

A black and white photograph of a serene landscape. In the foreground, a rocky shoreline with sparse vegetation and a large, weathered log is visible. A large, dark evergreen tree dominates the left side of the frame. The middle ground features a calm lake reflecting the sky. In the background, a range of mountains is visible, with the central peak being particularly prominent and covered in snow. The sky is filled with dramatic, textured clouds.

# OREGON WILDLIFE

NOVEMBER 1976

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OREGON FISH AND WILDLIFE COMMISSION  
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RON E. SHAY, Editor

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## The Cover

Diamond Lake — A grazing range for fish.

Photo by Harold Smith

## HUNTER EDUCATION PROGRAM

### INSTRUCTORS APPROVED

Month of September ..... 52  
Total Active ..... 1,599

### STUDENTS TRAINED

Month of September ..... 2,444  
Total to Date ..... 235,236

### HUNTING CASUALTIES REPORTED IN 1976

Fatal ..... 2  
Nonfatal ..... 21

# Viewpoint—

**Editor's Note:** On September 25 the American Indian Policy Review Commission held a hearing in Portland. At that hearing, Fish and Wildlife Commission Chairman Jack Steiwer presented a statement for Governor Straub. The statement clarified the state stand concerning Indian hunting and fishing rights; therefore we are printing it here for the benefit of our readers.

The subject of Indian hunting and fishing rights is one which is causing an increasing number of problems for the State of Oregon, and we welcome the opportunity to discuss these issues here today.

Oregon certainly supports the legitimate aspirations of Indian tribes, and is anxious to accommodate them. We recognize that federal court decisions have held that certain Indian tribes have federally-protected treaty rights to hunt and fish, and we are sympathetic to the desires of Indian tribes to adhere to their traditional values. However, we also recognize our responsibility to conserve our economic and natural resources, and to enable our non-Indian citizens to have an opportunity to share in Oregon's fish and wildlife resource, and we hope that you will not be unsympathetic to this concern.

While the federal government has to some extent recognized its obligation to provide mitigation funds for dam losses, it has generally ignored its responsibility to share in the costs that result when a State's natural resources are delegated, by federal court decision, to Indian tribes claiming federally protected treaty rights. This is particularly unfortunate in light of the fact that most state financed fish and wildlife programs are paid for out of the license fees of non-Indian citizens and state taxes.

Oregon has only two federally recognized Indian tribes living on reservations established by federal treaty. These tribes are the Warm Springs and the Umatillas, which are sometimes referred to as the Columbia River Treaty Tribes. The State does not attempt to regulate hunting and fishing within the boundaries of their reservations.

Although regulation of the off-reservation commercial fishing rights of these Columbia River treaty tribes has been the subject of considerable litigation in recent years, we are hopeful that these matters will be resolved in the near future, so that both the states and the Columbia River treaty tribes will be able to concentrate their efforts on augmenting the resource rather than the court record. Because this matter is now before the federal court, we do not wish to testify further on it at this time.

What we do want to discuss with you here today is the fairly recent and increasingly complicated question of the State's jurisdiction to regulate hunting and fishing by terminated tribes. We view the hunting and fishing rights issue as merely one manifestation of a mounting legal challenge by terminated Indian tribes to our State's jurisdiction over its resources and its citizenry, and although our discussion today will focus on hunting and fishing, we are also concerned with the precedent for other areas of State jurisdiction which are foreshadowed by this issue.

You no doubt recall that in 1954 Congress adopted a policy of terminating federal supervision and guardianship over many Indian tribes. The idea was to put these Indian people on an equal footing with non-Indians, and to speed their assimilation into the general citizenry. In Oregon, the terminated tribes are the Klamath, Confederated Tribes of the Grande Ronde Community, and Confederated Tribes of Siletz Indians, and about 60 individual tribes.

A recent decision of a federal court, *Kimball v. Callahan*, holds that the Klamath Indians still have, by treaty, an exclusive right to hunt and fish on

(Continued on back page)

## Commission To Meet

The Fish and Wildlife Commission will hold a regular business meeting at the Portland headquarters office, SW 17th and Alder, on November 19. The meeting is scheduled to start at 9:00 a.m.



# Diamond Lake Range Management

by *Jerry A. Bauer*  
District Fishery Biologist, Roseburg



**Range rehabilitation at Diamond Lake. Because of a high population of undesirable fish in the lake, it was treated with rotenone in 1954. The powdered root of the Derris plant kills all fish life. After a "cooling off" period, the lake was stocked with rainbow trout.**

**A small portion of the fish killed when Diamond Lake was chemically treated. About 100 trout were killed, but an estimated 400 tons of roach were eliminated. These "rough" fish were utilizing the food producing capabilities of the lake to the detriment of the trout.**



Diamond Lake, located near the Cascade crest about 80 miles east of Roseburg, is one of Oregon's most popular and most productive trout lakes. Anglers utilizing the lake come from throughout Oregon, most of the other states of the Union, and from several foreign countries. Peak angling pressure was in 1970, when 344,000 rainbow weighing over 384,000 pounds were taken in 117,000 angler trips. Though pressure and catch vary from year to year, Diamond Lake annually supports a very high level of angler use and catch. This demand necessitates management for maximum sustained fish production.

