mid-June.

"Jewell Meadows Wildlife Area is also unique in Western western Oregon because part of the land is in critical spotted owl and marbled murrelet habitat," Swearingen said. "Three major creeks flow through the area and support endangered coho salmon, wild chinook salmon, steelhead and coastal cutthroat trout."

More than 40 songbird species nest, feed or migrate through the area during the year, bald eagles and red-tailed hawks soar the skies, and shorebirds and waterfowl make use of the grassy meadows and seasonal wetlands.

In the Willamette Valley, the E. E. Wilson Wildlife Area lies just 10 miles north of Corvallis on the east side of Highway 99W. Established in 1950, the 1,683-acre area sits on a portion of the site of Camp Adair, a World War II army cantonment. Many infantrymen trained there, and according to the Benton County Historical Society, full-scale models of European towns were constructed for training purposes. Part of the camp was also used as a prisoner-of-war camp for Italians and Germans, although their presence wasn't common knowledge in nearby communities.

"Early in its history the E.E. Wilson Wildlife Area was used as a propagation facility for upland game birds," said Wildlife Area Manager Dave Budeau. "That program ended


ODFW


PAT WRAY


ODFW


PAT WRAY

after more than 45 continuous years of operation in 1997."

Currently, the wildlife area has three major goals: restore and enhance Willamette Valley habitats and emphasize wildlife diversity; provide wildlife oriented recreational opportunities consistent and compatible with wildlife conservation; and provide educational opportunities related to wildlife conservation.

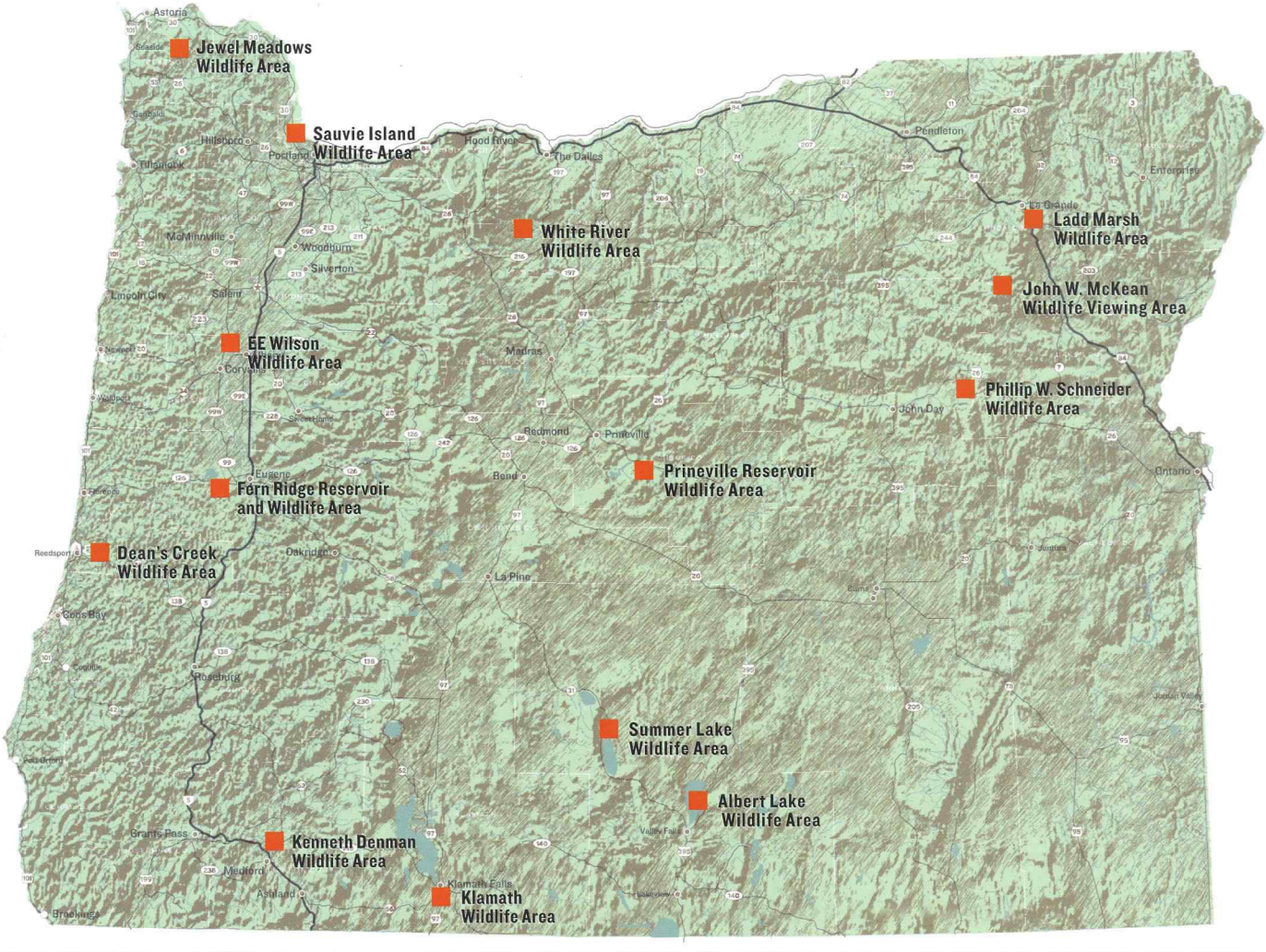
Since 1992, ODFW has restored and enhanced more than 180 acres of the area's wildlife area wetlands. Those wetlands have increased plant and animal diversity and provided habitat for sensitive and federally listed species. Bird diversity has increased by more than a third since wetland restoration began, with 193 species observed on the area in recent years.

Recreational opportunities on the area include hunting, angling, bird watching, nature photography, biking and hiking on old roads. Students from pre-school through Ph.D. programs use the area as a field laboratory and outdoor education classroom. Snakes, frogs, quail, rabbits and gray-tailed voles have been the subject of several wildlife research projects. The area also provides an excellent study in marsh ecology. The casual learner will glean a wealth of information on the looped interpretive trail, see the Oregon state flower (Oregon Grape) the state tree (Douglas-fir) and very likely spot signs of Oregon's state mammal, the beaver.

Eugene area residents make good use of the Fern Ridge Wildlife Area just west of the city. The area was created in 1957 under a license agreement between the Corps of Engineers and the Oregon Game Commission (now ODFW). Under this agreement, the state manages all wildlife resources on the 5,010 acres of land and water within the wildlife area. Over 85 percent of the Fern Ridge Wildlife Area is open for all types of public use, including boating, hiking, bird watching, picnicking and hunting during authorized seasons.

More than 250 species of birds use the area at some point in their life cycle, and much of the management effort is aimed at providing food, water, and sanctuary for them. About 100 acres of ground is farmed each year for wildlife food crops. Hundreds of acres are managed through a system of dikes and levees to maintain marshes, grasslands, woodlands and open water to provide the diversity of habitats neces-

CLOCKWISE FROM TOP LEFT: *Redwing blackbird; Fern Ridge Wildlife Area; American avocet; Fern Ridge Wildlife Area*



ABOVE
Loccations of ODFW Wildlife Areas

sary to support the variety of birds, mammals, reptiles, amphibians and fish that depend on the area.

In the southwestern part of the state, the Kenneth Denman Wildlife Area, seven miles north of Medford, provides a refuge for Rogue Valley residents trying to escape the crowds. "The Rogue Valley is growing quite a bit and this is one of the few areas people can recreate without traveling too far," said Mark Vargas, Wildlife Area manager.

Named for Kenneth Denman, who was a prominent Medford attorney and former member of the Fish and Wildlife Commission, the wildlife area was previously the site of the army's Camp White Military Training Area during World War II. In 1954, 1,760 acres of this military area, now called the Military Slough Tract, were conveyed to the Oregon Game Commission with restrictions that the land be managed for wildlife and hunting. The 160-acre Hall Tract was added in 1956 to serve as a headquarters site and provide bird rearing cover. Vargas farms this tract for wildlife, planting grains such as sorghum, oats, barley, corn and millet for the ducks, geese and pheasants. Some of the fields are planted in wheat and clover for geese.

The Kenneth Denman Wildlife Area is well used, especially by hunters. A youth pheasant hunt is held yearly along with a fee pheasant hunt in October. Frequently, the Becoming an Outdoors-Woman program holds a pheasant hunt in September. Retriever trials, tracking skills and hunting tests occur each spring. Archery hunting for black-tailed deer is also popular at Denman.

Wildlife watchers can spot red-tailed hawks, black-tailed deer, ring-necked pheasants, muskrats and great blue heron. Two dozen species of waterfowl use the area along with nearly 100 species of songbirds and raptors. The wildlife area also offers nature study on an interpretive trail, along with hiking, mountain biking and horseback riding. People with disabilities have access to a fishing pond, picnic area and observation building thanks to a partnership with the Rogue Valley Chapter of the Oregon Hunters Association.

The Philip W. Schneider Wildlife Area, one of ODFW's largest wildlife areas, is located on the opposite side of the state in rugged terrain near Dayville, about 30 miles east of John Day. Previously known as the Murderers Creek

Wildlife Area, it was renamed to honor Philip W. Schneider, a former state game director who led the battle against dams on rivers in Oregon. Schneider was also appointed to three consecutive terms on the Oregon Fish and Wildlife Commission and served on the federal committee charged with overseeing development of the Alaskan oil pipeline. "Renaming the wildlife area after such a great and respected individual is truly a testimony to his work in wildlife management in Oregon," said Bill Kinyoun, Schneider Wildlife Area Manager.

The 25,000-acre wildlife area lies within the Murderers Creek Coordinated Resource Area, a 106,000-acre parcel of public land managed by ODFW, the Bureau of Land Management (BLM) and the U.S. Forest Service. The wildlife area is managed to provide winter habitat for mule deer and elk in the Murderers Creek big game management unit, and to provide year-round habitat for herds of California bighorn sheep and pronghorns. "Livestock grazing is permitted on the wildlife area," Kinyoun said. "I rely on Don Zolunardo and Scott Cooke at the Prineville BLM for their expertise in range management. We use the livestock as a tool to help achieve our wildlife habitat objectives." Habitat is also excellent for upland game birds, and more than 37 miles of production waters for steelhead trout run through the area.

"The Schneider Wildlife Area is a beautiful place and pretty much undiscovered by the people of Oregon," Kinyoun said. "The potential for wildlife recreation opportunities is untapped." The area offers bighorn sheep hunting for those lucky enough to get a tag, pronghorn antelope, mule deer and elk hunting, along with waterfowl and upland game bird hunting. Fishing, wildlife viewing and photography, hiking and swimming can also be enjoyed.