Production of a crop of fish is similar to production of livestock on range land in the relationship of population, size and range productivity. Just as range may support a maximum number of animals year after year and keep producing forage, so a lake can be made to produce a sustained high yield of fish. However, the ability of that same range to grow cattle can be severely reduced, sometimes for a considerable period, if prolonged overgrazing is allowed. Again, the same relationship holds with fish populations in lakes.

In the case of our Diamond Lake trout fishery, the number of fish stocked annually is the factor over which the fishery biologist has control. He manipulates the stocking rate to keep as many "head" of fish in the lake as can be supported by the "range," that is, the food organisms of the lake bottom. In Diamond Lake natural reproduction by the trout population is of little consequence due to a lack of suitable spawning conditions, so hatchery-reared fingerlings represent nearly the total recruitment of young fish.

Another obvious factor in the



Using a clamshell sampling device to check the condition of the bottom of Diamond Lake. Upon hitting the bottom, the semi-circular halves close together, taking a known quantity of the bottom material.



Sorting through the materials taken from the bottom. First the mud and silt is washed away, then the various insects and other materials are examined and classified.

management of the "range" that must be considered by the biologist is the angler catch, the number of fish taken from the lake in a season. The angler's catch is composed almost entirely of fish which have been in the lake from a few months to about three years. The biologist has little actual influence over the total catch or its age composition, except under extreme circumstances; however, he does carefully monitor angler success. Information on total catch, size composition through the season, and growth rates give insight into the "health" of the fish population. To keep the population at a desired level, fish taken from the lake must be replaced by new fingerlings.

The balance between mortality (fish removed, mainly through angling) and stocking is easy to see. The level at which that balance occurs is the critical problem; the answer is tied to the lake's ability to produce the necessary fish food, just as in the range example. If too few fish are present, lake productivity is not utilized to its full advantage. With too many fish, growth is slow, average fish size in the catch is smaller, and the ability

of the lake to produce food is damaged. Prolonged "overgrazing" leads to poor fishing both from the standpoint of size and numbers.

Bottom samples are taken in Diamond Lake each fall with a Petersen dredge, a clamshell device which when dropped to the bottom of the lake "grabs" a sample of the lake floor. The lake bottom is divided into separate sampling areas according to predominant bottom type: vegetation, sand, rock, and "muck." In each area, sufficient samples are taken to accurately characterize the population of trout food organisms resident there. After collection comes the tedious job of washing the samples over fine screens to discard the sediments and detritus, retaining the small animals which are the diet of Diamond Lake rainbow. Once exposed by washing, the organisms are classified, counted, and weighed by type of animal. From these data, food production by each major animal group (leeches, snails, shrimps, various insect classes), by bottom type, and by acre of bottom for the whole lake can be calculated. The pound-per-acre figure denoting bot-

tom food productivity is an index value used to evaluate the effects of annual management programs on the lake and to make comparisons among years.

The following chronology of Diamond Lake management will help illustrate the sensitivity of food production as an indicator of a healthy level of fish production.

The first trout in Diamond Lake were stocked in 1910 or 1913, by the Forest Service, using fish provided by a predecessor of the Department of Fish and Wildlife. By the 1920s, six to eight pound fish were "common," and ranged to a recorded maximum of 27.5 pounds. Compared to today's fishery, however, production was still low.

In the early 1930s the tui chub (roach), a "trash fish" which is highly competitive with trout, was introduced by thoughtless anglers and it flourished. By the late 1940s and early 1950s the roach had become a serious source of competition, and demand on the lake to produce food was severe. In 1947 the trout catch averaged 15.4 pounds per acre and the bottom food index was 292 pounds per



acre. By 1952 a rapidly expanding roach population had driven the trout catch down to 0.8 pounds per acre and bottom food organisms to 2.3 pounds per acre. Obviously, the situation was intolerable, and in 1954, the lake was chemically treated to remove all fish. A kill of not more than 100 trout, and an estimated 400 tons of roach was effected.

The lake was restocked with kamloop, a Canadian race of rainbow. Bottom food production quickly rose, reaching 92.8 pounds per acre in 1955 and 170.0 pounds per acre in 1960. However, trout production was only in the range of 13 to 21 pounds per acre, well below the level which the high food levels should be able to support. Kamloop stocking was discontinued, and from 1962-65 two races of Oregon hatchery rainbow were stocked at the rate of 500,000 fingerlings per year. Trout production responded immediately, with 118.3 pounds of fish per acre being harvested in 1964. However, bottom food production began a rapid decline, from 137 pounds per acre in 1962 to 62 pounds per acre in 1965. The stocking rate was reduced to 400,000 fingerlings per year in an effort to halt the declining food supply and was maintained at this level from 1966 to 1972. The bottom food index during this period ranged in the area of 70 to 85 pounds per acre while the range for pounds of trout harvested was 58 to 99 pounds per acre.

In 1972, the stocking rate was again diminished to 300,000 fingerlings annually. Again, an immediate response was observed. Food production began a sharp rise which reached 182.6 pounds per acre in 1974 and trout production rose to 100 pounds per acre. The average angler-caught rainbow weighed 1.04 pounds.

Food production is clearly a significant and sensitive indicator of our success as fishery managers. Production does not, however, have a constant base level which would be achieved if no fish were present. There are intrinsic annual fluctuations, and in general an apparent upward trend in habitat. The vegetated area of the lake floor appears to be expanding, providing more "living area" for the small animals which produce the trout feed, and promising that the Diamond Lake fishery will continue to prosper.

## Wildlife Federation Quits KAB

The National Wildlife Federation, the country's largest conservation education group, has severed its connections with Keep America Beautiful, Inc. in a sharp disagreement over how to deal with the nation's litter problem.

Thomas L. Kimball, executive vice president of the 3.5 million member NWF, announced his group's withdrawal from the National Advisory Council of KAB, a nonprofit corporation established in 1953 by companies in the container and packaging industry to "Stop Littering".

Kimball emphasized that NWF, with affiliates in all 50 states, still opposes littering, but had a "basic disagreement" with KAB over how the litter problem should be attacked.

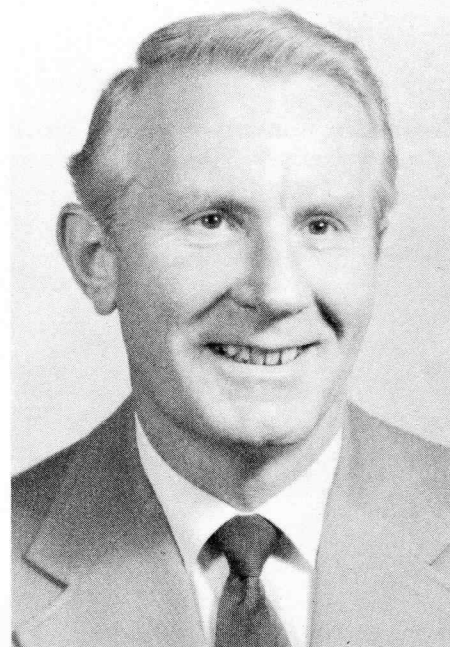
"We think the best approach is to cut down on the source of litter — the millions of throwaway containers that are produced each year," Kimball said. "The container manufacturers and most KAB officials, on the other hand, put their emphasis on persuading people to stop littering. We feel that they are attacking the symptoms rather than the cause of the litter problem and that this confuses the public about what really needs to be done."

## Illegal Gillnetting Costly

Two men who were caught illegally gillnetting salmon in the Siletz River should hesitate before trying it again, thanks to the sentences imposed by District Judge A. R. McMullen at Newport. The men had taken five salmon using a gillnet at night when they were arrested by Corporal Dave Carver and Trooper Jim Hatch of the Oregon State Police.

Judge McMullen imposed the following sentence: fine of \$260 each, 180-day jail sentence with 150 days suspended, 2 years probation, and suspension of their rights to angle, commercial fish, or hunt for the remainder of 1976 and all of 1977. In addition, the court confiscated their boat, 54-foot monofilament gillnet, flashlight, and the five fish they had taken.

## IN MEMORIAM



Donald "Jake" Jacobson, 22-year veteran with the Department, was killed September 22. He was aboard a chartered airplane which crashed into a wooded hillside in British Columbia. Two other Department employees were also in the plane but escaped death. The three were taking part in an annual meeting and field trip held by fish and wildlife engineers from the western states and British Columbia. This year the meeting was sponsored by the Canadian Fisheries Service.

Don was a native of Portland and graduated from Washington High School and the University of Oregon. Don's work in the Engineering Section was widely varied; however, his background in architecture was regularly utilized when he worked on designing various buildings for the Department. In addition to being a skilled draftsman, Don also produced some fine portraits and other types of art work in pastels. One of Don's design works seen by many persons each year is the Department's State Fair exhibit.

Don was an expert rifle shot and a member of the Portland Rifle and Pistol Club, the Trails Club of Oregon, and the Oregon Society of Artists. Don's personality and talent will be missed. □

# OREGON'S GRAY SQUIRRELS

By Greg Hattan  
Wildlife Biologist, Salem

Eastern Gray Squirrels — Photos by Ken Durbin



Oregon has two kinds of gray squirrels. One, the western gray squirrel, is native to our state. The other, the eastern gray, was transplanted from Pennsylvania.