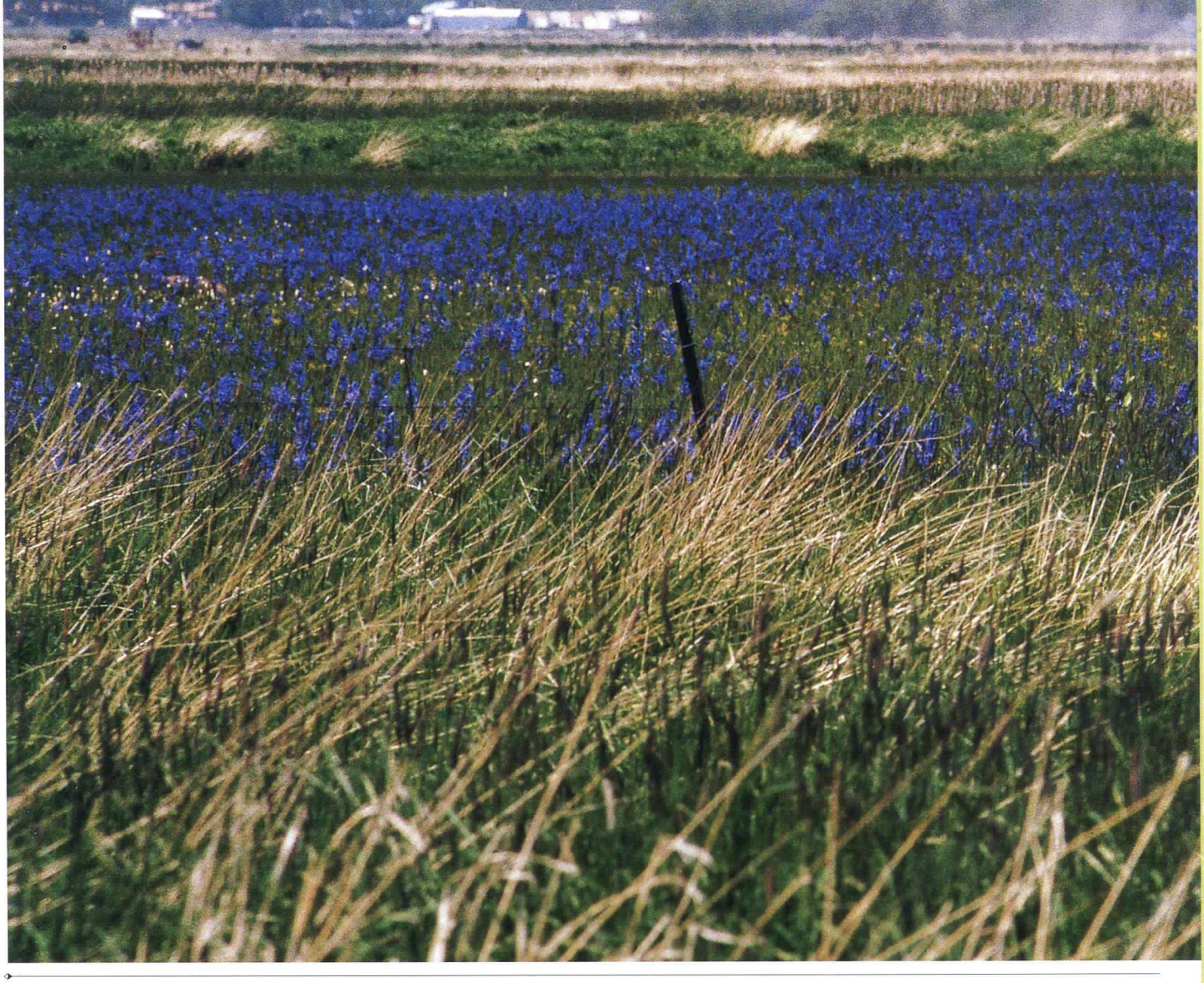
The Grande Ronde Valley is home to the Ladd Marsh Wildlife Area, an oasis for more than 200 species of birds and 40 species of mammals. Lush wetlands that covered the valley, estimated at 30,000 to 40,000 acres, were nearly destroyed when the area was settled and the wetlands were drained to make way for crop fields and irrigation canals. The wildlife area was established in 1949 when a local landowner sold 240 of the last remaining 400 to 500 acres of wetlands to ODFW. Ladd Marsh now encompasses 4,052 acres just a few miles southeast of LaGrande.

Bird watchers are dazzled each fall and spring when several thousand ducks, geese, swans and shorebirds stop on their migration routes to feed and rest at the marsh. Die-hard birders who brave the winter chill may be rewarded with a glimpse of a bald eagle, golden eagle or peregrine falcon. Avocets, grebes, black-necked stilts and sandhill cranes use the area, and mule deer and Rocky Mountain elk browse the lush wetlands.

ABOVE: *Great horned owl nest*

The Ladd Marsh Wildlife Area receives a high amount of use from hunters, birders, hikers and photographers. Local schools use the marsh as an outdoor education classroom, as do Eastern Oregon University students who conduct field studies in the area. A one-mile nature trail winds through natural meadow and seasonal wetlands, and photo/observation blinds are placed in selected areas. An elevated viewpoint off Foothill Road, west of Interstate 84, provides incredible views of the marsh and surrounding scenery.

Another great place for birdwatchers and bird hunters is the Klamath Wildlife Area, located just a few mile miles south of Klamath Falls between Highway 97 and the Klamath River. At 4,100 feet in elevation, the area lies totally within a Pleistocene lake bed known as Klamath Basin, and provides a wealth of habi-



ODFW

BRYAN SWEARINGEN

DAVID BRONSON

TOP:
Sandhill crane

ABOVE:
Bandtails; River otter

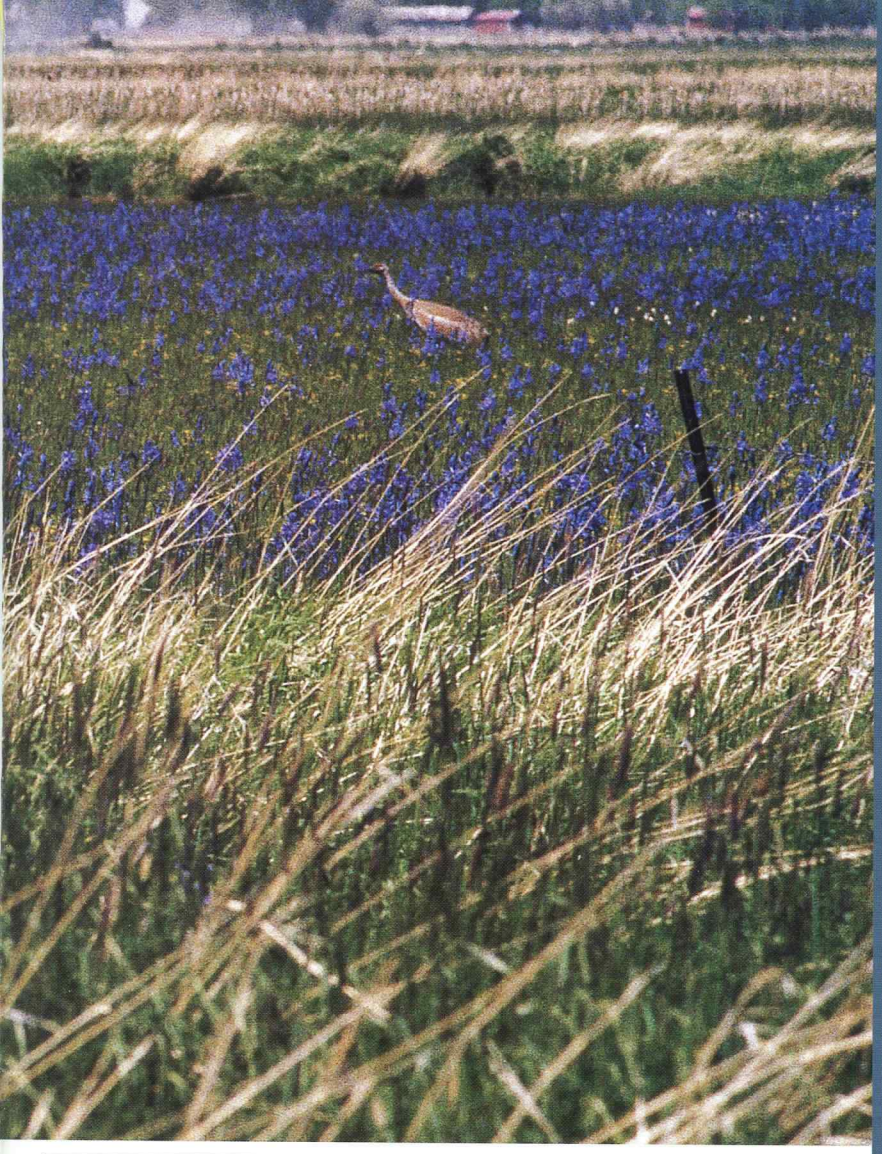
ODFW's wildlife areas provide a bounty of recreation opportunities from hunting to bird watching, hiking to photography.

tat types including marshes, salt grassland, dry brush land, farmland and open water.

Klamath Wildlife Area is managed to provide habitat for wintering and nesting waterfowl, upland game birds and other wildlife. Because the area is in the Pacific Flyway, many birds can be seen here during their spring and fall migratory rest stops.

"Springtime is when we shine," said Lanny Fujishin, wildlife area manager. "The wildlife area was originally developed to help alleviate some of the agricultural damage caused by spring migrating geese. We provide a harassment-free area and plant cereal grains that the geese can feed on, so during March to mid-April, we have up to 30,000 geese using the wildlife area instead of neighboring private lands." Fujishin said that although public access is limited to main roads during this time, viewing and photographic opportunities are numerous and varied. Bald eagles can be seen in the spring since they traditionally follow the geese on their migration.

Snow, Ross' and white-fronted geese stage at the wildlife area during the migration from their winter homes in central California. The geese put on as much fat as possible so they



can make the trip to their nesting areas as far north as Wrangel Island off the coast of Russia, Alaska, and the Yukon country. Good fat reserves are essential for the geese to successfully breed and raise a clutch of young.
The wildlife area provides fall hunting opportunities for upland game birds and waterfowl, including youth hunts. A local sportsmen's group, Unlimited Pheasants, donates 1,000 pheasants a year for pheasant hunting opportunities. Two wheelchair-accessible blinds are available for hunting, viewing and photographing wildlife, and a main hiking trail is open year-round. Picnic tables are located near some of the parking lots, and mini-tours for groups or schools can be arranged by contacting the wildlife area.

ODFW's wildlife areas provide a bounty of recreational opportunities from hunting to bird watching, hiking to photography. For more information on any of these or other wildlife areas, contact your local ODFW office or 503-872-5268. Thanks to the vision and foresight of Oregon's outdoor enthusiasts that contribute funding each year to Sport Fish and Wildlife Restoration programs, a world of adventure awaits you.

SPORT FISH & WILDLIFE RESTORATION

PITTMAN-ROBERTSON DOLLARS BENEFIT WILDLIFE AREAS

by MEGHAN COLLINS

In a pivotal move for wildlife management across the United States, the Federal Aid in Wildlife Restoration Act, popularly known as the Pittman-Robertson (P-R) Act, was passed in 1937. The Act places an 11 percent excise tax on the sale of sporting arms, ammunition, archery equipment and handguns. Funds collected from these taxes are apportioned to state fish and wildlife agencies for wildlife management.

According to Tony Faast, staff biologist for the U.S. Fish and Wildlife Service's Division of Federal Aid in Portland, that money is apportioned back to each state based on the state's land size and the number of hunting licenses sold annually. "About $4.2 million of wildlife restoration funds are available to Oregon this year," Faast said. "Most of ODFW's 14 wildlife areas and habitat programs are funded up to 75 percent with P-R dollars, with state funds providing the required 25 percent match."

A tremendous amount of great work for wildlife has been accomplished with these funds. "Several of odfw's wildlife areas were previously game damage problem areas that were turned into great places for wildlife, and in the process, helped keep wildlife from depredating neighboring farm lands," Faast said.

ODFW managers use P-R dollars on the wildlife areas in a variety of ways, including acquiring new land and providing access to the areas. Restoring or improving existing habitat, such as erecting nesting boxes and platforms, and planting crops for wildlife are key ways P-R funds are used. "We manage crops for the critters," said Denman Wildlife Area Manager Mark Vargas, "and plant a variety of grains in wildlife areas around the state depending on wildlife needs." Crops include millet, sorghum, wheat and barley.

Oregon's wildlife have benefited immensely from the wildlife restoration program dollars over the last 60 years. "It's a 'user pay, user benefit' approach to wildlife conservation," Faast explained, "but in this case, everyone benefits. Sportsmen and women provide the funding, but everyone benefits from the hunting and wildlife viewing opportunities provided on Oregon's wildlife management areas."