Our western gray, or silver gray as it is often called, is a little larger. We may be somewhat prejudiced, but the western gray is the more handsome of the two. Its silver-tipped, steel gray hair is rather striking, particularly on a bright spring morning.

Gray squirrels are classed as game mammals in Oregon. However, they are hunted far less than any other game species. In some eastern states they are the number one game animal. Probably, in a year's time, more people get enjoyment from seeing the 100 or so eastern gray squirrels on and around the State Capitol than hunt western grays in the remainder of the state. Deer hunters tend to look down their noses at squirrel hunters much the same way steelhead fishermen look at bass fishermen. Meanwhile the squirrel hunter goes on enjoying his uncrowded sport just as the bass angler enjoys his.

Western gray squirrels inhabit hardwood or mixed hardwood - conifer woodlands. Their range in Oregon extends the length of the state between the coast and Cascade Mountains and on the lower east slope of the Cascades. Numbers are highest in the Roseburg - Medford areas, Wasco County, and the Willamette Valley.

The eastern gray squirrel is a foreigner to Oregon. It has been reported that approximately 55 years ago Governor Olcott visited the Capitol of Pennsylvania. There he observed gray squirrels in the park and was so fascinated by them that he arranged to have 48 shipped to Oregon's Capitol grounds. Only about 20 squirrels survived the trip but those have done quite well. In addition to those living at the Capitol, many other squirrels have scattered throughout Salem. They have also become established in parks as a



result of transplants. Indiscriminate transplanting is not desirable, however, since squirrels may become a problem in the wrong places.

Man's "progress" is probably as big a threat to the survival of gray squirrels as it is to any other species. Low elevation land, where silver grays live, is largely in private ownership. Oak and other hardwoods located there are being cut at an increasing rate. If the land is replanted to trees, it is with fir, because of its more valuable fiber. Herein lies the problem. Old growth hardwood provides not only the primary food source but also the denning or nesting sites for the squirrels. A cavity in the trunk of a tree created by a rotted out limb is the most common place chosen to escape inclement weather and to bear young. Only in mature trees do these conditions exist.

In addition to the use of tree cavities, the tree climbers also construct nests of leaves and small twigs on limbs. It is not clear what role these leaf nests play. However, they are probably used only as resting places during warm weather or they

may be used as bachelor quarters. After the young are born the male is no longer welcome in the den. Other dens already being occupied, the next best thing is the leaf nest.

Food, water, and shelter are required by all animals and gray squirrels are no exception. Generally, a shortage of one or the other will determine the number of squirrels in a particular area.

Food consists of mast from many varieties of trees and shrubs. Oak, myrtle, maple and pine produce the more important nuts in their diet. Other heavily utilized foods include some types of fungi and green leafage. Walnuts and filberts are among the silver gray's favorites and any landowner that has trees in squirrel country no doubt has competition harvesting his crop.

Management for gray squirrels is similar to that for song birds — providing den boxes and feeding in the winter. If water is lacking in the summer, this also must be provided. Individuals who wish to undertake a management program of their own can do so by providing the lacking