PAT WRAY

LEFT: *Researchers move seals into position for placement of beanies*

SEALS & SEA LIONS: RESEARCH GOES ON

What is the level of marine mammal predation on salmonids? At what point does it become a threat to the existence of a specific stock of fish?

by PAT WRAY

THE BODY is powerful and athletic with a sleek, understated elegance. The eyes are beautifully dark and deep, brimming with intelligence. The face can only be described as impishly attractive. In fact, if you didn't know it had just taken all the bait from your crab trap, you'd be inclined to like this particular harbor seal very much.

But you do and he did and so your inclinations and feelings don't include the word 'like.'

Don't feel bad. You are not alone. Many Oregonians are familiar with the damage pinnipeds, as seals and sea lions are collectively known, cause near coastal human development. Even more important, a great many Oregonians believe seal and sea lion predation is affecting salmon and steelhead runs. Like many legends, rumors and myths, there is a kernel of truth to the idea that salmon and steelhead can be adversely affected by these marine mammals. However, predators predate; that's what they do; that's who they are; we should not be surprised or offended by the news.

Salmon and steelhead have lived and survived and reproduced under pressure from these predators for thousands of years. All things being equal, they should be able to continue their relationship in relative harmony for thousands more years without much interference from us.

Unfortunately, all things are no longer equal, not even close. Anadromous fish must now contend with dams, chemical and thermal pollution, extensive multi-national harvest, streams and rivers that dry up due to irrigation requirements, changing ocean conditions and habitat degradation on a scale no one could foresee. As a result of the above problems, and others we might not even know about, some salmon and steelhead populations have been completely eradicated, while others are teetering on the brink of extinction. Meanwhile,

seals and sea lions have flourished under the protection of the Marine Mammal Protection Act until their present numbers approximate those thought to exist prior to the arrival of European settlers.

In this era of weakened salmon returns and healthy populations of marine mammals, we need some answers to important questions. What is the level of marine mammal predation on salmonids? At what point does it become a threat to the existence of a specific stock of fish? What, if anything, can be done if a stock of fish is threatened with extinction? Robin Brown is in charge of a small group of research biologists employed by the Oregon Department of Fish and Wildlife to study marine mammals. Since the early 1980s, Brown has been working on the answers to those questions.

"During the mid-1980s, we only had enough funding to collect information about the distribution and abundance of marine mammals on the Oregon coast," Brown explained. "We had limited opportunities to study food habits."

That changed in 1997 when the National Marine Fisheries Service provided funding for more complete research that was to be conducted in all the Pacific coastal states. During a planning meeting in 1997, representatives from state and federal agencies worked out the details of the research studies that were to follow. They established four objectives:

To quantify the loss of salmonids to seals and sea lions in site-specific studies. Previous studies had been too general in nature and did not estimate losses to specific fish stocks.

To determine the level of risk represented by seal and sea lion predation in relation to other risks. They wanted to evaluate the impact of this predation in a big picture scenario.

To help recover stocks of fish which were at risk.

To help resolve the social conflict that surrounded the pinniped-fish issue, to contribute to a resolution.

"We established several requirements of the research sites," Brown explained. "First, there had to be abundant predators present. Second, we needed good points of view to study the animals and good boat access to the river and bay. Third, we wanted an area where fish stocks were of particular concern. Finally, we needed an area where local biologists had a good handle on salmon populations, as well as on pinniped distribution and abundance, so we could determine the impact of predation. After some evaluation, we came up with the Alsea and Rogue rivers."

Both the Rogue and Alsea had plenty of predators. The Rogue River area is home to hundreds of California and Steller sea lions, and Pacific harbor seals while the Alsea supports more than 600 harbor seals. The Alsea is a relatively small coastal river, while the Rogue begins high in the Cascades Mountain Range and makes its way through the Coast Range to the Pacific. The Rogue supports several runs of anadromous fish, some of which were in decline and the Alsea River coho run was in real trouble.

PAT WRAY

PAT WRAY

ABOVE: *Gluing the beanie on a harbor seal's head; the beanie is held in place until the glue dries on the fur*

"We had two basic study methods," Brown said. "We could collect and examine their fecal matter, or scat, and we could use direct observation. Study of the scat can give us qualitative information. In other words, we can learn what kinds of fish are being ingested. But it cannot yet help us quantitatively, that is, tell us how many of a certain type fish are being eaten. Direct observation of surface events, essentially watching seals and sea lions eat fish, was a big part of our effort. It works well in smaller areas, where fish tend to be concentrated and the animals are feeding, because seals and sea lions must bring large fish to the surface to tear them apart and eat."

A third research methodology was considered, but rejected. The collection of marine mammals would have provided valuable information, but the numbers of animals necessary to provide statistically valid information would have been prohibitive.

PAT WRAY

ABOVE: *Aicha Dugzin collects a seal scat sample in Alsea Bay.*

RIGHT: *Researchers load the nets back into boats after capturing and releasing the seals for placement of beanies.*

Over the next three years Brown and his research team collected information from the Rogue and the Alsea rivers. They spent between 500 – 1,500 hours of direct observation each year at each study site and collected thousands of scat samples.

Upon careful examination by marine mammal biologist Susan Riemer, the scat samples yielded qualitative information indicating that pinniped impact on salmonids was relatively low. In the Rogue River, only 12-14 percent of scat samples showed the presence of salmon or steelhead. On the Alsea, the percentage was lower, only 6-7 percent. Statistician Bryan Wright, who is analyzing data and developing sampling plans as part of Brown's research team, warns against trying to derive too much from those figures, but says that they do indicate that salmonids generally make up a relatively small portion of a pinniped's diet.

The many hours of direct observation spent on the two river systems resulted in quantitative estimates of between 100 and 300 salmonids taken by pinnipeds at each site on a yearly basis. These estimates coincide roughly with previous studies conducted during the 1970s on the Rogue River.

"Our conclusion was that impact of pinniped predation on salmonids in those areas appears at first estimate not to be highly significant. However, we felt that our estimates might be somewhat low because we had such a small observed area and because our observations took place only during the day," said Brown. "We know from other studies that some marine mammals do feed at night."

Although Brown was reasonably comfortable in saying that the impacts of mammal predation would be insignificant on healthy fish populations, he also knew that the same might not be true of a depressed population.

"Ten percent loss of a run with 100,000 fish would be a lot of fish," he explained. "But the impact would be biologically insignificant to the fish stock in the big picture, though perhaps not to the angler. If the Alsea River, with an estimated return of 200 wild coho in 1998, lost 10 percent, it wouldn't be very many fish, but it could be very significant to that population."

Complicating matters was the tendency of seals and sea lions to set up camp far upriver in spots where fish are concentrated and very vulnerable. The exploits of Herschel and his friends at Ballard Locks in Seattle are well documented. For several years Herschel dined on an extremely depressed run of steelhead that was forced to run a sea lion gauntlet at the locks on their way back upstream to spawn in Lake Washington tributaries. After numerous harassment attempts ended in failure, it became obvious that non-lethal methods were totally ineffective. A last minute decision to trap and transplant the offending sea lions to Sea World in Florida ended the difficulties and quite likely

PAT WRAY

Complicating matters was the tendency of seals and sea lions to set up camp far upriver in spots where fish are concentrated and very vulnerable.

prevented their demise.

"We've been experiencing similar problems at Willamette Falls near Oregon City," Brown explained. "And we've tried very hard to avoid the kind of problems the state of Washington went through."

After three years, the ODFW Marine Mammal Program closed its research on the Rogue and focused the energies of the team on the Alsea River, specifically on upriver locations, such as at the mouth of Drift Creek where it enters the Alsea. The researchers suspected that much like Ballard Locks and Willamette Falls, a small number of animals were spending their time upriver and actually targeting salmon. If their hypothesis was proven correct, it could add the weight of solid research to the growing number of wildlife management professionals who believe the states need flexibility in the way the Marine Mammal Protection Act is implemented. But they faced an immediate obstacle.

"We needed to be able to identify specific animals in order to accurately count the number of fish certain seals were taking. We were limited in the way we could mark the seals, however," Brown explained

Here's the problem they faced. Brightly colored collars were out of the question...a seal's neck is bigger than its head. Tagging an ear was not an option either. Try finding the ear flaps on a seal. And putting a tag on the fins wouldn't work because they are rarely visible above water. And so, the beanie was born. Brightly colored beanies would be easily seen, and different combinations of colors could be used to make the identification of individual animals. Of course, you still have to put them on the animal, a challenging effort at best.

Brown and crew did this by rapidly deploying a heavy net in the water in front of a group of seals sunning themselves on Alsea Bay. As the animals took to the water to escape, 50 or more were entangled in the net. They were then dragged to the shore where they were weighed, measured and fit with colorful new beanies, which were glued to the fur on top of their heads.

Since then, researchers have spent hundreds of hours watching seals in the lower 14 miles of Alsea River including the mouth of Drift Creek, observing their behavior and paying particular attention to their feeding habits.

"A very large proportion of the predation on adult salmon occurs after they get back into bays and rivers," Brown said. "Once the fish keg up in shallow waters or behind an obstacle like they do at Willamette Falls, or wait at the mouth of a river for advantageous flows like they do at Drift Creek, they are very vulnerable."

Although the study will continue for several more years, initial indications are that the research team's hypothesis is correct.

"Seals and sea lions are smart, once they've experienced easy pickin's at one of those sites, they're going to come back again and again," Brown said. "We've found that one particular seal took about 15 percent of the total salmon our research team observed killed by seals on the Alsea River during the fall of 2000.

"Our agency supports the basic goals of the Marine Mammal Protection Act," Brown explained. "Marine mammal populations should not be exploited or driven to low abundance levels. However, we also recognize that there may be times when killing a small number of seals or sea lions may be a prudent course of action if we are confronted by the possibility of severe impacts to an already depressed stock of fish. Many broad efforts are being made across the state to recover threatened salmon stocks – dealing with significant predation problems is an important part of that work."

The United States Congress is considering changes to the Marine Mammal Protection Act. Information like ODFW's Marine Mammal Program is collecting may be important in helping them come to a conclusion that will protect salmon and pinnipeds alike.

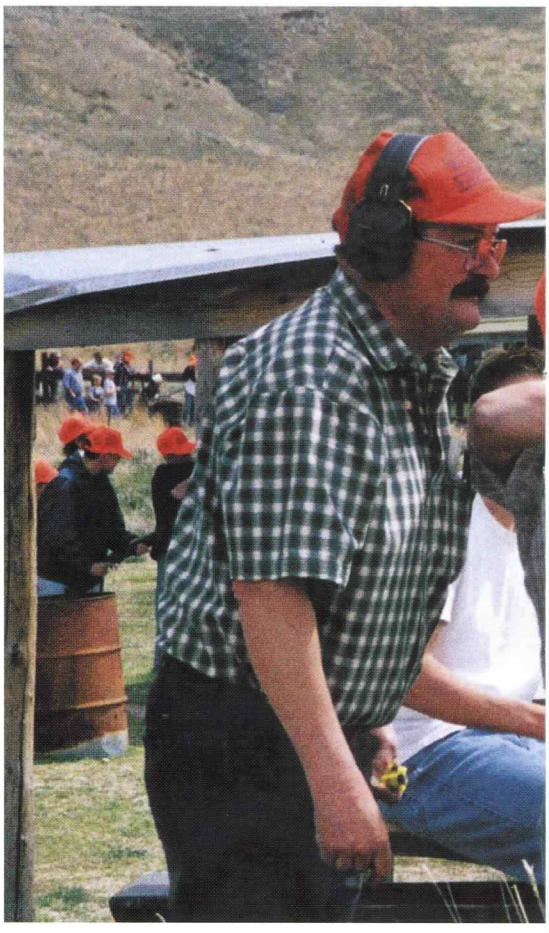
PAT WRAY

PAT WRAY

TOP AND ABOVE: *Jennifer Duncan and Aicha Ougzin approach seals hauled out in Alsea Bay.*

Jennifer happily scoops seal scat in Alsea Bay.

Conservation is more than simply looking out for endangered wildlife. In fact, one of the greatest successes has been in hunter education. Every year, hundreds of volunteers pass down their knowledge to young hunters to make the sport more safe and enjoyable. And the results speak for themselves.



LEARNING OF A

by TONY BURTT

IN THE ANNALS of hunting, there are many successes that are directly attributable to the efforts of the sportsmen and women. Conservation legislation over the past 100 years has been responsible for restoring a number of game species that were in a very depressed state at the end of the nineteenth century. Less well known is that most of these restoration efforts have been funded by the hunters themselves, and game and nongame species alike have benefited.

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The Pittman-Robertson Act of 1937 (as amended in 1970 and 1971) imposes an excise tax on firearms, ammunition and archery equipment. These taxes are collected by the U.S. Treasury and distributed to the states to use on wildlife restoration projects. A key provision in the act authorizes a portion of these funds to be used to educate hunters. Oregon will receive $320,00 this year for this purpose.

Hunter Education has been one of the greatest success stories of conservation legislation. In the four years prior to 1962, there was an average of 71 hunting accidents per year in Oregon, with as many as 15 fatalities. In 1963, Hunter Education became mandatory in

ODFW

From a shooting club member – "We really appreciate the department's support of our little range here in Seneca, and we are glad that it can be a part of educating young hunters."

HIGHER CALIBER

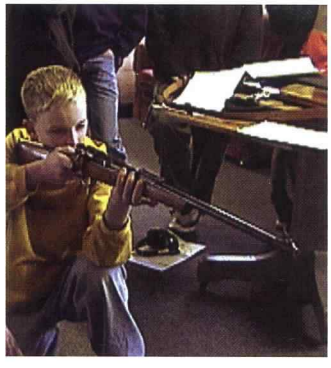
Oregon for all hunters under age 18. Over the next 38 years, as the number of hunters who have graduated from the program increased, the number of hunting accidents decreased. In the last four years, there has been an average of seven accidents per year, with only one being fatal. This dramatic decline in injury and death caused by the misuse of firearms can be directly attributed to the success of the Hunter Education program.

From 1962 until 1981, the standard Hunter Education class was only four hours in length. Instructors, who were all volunteers, concentrated their teaching on the fundamentals of firearm safety, and very few of them included any other subjects in their class. In 1981, the minimum class length was increased to eight hours, and teaching on subjects such as ethics, wildlife management and survival were included. In 1987, the class length was increased to 10 hours and in 1998, in the most recent change, the minimum class length was set at 12 hours and shooting was included in the required curriculum.

Today's students still learn the fundamentals of firearm safety, but they do so with the help of many training aids that were not available to instructors in earlier years. They watch professionally made videos designed specifically to appeal to younger people, they demonstrate their judgement in selecting a good target with the help of laser training devices, and they have an opportunity to handle many different types of firearms.

At the conclusion of the course, students are tested in up to 15 different firearm handling skills and they are coached until they have shown adequate proficiency. The last part of the class, and the part that seems most enjoyable to the students, is the shooting. Students fire either an air rifle, a .22 rifle or a 20 gauge shotgun, and in many classes, they have an opportunity to shoot more than one type of firearm.

Although firearm safety is still the most important part of the course, students now spend over eight hours learning about and discussing other aspects of hunting. They study videos showing examples of good and poor hunter behavior, and their instructors facilitate discussions on a number of ethical dilemmas that may face a young hunter. Very often, Oregon State Police officers from the Fish and Wildlife Enforcement Division visit a class and talk about the laws and regu-



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From a Mother: "Thank you so much for your volunteer time to teach my son (Joey) and myself many hunting aspects we never knew were out there. I appreciate your thoughtfulness..."

lations. Students also learn about wildlife management and the part that hunting plays in conservation. Some take a class on wildlife identification to help them identify game and nongame species.

Students study the basics of hunting with muzzleloading firearms and archery equipment, and they are taught how to plan a hunting trip. One of the most popular sessions is survival, where students learn how to make their own survival kit and spend a night outdoors in bad weather.

The instructors are all volunteers and although a few are retired, most of them have a regular job and family from whom they take time to pass on their knowledge and love of hunting to the next generation. There are over 800 instructors in Oregon and they contribute over 16,000 hours of volunteer time to this program each year. Many of them teach several classes each year-some contribute over 100 hours.

The department has many partners in this program: The Oregon Hunters Association supports the program with instructors and financial grants; conservation organizations such as Pheasants Forever, the Rocky Mountain Elk Foundation, National Wild Turkey Foundation, Mule Deer Foundation and Safari Club International also make significant contributions each year.

Through the Shooting Range Development Grant Program, the department also partners with over 50 shooting clubs and facilities. These clubs receive financial grants to make improvements to their facilities in exchange for offering access to their range for Hunter Education Classes. These partnership agreements are vital to the program-without the cooperation and assistance of the shooting sports community in Oregon, not all students would experience actual shooting. Since this program started in 1989, over $600,000 has been granted. Clubs have matched these funds with an equal amount from their own resources, and facilities in all parts of the state have benefited. Projects have ranged in scope from construction of brand new ranges in places such as Seneca, Burns, Madras and Molalla, to rebuilding or improving existing facilities in Bend, Medford, Baker, Florence and Salem. The department currently plans on spending $30,000 per year from its allocation of Federal Funds on this program.

With people today desperate to keep up with everything that's the latest and greatest, it's hard to imagine that there could be anything important to us that was also important to those living 50 or 100 years ago. Sometimes, it takes just the smallest item to remind us how true it is. And how in many ways, they were a step or two ahead of us.

KEEPING UP WITH the Past

by LISA A. DEBRUYCKERE

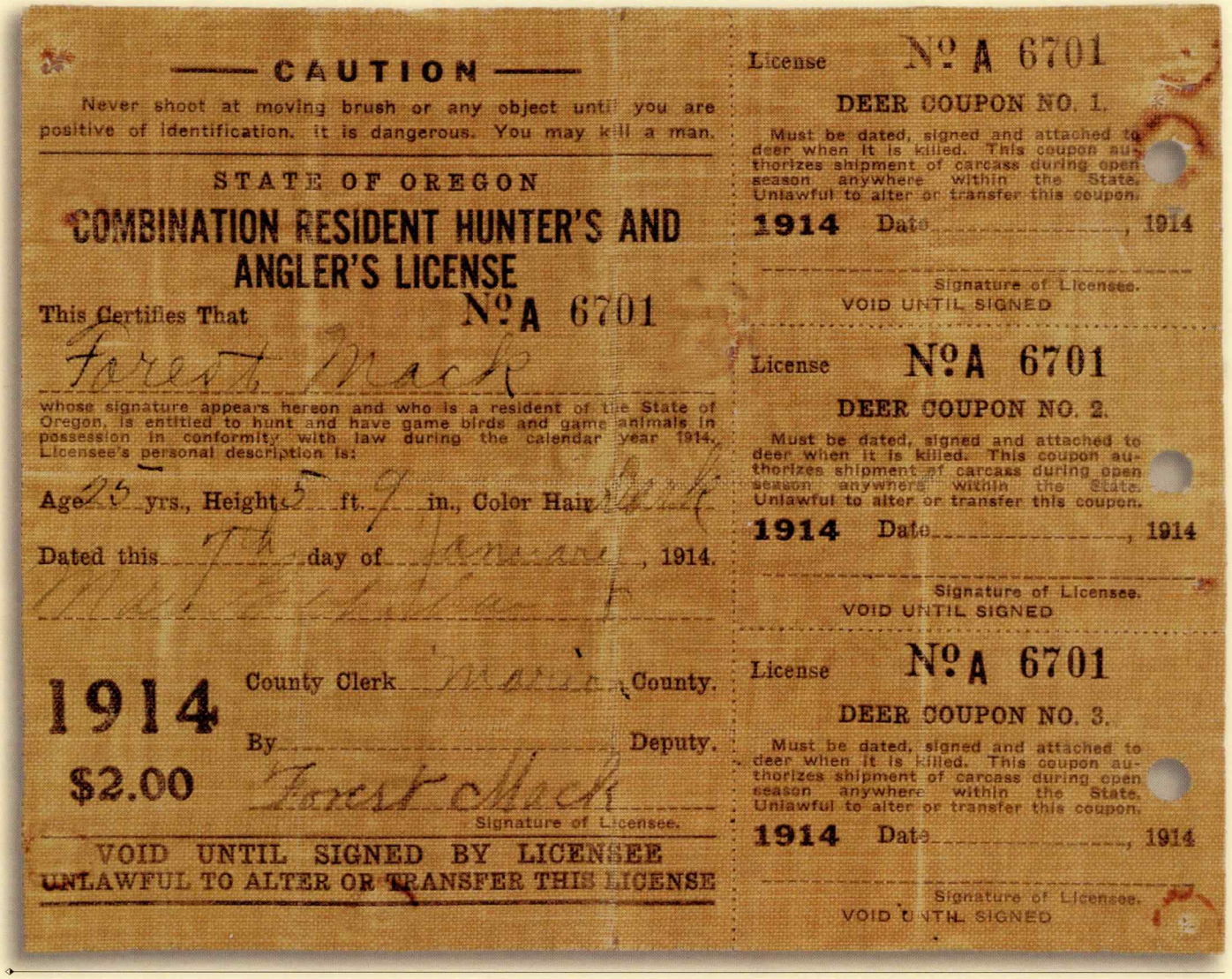
A CRATED SEWING MACHINE arrived at my front door last month. It was a cabinet Singer machine, made in 1908, and purchased by my grandmother in New England. Over the past 92 years, it has seen some wear and tear, so much so, that when I took it to a local furniture refinisher, he grimaced and said quietly, "We'll, we've seen worse." While the value of the machine is less than $200, I painstakingly invested much effort and some expense over the past three months to have a crate specially made to ship the machine from New Hampshire to Oregon, and to have it refinished and ultimately land in my living room.

My mother questioned my interest in going through this amount of effort to transport the machine across the United States. After all, it was just an old, beat up sewing machine – hardly worth the cost of the crate, let along the shipping and refinishing costs.

But the machine was a fixture in our home when I was growing up. I learned how to sew using the pedals and spinning the wheel, both of which were connected by a leather belt. Sewing with that machine was a wonderful experience compared to the indifferent electronic beast I've used since then. Plastic and electrical cords simply don't have the feel of an old machine that derives its strength from the coordinated push of your feet and an occasional dab of oil.

Coincidentally, the week the Singer arrived, we received a call from someone interested in donating a 1914 Oregon hunting license to the Oregon Department of Fish and Wildlife. Not one to pass up an opportunity to uncrate another piece of the past, we asked if the potential donors would be willing to visit with us to talk about the owner of the license and his family.

Forbes Mack, 82, and his wife, Dee, greeted us at their home, anxious to talk about our



— CAUTION —

Never shoot at moving brush or any object until you are positive of identification. It is dangerous. You may kill a man.

STATE OF OREGON

COMBINATION RESIDENT HUNTER'S AND ANGLER'S LICENSE

This Certifies That No. A 6701

Forest Mack

whose signature appears hereon and who is a resident of the State of Oregon, is entitled to hunt and have game birds and game animals in possession in conformity with law during the calendar year 1914. Licensee's personal description is:

Age 25 yrs., Height 5 ft. 9 in., Color Hair Dark

Dated this 7th day of January, 1914.

1914 County Clerk Marion County.

By Deputy.

$2.00

Forest Mack
Signature of Licensee.

VOID UNTIL SIGNED BY LICENSEE
UNLAWFUL TO ALTER OR TRANSFER THIS LICENSE

License No. A 6701

DEER COUPON NO. 1.