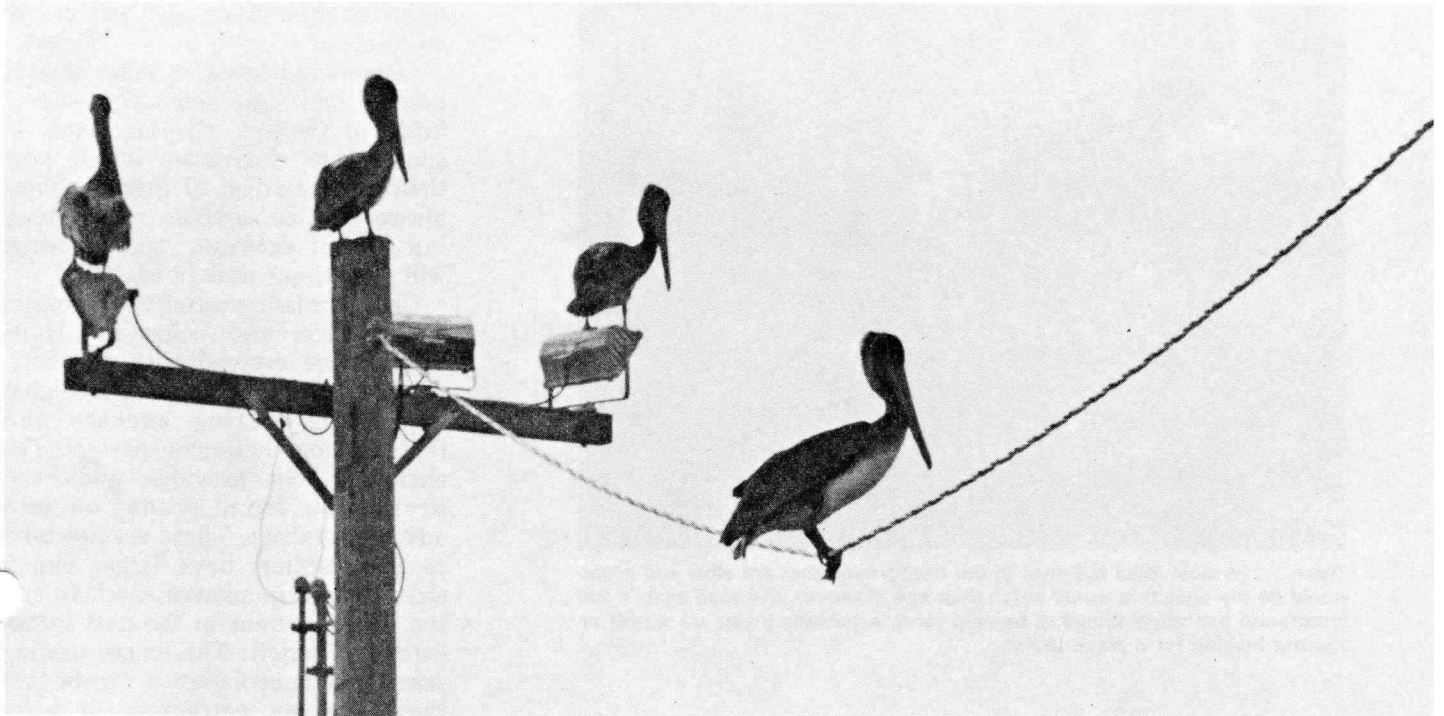
elements needed by the squirrels. However, it should be realized that gray squirrels do not tolerate each other in crowded conditions, and populations do not become dense. Two or three dens per acre are adequate. If den sites are not available, boxes can be provided to take the place of tree cavities. Plans for den boxes are available from the Department of Fish and Wildlife.

Large "die-offs" sometimes occur during the winter following a mast failure. Winter feeding can partially offset some of the loss that would occur. A basket constructed from wood and chicken wire hung on a tree and filled with corn (on the cob) or "cull" walnuts makes a satisfactory feeder. Feeding must be continued throughout the winter to insure survival.

Gray squirrels do not hibernate although they may stay inside for several days during stormy weather; nor are they very active until it warms up a bit in the morning. So you see here is one animal you do not have to suffer hardships in order to see. Any nice warm day will do. □

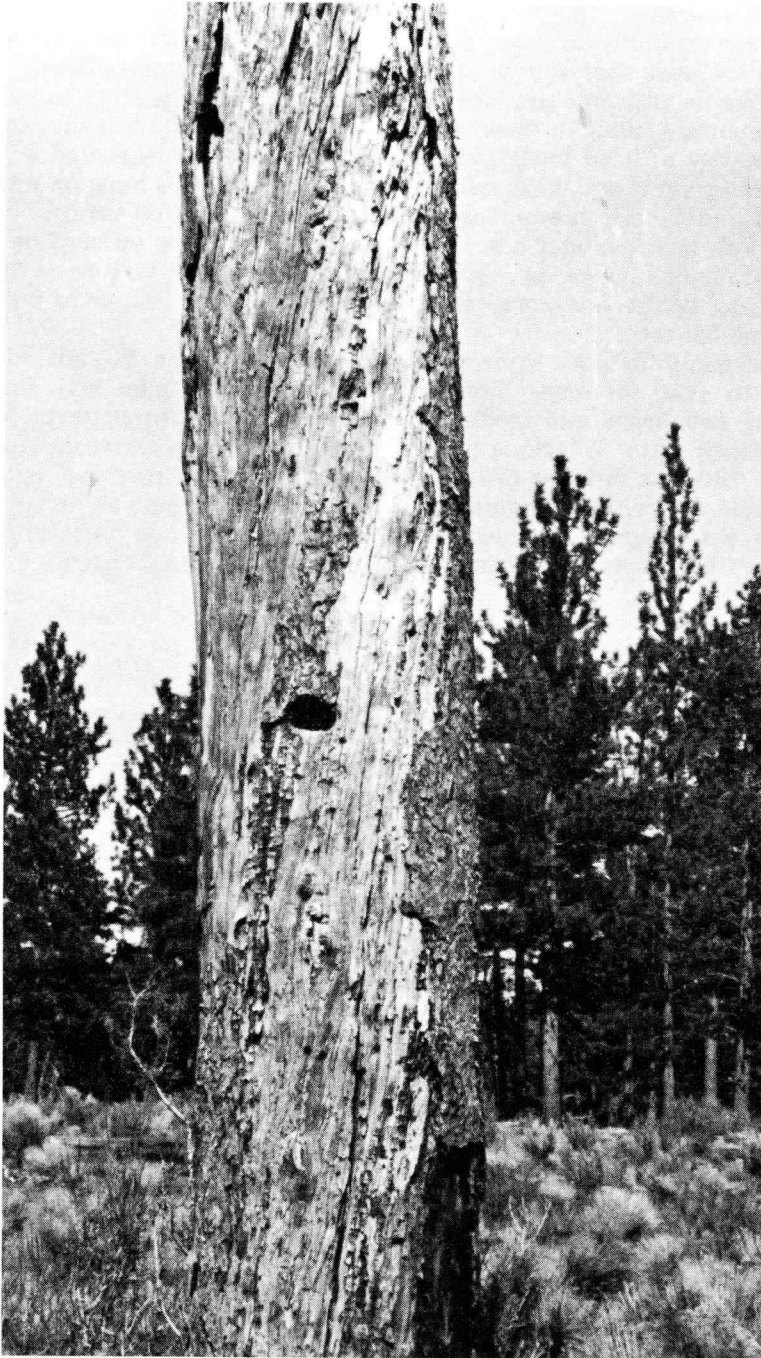
**WHAT A WONDERFUL BIRD THE PELICAN!** Photographer Jim Gladson captured this bit of unusual bird behavior on a recent trip to the coast. Apparently the brown pelican on the wire was made unwelcome on the post by the bird on the left. However, determined not to be a

complete outcast, the persistent pelican circled a few times, carefully let down its landing gear and managed to make a successful two point landing on the wire.



# A Snag In The System

by *Larry R. Bright*  
Wildlife Biologist, Prineville



Trees . . . to most folks the ones in the background that are alive and green would be the ones that would catch their eye. However, the dead snag in the foreground has many things to be said for it, especially if you are a bird or squirrel looking for a place to live.

Eco-systems are filled with many unusual wildlife activities and living conditions. One of the most unique of forest habitats is the wildlife snag. Often seen, it is also often overlooked for its value as wildlife habitat and importance to the overall forest eco-system. Snags support an abundance of wildlife forms and are essential to the survival of several species. A long and varied list from bees to bears benefit from snags.

A snag is a dead or dying tree which remains standing and eventually goes through a process of decay brought about by fungi. Complete decomposition will inevitably reduce it to a rotted out stump. It is during this process, which may take 30 years or more, depending upon the tree species, size, climate etc., that a snag provides habitat requirements for various wildlife species.

Snags are commonly classified as either hard or soft. The hard category usually includes tall, large, dead or dying trees with many branches still remaining. Soft snags are in a more advanced stage of decay, the top has usually broken off, and limbs are either gone or have been reduced to stubs.

Surveys indicate that snags provide nesting habitat for about 43 species of birds in Oregon. Of this total, 14 species are excavators which bore their own cavities; 20 species almost always utilize cavities for nesting, but do not excavate; and 9 species will sometimes nest in cavities.

Cavity or hole-nesting birds possess physiological and behavioral traits which have evolved with the hole-nesting habit. They enjoy a higher degree of nesting success and reproduction than open nesters. The enclosed hole provides additional protection from predation and adverse weather. These species tend to nest earlier, have larger clutch sizes, longer incubation periods as the young remain in the nest for an extended period. The longer nesting season is one explanation for the fact that a higher percentage of hole-



nesters are resident rather than migratory as compared to open nesters. The female is able to care for the young and eggs in relative safety, a fact which is believed to be the reason for polygamy (one male mating with several females) being common among hole-nesters.

Hole-nesters can be grouped into two classifications; primary and secondary hole-nesters. The primary class includes species which generally excavate their own nest cavity, do not construct a secondary nest or line the inside of the hole, lay eggs without camouflage coloring in a cup-shaped floor, and hatch young without natal down. Woodpeckers and sapsuckers comprise the majority of this primary hole-nesting group.

Secondary hole-nesters are those species that usually nest in cavities, but generally are not excavators. They use naturally constructed holes and holes previously constructed by excavators as well as cracks in tree trunks and bark. Secondary hole-nesters have some habits resembling those of open-nesters; however they usually construct a second nest inside the cavity, lay camouflage-colored eggs, and hatch young with natal down. The main groups include chickadees, bluebirds, starlings, and some creepers, wrens, flycatchers, and swallows. Waterfowl that utilize cavities include the hooded merganser, goldeneye, bufflehead, and wood duck.

The greatest numbers of hole-nesting birds are included in the secondary group and are largely dependent upon the smaller group, the excavators, for nesting cavities. The density of non-excavators depends on the density of excavators and the ratio between the two remains fairly constant in a particular habitat.

The scarcity of natural or previously excavated holes or suitable snags in which to excavate them is recognized as a major limiting factor to population levels of hole-nesters.