Must be dated, signed and attached to deer when it is killed. This coupon authorizes shipment of carcass during open season anywhere within the State. Unlawful to alter or transfer this coupon.

1914 Date _____, 1914

Signature of Licensee.
VOID UNTIL SIGNED

License No. A 6701

DEER COUPON NO. 2.

Must be dated, signed and attached to deer when it is killed. This coupon authorizes shipment of carcass during open season anywhere within the State. Unlawful to alter or transfer this coupon.

1914 Date _____, 1914

Signature of Licensee.
VOID UNTIL SIGNED

License No. A 6701

DEER COUPON NO. 3.

Must be dated, signed and attached to deer when it is killed. This coupon authorizes shipment of carcass during open season anywhere within the State. Unlawful to alter or transfer this coupon.

1914 Date _____, 1914

Signature of Licensee.
VOID UNTIL SIGNED

interest in the license. The 1914 license, made of cloth, belonged to his father, Forest Mack. Over the course of the next two hours, Forbes and Dee recounted story after story of their family love affair with hunting and fishing that spans generations.

There was every reason to believe the Macks loved the outdoors. They live in the Portland metropolitan area in a ranch style home overlooking their neighborhood. Their living room is a window to the outdoors, with one entire wall comprised of nothing but glass that faces a large grove of tall trees.

"When I was younger, I used to stand here in my back yard and shoot band-tailed pigeons," said Forbes. " My neighbor next door had a 28 gauge single shot and she used to shoot them. There was an orchard here at the time."

Forbes had several photo albums waiting for us to peruse as he told stories of his favorite hunting and fishing haunts. Each album included photographs of his relatives and friends with specklebellies, pintails, deer and my favorite - a black and white photograph with 70 searun cutthroat, all over 18 inches long. Freezers weren't in existence at that time, and Dee said, "In those days, they didn't waste them - they canned them." And Forbes piped in, "We put 'em in jars and boiled the hell out of them!"

Forbes traced his dad's love affair with the outdoors to mentoring by Forbes' grandfather and greatgrandfather. Forbes' grandfather rented boats and cabins on the Siletz for anglers anxious to experience the rivers' bounty. In fact, to this day, there is a sign that hangs on the bank of the Siletz near Logsden that identifies "Mack's Landing."

"When my father was a young child, he spent his summers with his grandparents on the Siletz River, and that's where he learned to fish, with his grandfather and father," recalled Forbes. "His big hobbies were hunting and fishing – and baseball. He did a lot of deer hunting. He would take his campstool, and put it out next to a stump over by John Day. And he'd sit there and just watch the deer go by, and when he decided the one he wanted, he would take the shot. He would shoot one and that would be it."

Forbes recalled that his dad spent a great many days talking about his hunting and fishing adventures with his customers. He was a barber by trade, and according to Forbes, "He was

a pretty good barber. He used to cut hair for two bits a head."

Neither the oldest nor the youngest of Forests' six children, Forbes went fishing with his dad often because, "I guess he liked the way I fished. We always had the urge to get those beautiful, gorgeous searun cutthroat. The biggest one I ever caught was 4 pounds, 20 inches long, and it took me half an hour to get him in the boat. He was under the bridge that goes across the road in the little Nestucca River. It was unbelievable." Forest Mack wanted his son to land his fish so that he could cast into the river. "I remember my day saying, 'Get that fish in here, will you please?' But I told him to stay out of there. I said, 'Damn it, I don't want to lose it!'"

Forbes showed the carefully maintained 1914 cloth license with his dad's signature and the ominous words at the top, "Caution – Never shoot at moving brush or any object until you are positive of identification. It is dangerous. You may kill a man."

"This 1914 license is the only one my dad ever saved," said Forbes. "I don't know if it's his first license, but maybe it was." We speculated the license was made of cloth because of the likelihood of a cloth license surviving a wet Oregon winter compared to paper.

While Forest Mack was, by Forbes's recollection, "a pretty good fisherman," both Forbes and his dad were avid waterfowl hunters. Forbes used to hunt Sauvie Island in the 50s and 60s. "At the time, it was good hunting." And while there were limits on the number of ducks and fish you could keep, Forbes said, "They really weren't enforced back then."

One of their favorite fishing spots was the Santiam River, especially before the dam was built. "The Santiam was one of my favorite rivers to go back to," said Forbes. "My dad and I were in the river fishing before they built the dam – you never saw anything like it! The logjam was one to two miles long. And we used to drive up there and park the boat where the dam is now. You would fish where you could get a hook between the logs. We used to drive up in a car, a touring car, with curtains and everything. They would have two 2 x 12s and we would drive those just like driving into a grease pit, but you're 500 or 600 feet above a long jam. I wanted to get out of that car when I was a kid."

Forbes lamented some of the changes over time. "I've fished the Santiam since they built the dam. It isn't the same." And he believes the increased complexity of hunting and fishing regulations keeps people from pursuing these activities. "A lot of people I used to know that hunted and fished don't anymore. It's too complicated now."

Did Forbes' love of fishing instill in his children a passion for similar pursuits? Forbes' son was a commercial fisherman, and "My daughter will fish if you can get her to stand still long enough!"

Forest Mack fished well into his 80s, but eventually quit when his equilibrium in a boat caused family members to be concerned about his safety. "When my dad was in his 80s, my brother told me not to take him fishing anymore because he'd fall out of the boat," said Forbes. "And now I'm the same way."

Forbes recently gave away his decoys and shotguns. They're now in the care of younger outdoor enthusiasts that demonstrate the same respect and admiration for Oregon's outdoors that were instilled in Forbes through his father and grandfather. His homemade fishing rods and other outdoor paraphernalia will eventually find a home, as well.

"I think Oregon meant everything to me growing up," Forbes said. "But I'm selfish – I've always wanted to protect it. We need to protect what we have."

As we shook hands goodbye, I left with the responsibility to protect and care for the 1914 license, and display it in a place where others can appreciate it. The old license tells a story and brings to life the memories of several generations of Macks. I also left knowing I had done the right thing by caring for the old sewing machine. Because when I give it to my niece, it too, will come with a family of memories and an appreciation and respect for those that came before us.

I think Oregon meant everything to me growing up," Forbes said. "But I'm selfish – I've always wanted to protect it. We need to protect what we have."

THE CATCH

For the last few years it seems as if every time you open a paper or turn on the news, you hear something about salmon populations. But there is one salmon that's doing just fine, though you'll still have to work at catching one. And once you do, you'll find that the effort is well worth the reward.

by NORM HESSELDAHL

KOKANEE is a popular word. It has been adopted as an appellation for hotels, parks, rivers, lakes, streets, geographic regions, schools, retail businesses and beers. On the Internet, there are more than 10,000 web sites featuring "kokanee" in their name or key words. But first and foremost, kokanee happens to be the name assigned to landlocked sockeye salmon, called "the finest eating salmon there is" by angler and web site author Robert Nolan.

ODFW

OF THE DAY

ABOVE: *Kokanee angling on Wallowa Lake features not only a state record-setting fishery, but world class alpine scenery.*

The sockeye salmon is native to our coasts from the Klamath River in California, north to the Yukon River in Alaska. Sockeye salmon are different from other salmonids because they require a freshwater lake environment for part of their life cycle. Although they spawn in streams like other salmon, the fry quickly move up or downstream to a lake, where they live for one or two years before migrating to sea. Some of these fish remain in freshwater for their entire life cycle. Some scientists believe there may be a genetic distinction between these two, but both sockeye and kokanee (the freshwater phase) share the same distinguishing characteristics and scientific name.

There is a definite size difference between the two phases. Sockeye salmon reach a length of up to 33 inches and a weight of about 15 pounds, whereas the kokanee are a smaller fish, growing to perhaps 20 inches and 5 pounds. In many populations, they do not exceed 10-15 inches in length.

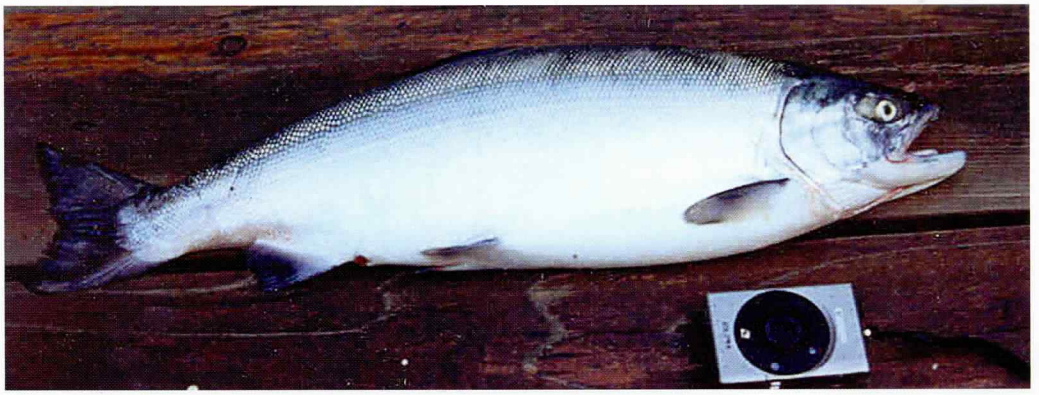
In Oregon, kokanee and their sea-going counterparts, sockeye salmon, were native to the Grande Ronde and Deschutes river basins. After a century of dam building, sockeye are extinct in the state except for some very small numbers in the lower Deschutes River. As we enter the new millenium, Oregonians are not able to fish for sockeye salmon most years. ODFW's Steve King reports that when the run exceeds 75,000 fish over Bonneville Dam (a rare event in recent years) the department may open sport, commercial and Indian fisheries in the mainstem Columbia River. Even then, King said, the number of successful anglers is very low. Most sockeye salmon are caught incidentally by steelhead anglers.

However, we are still able to sample *Oncorhynchus nerka*, both on the hook and on the dining table, thanks to the presence of several populations of kokanee. Many of the state's best kokanee fisheries occur in natural lakes in the Grande Ronde and Deschutes basins. Thanks to the efforts of some pioneering fish biologists, kokanee fisheries also flourish in several manmade reservoirs, including some in the Willamette basin.

The current Oregon state record kokanee is a 5.3-pounder caught just last spring in Wallowa Lake by Larry Campbell of Cove.

Bill Knox, an ODFW fish biologist stationed in Enterprise and a frequent kokanee angler on Wallowa Lake, said that in the past couple of

RIGHT:
This side view photograph of the current state record kokanee, submitted by Campbell with his record application, shows that it is difficult to mistake a kokanee for a trout. Note the absence of any trout-like spots on this beautiful salmonid. (Photo courtesy Larry Campbell)



Angler Larry Campbell of Cove, Oregon displays the current Oregon state record kokanee, a 5.3 pound fish taken by Campbell in May, 2000 from Wallowa Lake. (Photo courtesy Larry Campbell)

years several potential record breaking kokanee have been taken from the lake, but not registered. "None of them as big as this one, though. This is the first Wallowa Lake kokanee I've heard of that weighs over five pounds."

Kokanee fishing is best at Wallowa Lake in the spring. About 30,000 kokanee are caught there annually, with the bite tapering off by early July.

Campbell caught his trophy in mid-May in about 40 feet of water, trolling a Ford Fender followed by a wedding ring spinner. "It's a walleye rig," he explained. "But it works!"

Biologists have long recognized the desirability of establishing a kokanee fishery in lakes and reservoirs. Not only is it a challenging and tasty fish for the sport angler, it is an economical fishery to maintain. Wydoski and Whitney, in their book "Inland Fishes of Washington," state that "Because kokanee are planted at a small size and grow on natural foods, the cost for sustaining a fishery, even where natural reproduction does not occur, is smaller than for planting catchable trout."