Each hole-nester has somewhat different nesting requirements. The diameter of the snag is important, usually depending upon the size of the bird and size of cavity needed. Each species tends to nest at a certain height above the ground. Some excavators utilize snags depending upon softness and ease of excavating,



some being better equipped than others for excavating in a hard snag.

Most hole-nesting birds feed on insects of which there are numerous species found throughout Oregon forests. Insects are often the cause for a tree to die and become a snag and along with other events such as lightning and disease, provide snags for hole-nesters as well as provide food. Insects are fed upon during all stages of life by different bird species. The excavator species, for instance, can remove larvae from tree trunks while the non-excavators feed more on the crawling and flying stages of an insect's development.

Foliage-free snags provide excellent perching or hunting sites for birds of prey such as hawks and eagles. Perched high above the ground, an avian predator has an unobstructed view to aid in the search of his next meal. Some birds of prey depend upon snags for perching and their distribution can be influenced by snags.

Many bird species use snags for roosting or resting. The wild turkey is an example of a bird that will repeatedly roost at night in the same tree for safety from ground predators. Many birds and small mammals utilize cavities for cover from weather and predation. The protective qualities of a cavity are another reason that a relatively high proportion of hole-nesters are residents throughout the winter as compared to the open nesters. The cavities serve as a year around home.

Small mammals that hibernate will use hollow snags. Cavities are also

good storage places for the winter food supplies. Honey bees will use hollow snags for hive locations and honey storage which may provide a meal for a hungry bear. Prey species that live in snags sometimes become meals for predators.

Nineteen mammal species are known to nest in cavities. Included are 8 bats, 4 squirrels, 3 mice and the raccoon, marten, fisher and bushy tail woodrat. They also profit from the protection provided by snag cavities from predation and weather.

Population levels of snag users, especially those that require them for nesting, are dependent upon the numbers of snags present throughout the forest. A cross-section of snag types is needed because different degrees of softness, diameter, height, tree species and surrounding habitat types are required by individual wildlife species.

Snags are created naturally by lightning, disease, insects, fire and a combination of these and other factors. Snags cannot exist in adequate numbers and variety if suitable live trees are not present to become future snags.

Present timber management practices adversely affect snag-dependent wildlife populations through removal of present snags and live trees that would provide suitable future snags. Commercially valuable timber resources are being used to meet the nation's demand for wood fiber, to stimulate the economy and for foreign export. Intensive timber management directed at meeting such demands could jeopardize the snag habitat in Oregon's forests.

Standing snags are removed because of lightning and fire hazards, public safety and commercial value to the fiber industry.

Older-age trees that would eventually become future snags are being removed for their commercial value, to remove competition to younger trees, and to help control insect outbreaks. Fewer large and old trees are present because of the economics in harvesting younger, even-aged tree stands.

Snag management and conservation practices must be implemented in the field through cooperation between timber and wildlife managers to assure a future supply of this most important habitat type. □

# Counting The Elusive Ones

By Bob Jubber  
District Wildlife Biologist,  
Eugene

To many wildlife managers some of the most exciting and memorable hours of their careers were experienced while conducting deer inventory. Whether on foot in the Rogue Unit observing the large prairies which winter migratory blacktails or driving a spotlight route in the logged hills of the McKenzie Unit, the sight of large numbers of blacktail deer is a rewarding experience.

"How do you count black-tailed deer anyway?" This is a common question often posed to the wildlife manager. To the professional this seems rather elementary, but to many people who may see only an occasional deer here and there throughout the year, this familiar question is usually asked in all seriousness and quite often with a tinge of skepticism.

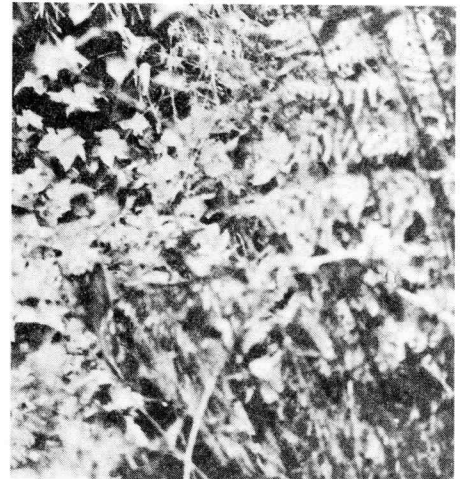
Deer inventory in western Oregon in the 1940s and 1950s was conducted primarily on foot with a limited amount done on horseback. Routes of travel were established, length of routes determined, and census taken at a similar time and in the same manner each year. A trend index in deer numbers was recorded as the average number of deer seen per mile traveled. This index could then be compared with previous years to establish a population trend. Most census was conducted in the summer time when access was good. A distinct disadvantage of this method was the fact that deer were normally scattered on the summer range where dense cover hampered visibility to some extent. Another disadvantage was that of not having complete, current deer data available for consideration by the Commission when setting hunting regulations. Prior to 1959, seasons were established by the Commission in July of each year. In order to provide information to the public at an earlier date and to utilize current big game data, hearings were changed to the latter part of May. This change brought about a need for winter-