In Oregon, ODFW biologists have been working to expand and stabilize populations of kokanee around the state for many years. Records from 1982 show that a kokanee review was conducted on 59 separate lakes and reservoirs in the state that year. Kokanee were stocked in many of these sites in the 1950s and '60s, although there are records of kokanee stocking in Wallowa Lake as early as 1925. However in many of these lakes, "kokanee were stocked but never persisted or contributed to fisheries," according to Knox.

Wizard Falls Hatchery, on the beautiful Metolius River, currently rears kokanee for the department's program. The hatchery produces about 716,500 kokanee annually. These young fish are placed in 11 different lakes and reservoirs around the state. The program is funded with Sport Fish Restoration (SFR) dollars. These funds come from a manufacturer's excise tax on motor boat fuel and fishing tackle. Administered by the U.S. Fish and Wildlife Service, the SFR fund is a 3:1 matching grant fund. SFR picks up 75 percent of the estimated $44,000 per year for the kokanee program's cost. The remainder comes from the department's budget.

Anglers looking for kokanee in Oregon today tend to focus their efforts on a few well-known highly productive bodies of water. In addition to Wallowa Lake, these include Odell Lake, Paulina Lake, Lake Billy Chinook and Green Peter Reservoir. Other lakes, less intensively fished for kokanee include Detroit Lake, Triangle Lake west of Eugene, Big Lake in the Cascades near Hoodoo Ski Bowl, Elk Lake northeast of Detroit, and Olive Lake southeast of Dale.

The traditional sport method of hooking kokanee is by trolling for them with metal flashers or spinners, with a small baited hook attached. Typical baits include salmon eggs, worms, corn or maggots.

"I used to rely on corn," Knox said. "But since I've started using maggots, I won't use anything else. You can usually find a bait shop that sells maggots near any good kokanee fishery."

Shallow trolling works best when the surface water is still cool and the fish are near the surface. Later in the year as the water warms up, the fish tend to congregate in schools in deeper water, and specialized gear is often

IF YOU THINK YOU HAVE A RECORD-BREAKING FISH

Photograph a side view of your fish - this must accompany your record application.

Have the fish weighed as quickly as possible on a state-certified scale such as a supermarket meat scale.

The person weighing your fish must be willing to sign your record application as a witness. One other witness (someone who saw you catch the fish) must also sign as a witness.

Obtain an application form and complete it. Coldwater fish (salmon, steelhead, trout) applications are available from any ODFW office, or from Oregon Department of Fish & Wildlife, Information & Education, PO Box 59, Portland, OR 97207. Record applications for warmwater (spiny ray) species are available from The Oregon Bass and Panfish Club, Contest Manager, PO Box 1021, Portland, OR 97207. Two witnesses must sign the application form.

To be eligible, the fish must have been legally caught in Oregon, using hook and line.

required. This seems to be especially true on the reservoirs, where the water regime can be more complex.

"To catch kokanee, it does take some special tackle," according to outdoor writer Bill Kremers of Corvallis, who also offers guided kokanee outings on Green Peter Reservoir. "That's why so many anglers have trouble catching kokanee, as they want to use the standard trout tackle."

It's unfortunate but true that shore-bound anglers seldom bag kokanee. As the waters warm up and the fish move deeper, most successful anglers fish from boats, using underwater detectors to locate schools of fish. Fish-rich areas are then trolled with specialized lures held at the appropriate depth by downriggers, heavy sinkers, or lead core fishing line. As an alternative to trolling, boats sometimes "park" over clusters of fish and jig baited lures or spoons at the appropriate depth.

Because the specialized equipment can represent a sizeable investment, interested anglers might consider hiring the services of a professional guide for an outing or two, to see if the sport is to their liking. For a couple of hundred dollars, Kremers or other guides will take a family out for a day of kokanee fishing. This fee includes boat, fuel, rods, tackle, and bait – right down to a special brand of white corn that has gained a certain level of fame among kokanee anglers for its fish catching abilities. In addition, anglers will get a day of instruction in the sport from a seasoned kokanee veteran. That, alone, may be worth the price, since successful lures and techniques seem to vary from lake to lake.

Kokanee are known for a tender mouth and a spirited fight, so experienced anglers advise the use of lightweight gear with a long, flexible rod to minimize lost fish. Many of the lures even use two hooks, although "horsing" the fish often results in a lost fish, especially if they are brought to the boat while they are still feisty.

To complicate matters, kokanee can be temperamental. "The bite can turn on and turn off in a moment," Nolan said. "The slightest difference in color, size, or speed pattern can be the difference between success and failure."

Nolan is such a devotee that he started a website – The Kokanee Page – that deals exclusively with kokanee fishing. "For me, it isn't the size or even the taste that makes me like fishing for kokanee," Nolan explained. "It's the challenge. It's their attitude, it's the finesse, it's the hunt. The reward afterward is just an added bonus."

And for the successful kokanee angler there is a definite reward after the day's fishing – dinner!

Bill Knox likes to marinate his kokanee in a blend of soy sauce, olive oil and garlic. He then cooks them over moderate charcoal heat until the muscle segments separate readily with a fork. This is a sure sign of being fully cooked with any fish, Knox says. "Kokanee are an oily fish, so it's a little harder to overcook them, but you still want to avoid cooking them too long."

Kremers prefers a simpler method. "All I do with my kokanee is split them open along the backbone, sprinkle them with some seasoning salt and butter, and then broil them," he said. "Sometimes at Odell I will cook this way on an open fire and a fish basket. They cook quickly, so don't overcook them."

My own preferred method lies somewhere between these two. It's a recipe I learned about 25 years ago at a barbecue. The salmon is prepared in splits - or fillets - with as many bones as possible removed. (A needle-nose pliers is great for removing those pesky rib bones.) With the skin side down, generously baste the exposed flesh with melted butter. Add garlic, pepper and/or powdered onion to the butter before basting, if desired. Before the butter hardens, cover the fillets with a layer of finely grated Parmesan cheese. Pop the fish into a pre-heated 375-degree oven for 10 -15 minutes. Finish with a minute under the broiler to make the cheese crispy. Remove the flesh from the skin before serving, and be prepared for lots of compliments.

Successful angling for kokanee may take some specialized gear and extra effort, but the proof, as they say, is in the pudding. And in the case of kokanee, the pudding is very tasty indeed.

FOR ADDITIONAL INFORMATION ABOUT KOKANEE FISHING

BOOKS:

- *Fishing in Oregon*, ninth edition, by Madelynne Diness Sheehan, Flying Pencil Publications. $24.95 – available in most book stores in Oregon.
- *Inland Fisheries of Washington* by Richard S. Wydoski and Richard R. Whitney, University of Washington Press - a standard reference for fish species in the Pacific Northwest.

WEB SITES:

- Oregon Department of Fish and Wildlife – information about fish, wildlife, fishing and hunting in Oregon, with links to department web sites for other states. *http://www.dfw.state.or.us*
- The Kokanee Page – focuses on kokanee fishing in Oregon. *http://home.centurytel.net/nolanr/kokanee.html*
- Pro-Troll – a web page with lots of technical information about fishing for kokanee. *http://www.protroll.com/kokanee.html*
- Luhr-Jensen Techniques for Kokanee – a technical paper in a very large fishing website by a major tackle manufacturer. *http://www.luhr-jensen.com/kokanee.html*
- The Kokanee Hole – a website about kokanee fishing in Washington State. *http://www.kokaneehole.cjb.net*
- Kokanee Power – a website about kokanee fishing in California. *http://www.fishing.com.tj/*

LEFT: *Kokanee fishing is definitely a family affair, as this photo of Amanda, daughter of fishing guide Bill Kremers, clearly shows. (Photo courtesy Bill Kremers)*

The greatest opportunity for improving Oregon's environment in this generation occurs on lands that Oregonians control: state, county and private lands. Much of what potentially can be achieved on federal lands is already reflected in new policies and plans for managing forest and range lands. Private lands have become increasingly important to solving many of Oregon's environmental problems for this generation.

OREGON STATE OF THE ENVIRONMENT REPORT, 2000

WILDLIFE HABITAT & MANAGEMENT

by BRUCE CAMPBELL

Nowhere is this statement truer than in the Willamette Valley where most of the land is privately owned; agriculture, cities and suburbs dominate the landscape. The region's abundant rainfall and fertile soils have made it the breadbasket of Oregon. Habitats that had been a patchwork of wetlands, prairies, open savannas, forests and riparian woodlands prior to the arrival of Europeans have been drained and cleared to make way for grass seed, corn, grain, fruits, nuts, berries, hay, nursery stock and grapes. The Defenders of Wildlife's publication, Oregon's Living Landscape; Strategies and Opportunities to Conserve Biodiversity, estimated that less than 1 percent of the original native grasslands and less than 20 percent of the oak savannas, park like grasslands with scattered large oaks, remain today. Bottomland forests that once dominated the Willamette River floodplain have declined by over 70 percent, while nearly 90 percent of the valley's wetlands have disappeared.

BRUCE CAMPBELL

CONSERVATION PROGRAM

How a new landowner incentive program is being implemented in the Willamette Valley

These losses have had a detrimental effect on the valley's fish and wildlife. Nearly 50 native plant and animal species are considered at risk, including the western pond turtle, common nighthawk, western gray squirrel, and several species of bats. Oregon's state bird, the western meadowlark, once abundant in the Willamette Valley, is rarely seen today. Many species of wild salmon and trout that were signatures of the Willamette River and its tributaries are now also imperiled.

The Oregon State of the Environment Report 2000 concludes: "Oregon's greatest environmental challenge for this century lies in the Willamette Valley. Transformation of prairies, woodlands, riparian areas, and rivers of the valley has fueled Oregon's economic growth and settlement for over 150 years. Yet this transformation has left a mark on the state's environment here and a debt to pay. Whether we can improve the ecological health of the valley, measured currently by recovery of salmon stocks, while continuing economic growth and development for homes and communities will be a stern environmental test." This is where the Wildlife Habitat Conservation & Management Program comes in.

The Wildlife Habitat Conservation & Management Program, established by the state legislature's passage of the "Molinari Bill" in 1997, provides a tax incentive to landowners who manage their property as wildlife habitat. Administered by the Oregon Department of Fish and Wildlife (ODFW), the program is a cooperative effort to reward landowners for taking on the important role of wildlife stewards. In participating counties, property that has met the requirements of the program is assessed at the relatively low, farm-use tax rate, even if it is not being farmed. Requirements of the program are fairly simple – development and implementation of a management plan and application to the county for reassessment.

In the ODFW's South Willamette Watershed District, or that part of the Willamette River drainage south of and including Salem, ODFW biologists are working with participating landowners to emphasize protection or re-establishment of the valley's less common habitats; prairies, Oregon white oak woodlands and savannas, wetlands and riparian zones. This is being done in a variety of ways, from seasonal removal of livestock from pastures to major restoration projects such as

ABOVE LEFT:
Often several habitats that are rare in the Willamette Valley can be restored on farm lands enrolled in the Wildlife Habitat Conservation & Management Program. Here remnants of oak woodlands, wetlands and grasslands all occur together. Very little would be needed to restore these habitats.


BRUCE CAMPBELL

In the absence of natural thinning processes such as fire, oak stands become dense and trees don't develop the large open crowns that are common in oak savannas (parklands). Landowners participating in the Wildlife Habitat Conservation and Management Plan are often urged to thin these stands to promote the preferred growth form.

re-establishing wetlands or meanders in channeled streams by moving large amounts of dirt. Each project is designed cooperatively with the landowner to insure that it will benefit wildlife, accomplish the goals of the landowner, and not commit the landowner to actions that are impractical or too expensive. ODFW biologists also help landowners identify where permits are needed, and often act as a liaison between landowners, county planning and assessment offices, and possible sources of funding for projects.

Based on their comments, participating landowners in the Willamette Valley have been pleasantly surprised with the simplicity and "user friendliness" of the program. After hearing a management plan recommendation that he promote development of a riparian area along a seasonal stream by planting willows, a landowner in the Oakridge area responded, "Wow, what a great idea. I never thought of that. It would be great to look out our front window at a meandering string of willows in the meadow below." The beauty of this particular situation is that he may even get funding to buy his willows! The ODFW biologist working with him put him in touch with folks at the


BRUCE CAMPBELL

U.S. Department of Agriculture (USDA) who administer a program called WHIP, or Wildlife Habitat Improvement Program. This program provides federal money to qualified landowners to help offset the costs of improving wildlife habitat on their lands and it appears that he qualifies. There are actually a number of such programs, some state and some federal, that provide funding or some other type of assistance. Local ODFW biologists, county extension agents, or USDA staff can usually identify them for interested landowners.

Like all good things, however, there is a down side to the program; it requires a written management plan for the property, and not all of Oregon's counties are participants. The management plan is often seen by landowners considering the program as a bureaucratic hurdle. Fortunately, enough plans have now been developed that a "template" exists to simplify the process. After deciding what management actions are desirable, a landowner simply has to change the wording in the template where needed to tailor it to their property. This can be done with the assistance of an ODFW biologist, consultant, or representative of a "cooperating agency." The latter is defined as U.S. Fish and Wildlife Service, U.S. Natural Resources Conservation Service, Oregon State University Extension Service, or persons with wildlife conservation and management training. The second issue is that county participation in the program is voluntary and some counties have elected not to participate at this time. Landowners in these counties cannot participate in the program.

For more information on the Wildlife Habitat Conservation Management Program and to find out if your county participates in the program, contact either the Oregon Department of Fish and Wildlife Habitat Division in Portland at (503) 872-5255 or your local ODFW office. Your county planning or tax assessment offices may also be able to provide information.

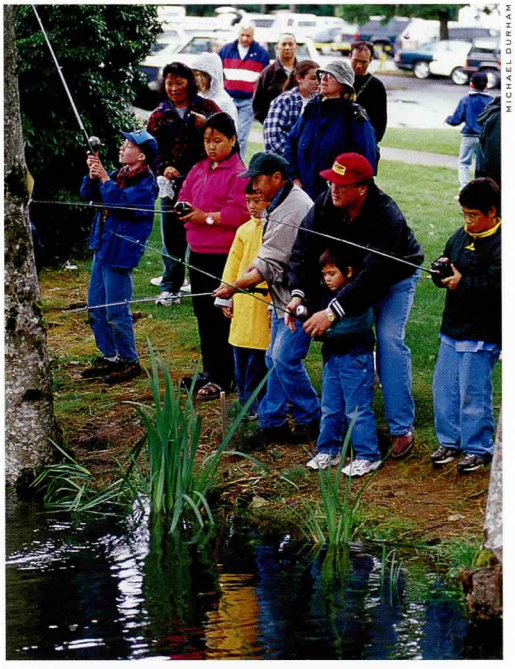
MICHAEL DURHAM

FREE FISHING WEEKEND

EVENT COORDINATORS are gearing up for this year's Free Fishing Weekend events which take place on Saturday, June 9 and Sunday, June10. This marks the 12th year that ODFW has co-sponsored these statewide events. Approximately 48 sites will host events open to people of all ages.

Free Fishing Weekend offers the public an opportunity to fish for free. "If it's your first time fishing, you can experience the thrill of a trout tugging on your line. Or, if you are a seasoned veteran, you will find the satisfaction of sharing your fishing experience with first-time anglers," says ODFW's Aquatic and Angler Education Program staff Annette Aylett. Licenses and tags are not required on this weekend; however, all other regulations, including bag limits, still apply.

Over 14,000 people participated in last year's 47 Free Fishing Weekend events. This year's events are expected to draw even greater attendance numbers, particularly if the weather is good. If you are interested in volunteering at a Free Fishing Weekend event or would like to coordinate an event in your area, please contact ODFW at (503) 872-5264 x5366 or e-mail at Annette.L.Aylett@state.or.us.



MICHAEL DURHAM

They might look pretty tough, but as you may have heard in the past, looks can be deceiving. Even with all those horns and excellent camouflage, their numbers are in decline. Still, they're not completely defenseless. So if you happen across one, you'd better think twice about picking it up, or you're liable to discover first hand why it's best to admire them right where they are.

GREAT HORNY TOADS

by PEG BOULAY

When is a toad not a toad? When it's a lizard. The "horny toad" or "horned toad" probably got its nickname from its squatty, bumpy toad-like appearance, but it is more closely related to snakes and turtles than toads and frogs.

Desert horned lizards (*Phrynosoma platyrhinos*) look like they might have just walked out of a movie set for a miniature Jurassic Park. They are broad and flat lizards, fringed with a row of small pointed scales and crowned with two horn-like scales. The scaly fringe breaks up the lizards' shadows, allowing them to blend better into their desert habitat. To deter predators, horned lizards may occasionally inflate their bodies like a prickly balloon. The "horns" may also make the lizards less appealing to swallow. Dead snakes and birds have been found with punctured throats from their last lizard meals. When captured by curious humans, desert lizards have been known to jab their horns into their captors' hands.

As intimidating as the spines and horns may look, the desert lizards' first line of defense is to remain undetected by means of their camouflage coloration. With their base colors of light tan, brown or gray, and patchy accents of marbled gray, black and brick red, desert horned lizards match the subtle colors of Oregon's beautiful desert habitats. Desert horned lizards can be highly variable in color, but tend to match their local environment. If a shadow of a prairie falcon happens to pass nearby, horned lizards will freeze, blending perfectly with their surroundings. In addition to falcons, loggerhead shrikes, long-nosed leopard lizards, striped whipsnakes, burrowing owls, badgers, kit fox and coyotes may prey upon desert horned lizards.

Oregon is home to two species of horned lizards. Short-horned lizards (*Phrynosoma douglassii*) are close relatives of desert horned lizards. They look similar to desert horned lizards, but lack the distinct horns. Short-horned lizards have a wider distribution in Oregon and are more cold-tolerant than their horned cousins, so they tend to be found at higher elevations. In contrast, desert horned lizards are restricted to lower elevations in the extreme southeastern portions of Harney, Malheur and Lake counties. Idaho and Oregon are the northern part of their range, which stretches south to northern Baja California and northern Sonora, Mexico. Desert horned lizards prefer open, rolling desert lands with scattered shrubs such as sagebrush, greasewood and saltbush.

Although they occasionally may climb on rocks to bask or in shrubs to escape, desert horned lizards spend most of their time on the ground. They are particularly fond of open sandy or gravelly soil. Loose soil stays warmer than the air temperature at night, and cooler than the surrounding air during the day. Horned lizards take advantage of soil's thermal properties to cope with the desert's daily temperature extremes. They are most active during early to late mornings, when temperatures are most favorable. Then, with an undulating shuffle, they wiggle themselves into the soil to rest when it is either too hot or too cold. They may

JAMES COLLINS

Dead snakes and birds have been found with punctured throats from their last lizard meals.

also burrow to escape detection by predators.

Desert horned lizards also bury in the soil to hibernate for the winter. They emerge from hibernation during late March or early April and start the business of breeding soon thereafter. In late May to early June, females lay two to 16 (average of eight) eggs a couple of inches below the soil's surface. As is the case for many reptiles, the number of eggs depends on the size of the female, with larger females having the energy reserves to lay more eggs. The eggs incubate in their soil nest for 50-60 days before the young lizards hatch. The hatchlings are approximately 1.5 inches long, but grow quickly and reach maturity in about 22 months. Fully adult horned lizards are about 5.6 inches long.

Desert horned lizards feed primarily upon ants and beetles, but will opportunistically prey upon other insects such as spiders, crickets, grasshoppers and flies. They are "sit and wait" predators. They position themselves at a promising spot, particularly along ant trails or at an ant mound, and sit quietly, blending into the sand and rocks. They ambush passing insects and can eat up to 200 ants per day. Ants are a plentiful food resource, but are mostly exoskeleton and are hard for lizards to digest. Desert horned lizards have adapted to an ant diet with extra-large stomachs, which explains their tank-like appearance, slow waddle, and dependence on cryptic coloration to elude predators.

The exotic appearance and docile demeanor of desert horned lizards tempt desert visitors to take them home as pets. As a result, overcollection has reduced their populations at some popular sites. Sadly, horned lizards rarely survive long in captivity, due to their dependence on a steady supply of ants and other particular needs. Because of their limited distribution in Oregon and potential vulnerability to collection, desert horned lizards are listed as a sensitive species by ODFW and cannot be kept as pets. These "toads that aren't toads" are best observed and enjoyed in their natural environment, where they are finely-tuned to live with the demands of Oregon's rugged deserts.

KEN CANNON

You might find it surprising, but the more insects you find in streams, the healthier those steams are. So how healthy is your local stream? Well, here's a few tips on how to give it a full check up. Your mom's going to love this.

Here's what you need to study macroinvertebrates in your stream:

Fine mesh net or window screen stretched between two poles or dowels (see photo).

Shallow pan or container to hold your collected 'bugs' (macroinvertebrates are easier to see in light-colored pans).

Ice cube trays for sorting different types of insects.

Forceps, eyedropper or small artist's paintbrush for picking up invertebrates.

Magnifying glass or hand lens for a close view.

Insect key to identify different types of insects.

Materials are usually available at home. Ask your parents for help.

ABOVE: *Adam Huntley checks macroinvertebrate detail with a magnifier.*

FUN WITH MACRO

by KEN CANNON

MACROINVERTEBRATES are critters with no backbones that are visible to the naked eye. This group of animals includes insects, snails, crabs, shrimp, clams, spiders and worms, to mention a few. These spineless creatures live in a variety of habitats. There are freshwater, saltwater, terrestrial and aerial varieties of macroinvertebrates. A study of these animals can reveal amazing things about the world in which we live.

Macroinvertebrates play a key role in the food chain. Many birds, fish and even some mammals depend on these small creatures as their principle diet. As a key component of the food chain, macroinvertebrates are good indicators of environmental conditions. Believe it or not, one measure of water quality of a stream is to look at the number and variety of insects that live there.

Fish biologists often study aquatic insects to determine stream health. Healthy streams that support a variety of insects usually support fish and other animals. You can check the quality of the stream in your neighborhood by studying the macroinvertebrates that live there.

Feeding groups:

Shredders: Feed on leaves or wood that fall into streams. Eat the softer plant material, leaving the leaf skeletons.

Collectors: Feed on fine material in streams. Some filter water for food particles, others burrow into the stream bottom to feed.

Scrapers: Feed by scraping the surface of rocks and logs for algae.

Predators: Feed on insects, other invertebrates and sometimes even fish and tadpoles!

Collecting macroinvertebrates from a stream:

Find a friend to help. Collection is much easier and safer when working in groups of two or three.

Caution: Be safe. Don't try to take samples in fast or deep water or in streams where fish are actively spawning. Walking on redds or nests can kill fish eggs. Stay out of streams that are known to be contaminated with chemicals.

One person holds the net in the stream while a second person stands just upstream and stirs the substrate (stream bottom material) by kicking or using your hands to dislodge 'bugs' from under rocks. Larger rocks can be picked up and gently rubbed to remove insects that attach themselves to the rock. Allow the sample material to drift into the collecting net. Do this carefully so the insects are not crushed. Beware of broken glass and metal that could be hidden underwater.

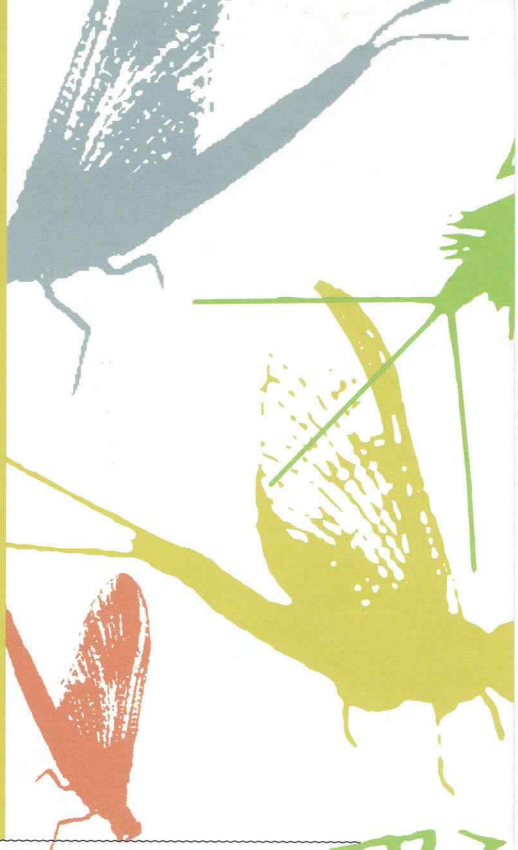
Remove the net from the water with a forward sweeping motion. Be careful that insects and debris are not washed out of the net.

Place the material you have collected in a light-colored container. The collection will probably contain algae, small sticks, gravel and macroinvertebrates. Watch carefully, you will soon see macroinvertebrates crawling on the bottom of the container!

Using forceps, eyedropper and/or a small paintbrush, sort critters into different compartments of an ice cube tray. Place the insects into groups according to their anatomy and their feeding group (*See below left*).

Material for this article adopted from: *The Stream Scene: Watersheds, Wildlife, and People.* The Stream Scene is partially funded by the 1984 Wallop-Breaux Amendment to the Federal Aid in Sport Fish Restoration Act of 1950. Funds are derived from a 10 percent tax on fishing and boating equipment and supplies. Funds are distributed to state fish and wildlife agencies based on the number of fishing licenses sold in that state.

Aquatic Insect Guide adopted from: Bill Hastie, "What Wiggles in Winter Water," in *Oregon Wildlife* (December 1983), p.15.



INVERTEBRATES!

Once your macroinvertebrates have been sorted, spend time analyzing what you found.

Generally, streams that have a high diversity of macroinvertebrates are healthier than streams with a low diversity. Recognize that water quality and substrate play a major role in the taxa richness (or insect diversity) of a stream. Streams with high sediment loads or excessive nutrients (usually caused from fertilizers or septic tank leaks) will support certain macroinvertebrates like midges, black flies, aquatic worms, leeches and snails. These macroinvertebrates are considered pollution tolerant. That is, they can tolerate reduced water quality.

Other species, including the mayflies (order *Ephemeroptera*), stoneflies (order *Plecoptera*) and caddisflies (order Trichoptera) are more sensitive to pollutants. A high number and variety of these species, known as the EPT (named for *Ephemeroptera*, *Plecoptera*, and *Trichoptera*), indicates good water quality. If water pollution is a problem, the taxa richness of EPT species will be low or non-existent.

To vary this activity, sample different habitat types (riffles versus pools) in the same stream. Do different habitats support different macroinvertebrates? Or, try sampling macroinvertebrates in the same stream at different times of the year. Is the taxa richness in winter the same as summer? What happens to the macroinvertebrate population during fall months when leaves enter the system? Compare data from year to year. Changes in the macroinvertebrate population can reveal subtle changes in water quality. If your sampling reveals something alarming about environmental conditions, contact your local Oregon Department of Fish and Wildlife biologist with the details.

Collecting, sorting and analyzing macroinvertebrates is great fun and can provide insight into how well we are managing our valuable water resources. When your sampling is complete, make sure to release your macroinvertebrates, unharmed, in the location where you found them.

MAY

5-6 Becoming an Outdoors-Woman (BOW) workshop*

Kayaking (beginner), Hiking (beg-adv) at Cove Palisades State Park

12 Becoming an Outdoors-Woman (BOW) workshop*

Fly Fishing (beginner) at Valley of the Rogue State Park

12 International Migratory Bird Day

15 Pronghorn antelope, bighorn sheep, deer, elk, Rocky Mt. goat deadline to purchase controlled hunt applications

18 Commission Meeting – Salem

19 Statewide Elk Hunt auction *Call Access & Habitat for information 503-872-5260*

26 Opening of main trout angling season in most streams *Refer to 2001 Oregon Sport Fishing Regulations for all fishing regulations and details.*

31 Close of 2001 Spring Turkey Season statewide

JUNE

2 Becoming an Outdoors-Woman (BOW) workshop*

Sporting Clays – Mitchell's in Woodburn

8-9 Commission Meeting – Portland

9-10 Becoming an Outdoors-Woman (BOW) workshop* At LaPine State Park

9-10 Oregon Free Fishing Weekend *Call ODFW for information – 503-872-5268.*

20 Pronghorn, bighorn sheep, deer, elk, Rocky Mt. goat tags and results available

23 Becoming an Outdoors-Woman (BOW) workshop* – Capture the Coast at Netarts Bay

JULY

1 Leftover controlled hunt tags are available beginning July 1 *Refer to page 15 of the 2001 Oregon Big Game Regulations for details, or call 503-872-5268*

1 Opening of "Youth First Time" Hunt application period *refer to 2001 Oregon Big Game Regulations for details*

7 Becoming an Outdoors-Woman (BOW) workshop* – Basic horsemanship and animal packing workshop in cooperation with Willamette Mission State Park

20 Commission Meeting – LaGrande

21 Becoming an Outdoors-Woman (BOW) workshop* – Multi-activity workshop in cooperation with Collier State Park

AUGUST

1 Opening General Black Bear Season *Refer to 2001 Oregon Big Game Regulations for details*

1 Opening second half of the split General Cougar Season *Refer to 2001 Oregon Big Game Regulations for details*

4 Becoming an Outdoors-Woman (BOW) workshop* – Sauvie Island Wildlife Area

10 Commission Meeting – Portland

24 Tag sale deadline for deer bow and elk bow general season tags

25 Opening General Deer Bow and General Elk Bow seasons *Refer to 2001 Oregon Big Game Regulations for details*

25 Becoming an Outdoors-Woman (BOW) workshop* – Malheur Field Station

**For more information about Becoming an Outdoors-Woman (BOW) workshops, Call 503-872-5264 ext. 5358, or FAX 503-872-5700, or check ODFW's web site at www.dfw.state.or.us*

For general information on seasons, regulations, and events call 503-872-5268 or check ODFW's web site at www.dfw.state.or.us

WILDLIFE VIEWING OPPORTUNITIES

SPRING IS HERE and the wildlife action is heating up. Here is a sampling of sites with sights

Portland/Willamette Valley

- See a variety of songbirds, pileated woodpeckers, great blue herons, green-backed herons and waterfowl at **OAKS BOTTOM WILDLIFE REFUGE** in Portland.
- **SAUVIE ISLAND WILDLIFE AREA** near Portland has a wide range of viewing opportunities in the spring – songbirds, sandhill cranes, great blue herons and waterfowl.
- Look for **BALD EAGLES, OSPREYS, PURPLE MARTINS AND YELLOW-HEADED BLACKBIRDS** at Fern Ridge Reservoir near Eugene.
- Look for red-tailed and rough-legged hawks on fence posts and utility towers along I-5. Other birds of prey are widely scattered throughout the Willamette Valley.

Coast

- **ELK CALVES** can be seen at Jewell Meadows Wildlife Area in mid-June.
- July is a good month to see **CALIFORNIA SEA LIONS** on offshore rocks at Ecola State Park near Cannon Beach.
- See **TUFTED PUFFINS** on Haystack Rock near Cannon Beach through September.
- Look for killer whales in early summer at Cape Arago, Sunset Bay and Shore Acres State Parks and at Yaquina Bar and South Jetty.
- **BROWN PELICANS** can be seen throughout the summer at places like Siletz Bay Park, Boiler Bay State Wayside, Yaquina Head and Bandon Offshore Rocks.

Southwest

- **LITHIA PARK** in Ashland hosts wood ducks, mallards, grey squirrels and turtles.
- Visit Oregon caves National Monument to look for bats and Pacific giant salamanders, among other things

Central

- **WARBLERS, WESTERN TANAGERS, FLYCATCHERS AND PYGMY NUTHATCHES** can be seen at the Head of the Metolius River through July.
- Great views of **OSPREYS** all summer at Crane Prairie Reservoir.
- Davis Lake is the place for courtship and nesting of **WESTERN GREBES** through July. It's also an excellent place to watch forest birds such as red crossbills, pygmy nuthatches, western tanagers, and white-headed woodpeckers.
- Look for **MOUNTAIN BLUEBIRDS** at Rimrock Springs Wildlife Area 10 miles south of Madras.

Northeast

- Good opportunities for viewing **BALD EAGLES** along Brownlee and Oxbow reservoirs, the Snake River and the Wallowa River Canyon between Minam and Wallowa.
- Listen for marsh wrens and snipe in the early summer months at **ENTERPRISE WILDLIFE AREA** two miles west of Enterprise off Highway 82.
- **ROCKY MOUNTAIN ELK, BIGHORN SHEEP AND MULE DEER** can be watched and photographed in ODFW's Wenaha and Elkhorn (esp. the North Powder and Auburn units) wildlife areas until warmer weather comes.

Southeast

- Southeast Oregon can be spectacular for birds during late winter-early spring migration (March-May). Try Summer Lake Wildlife Area, Malheur National Wildlife Refuge and the Harney Basin for **MIGRANT WATERBIRDS**. Bald eagles are attracted to these large concentrations as well.
- In June and July, Summer Lake Wildlife Area hosts a wide variety of **WATERBIRDS, RAPTORS, UPLAND GAMEBIRDS AND SONGBIRDS**.
- The Summer Lake Wildlife Area **WILDLIFE VIEWING LOOP** is now open to motor vehicle traffic and will remain that way through early fall.
- The brine shrimp population of Abert Lake attracts **EARED GREBES, SNOWY PLOVERS, RUDDY DUCKS**, and other shorebirds in mid-to-late summer.

TIP OF THE HAT

In July 2000, Oregon State Police Fish and Wildlife Division Bend Trooper Kirk Meyer investigated seven breasted sage grouse carcasses dumped in a remote canyon east of Bend. He located a cash receipt for shotgun, .22 caliber shells and two empty shotgun shell boxes near the carcasses, which led him to a local sporting goods outlet. The sporting goods sales person recalled the transaction of two men, obviously together, buying the ammunition a couple of minutes apart. Meyer watched the videotape of the purchases, and determined one of the purchases was made by a Visa credit card. Meyer obtained a copy of the Visa receipt, and the name and address of one of the men. He contacted the man at his residence, and he told Meyer that he was hunting rabbits with his brother east of Bend on July 2, 2000. Meyer asked for permission to search the freezer, which the man denied. Meyer located the man's brother in the computer system, and contacted the brother's residence. Meyer contacted the brother's wife, who told Meyer about seven sage grouse, which the brothers shared. She gave Meyer the four sage grouse breasts out of her freezer. Meyer observed her answering machine was flashing, indicating a message was waiting, and told her the message was most likely from her husband's brother. She played the message which stated the state police are on their way, get the birds out of the house, destroy this tape after you listen to it and get out of there. The man originally contacted by Meyer subsequently brought the breasts of the other three sage grouse breast to him. Meyer cited one brother on four misdemeanor counts and the other brother on three misdemeanor counts of taking game birds closed season.

Judge Edward Perkins of the Deschutes County Circuit Court sentenced one of the suspects to 12 months probation, 25 days in jail, a two-year hunting license suspension, $100 in restitution, and $100 in fines and fees. Judge Alta Brady of the Deschutes County Circuit Court sentenced the second suspect to 12 months probation, 25 days in jail, a two-year hunting license suspension, $175 in restitution, and $350 in fines and fees.