A convenient way for a deer to appear if he is to be counted, however. . .

spring deer census. The year 1956 may be the landmark in black-tailed deer census techniques since it was that year that a progressive wildlife biologist initiated the pioneering of the spotlight census method. The Cooperative Wildlife Research Unit followed with some experimental spotlight census projects. The technique was found to be a booming success at the outset. With spotlights at night, under suitable weather conditions, it was possible to cover 20 to 30 miles or more in one night and count hundreds of blacktail deer. To maintain statistical accuracy and continuity of data, spotlight inventory information was not phased into the annual game statistics until 1961. Since that time, most game districts have switched almost entirely to the spotlight census routes using 200,000 candlepower lights. This technique has a distinct advantage over other methods in time and area covered. This past year, 2,591 miles of routes were traveled and 7,604 deer were tallied on blacktail ranges in western Oregon.

Following hunting season each year, wildlife managers again inventory the deer ranges to determine the sex and age composition of the blacktail herd. The census period



in many cases in western Oregon deer are apt to appear more like the one in this photo.

starts the first of November and terminates in mid-January when bucks are starting to drop antlers. Here again, the spotlight method allows the field man to observe large numbers of deer and to classify groups as to does, fawns, and bucks by antler class. Percentage of bucks, does, and fawns are determined, which reveal the effect of hunting on bucks, balance between bucks and does, and some measure of fawn production. Last fall 4,390 black-tailed deer were classified.

Black-tailed deer inventory is still taken on foot in the daytime on ranges such as the Pokegama in southern Oregon where migratory blacktails concentrate on the prairies and meadows in less accessible country. A more pleasant task may not exist than that of walking a census route in high country and watching large herds of deer grazing on the green prairies, accompanied perhaps by the yodeling of a coyote.

Blacktail deer inventory has been an important management activity and, regardless of the future direction of wildlife management or changes in techniques, it seems certain that inventory of black-tailed deer will remain an important part of management in the future. □



# This and that

compiled by Ken Durbin

## Ammunition Recalled

The Winchester Group of Olin Corporation is recalling one day's production of .22 caliber long rifle ammunition following discovery that excessive pressure in some cartridges makes them potentially hazardous to shoot.

The recall is for ammunition sold under the brand name Wildcat and identified with code number LF62PY. The number is stamped on the inside tuck flap of each 50-round box and on the upper right corner of the end panel of 5,000-round cases. The ammunition being recalled was produced in late June 1976.

Anyone with such ammunition should return it to a dealer for replacement, the company said.

\*

## Fifteen Sheep Hunters Successful

Fifteen of Oregon's 22 bighorn sheep hunters were successful this fall bagging a ram. The last of five hunts ended Wednesday, September 29.

Both hunters with tags for the Owyhee hunt took rams during the five-day season for that area.

Two separate hunts were authorized on Steens Mountain with six tags allotted for each. Four hunters were successful in taking rams during each period. During the second hunt, Dan L. Erwert of Hillsboro took an eight-year-old ram that will probably be a new record head for Oregon.

Preliminary measurements indicated 167-4/8 points under the Boone and Crockett record scoring system. Under the rules, though, the horns must be allowed to season for six months before official measurements can be taken.

The new head would displace one scoring 162-4/8, the previous record taken in 1974 by John Boyer of Bellfountain, now a Fish and Wildlife Commission member.

Two hunts were also authorized on the Hart Mountain National Antelope Refuge with four tags in each period. Two rams were taken during the first hunt and three in the second.

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## Mini-Tornadoes Studied

Ever wondered how fast the wind is moving in the small whirlwinds or dust devils that are common during the summer in eastern Oregon and somewhat less so in western Oregon?

According to the Environmental Research Laboratories which is studying them because they resemble tornadoes, the horizontal flow of winds in dust devils is rather slow. The highest recorded using a laser beam wind sensor was 47 miles (79 kilometers) per hour. Certain vase-shaped dust devils had smaller and slower vortices within the main vortex.

Though dust devils and tornadoes are generated by different processes, once underway their characteristics and behavior may be similar and scientists hope, by studying the more numerous and accessible desert denizens, they can learn more about tornadoes.

*National Oceanic and Atmospheric Administration Magazine*

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## Wildlife Management Publication Available

The National Rifle Association has published a well written illustrated 22-page booklet entitled WILDLIFE MANAGEMENT PRINCIPLES - PRACTICES. The publication is an excellent source of basic information for the layman on the principles of managing wildlife and methods in use by the wildlife management agencies today.

The booklet discusses such management principles as carrying capacity, population dynamics, annual mortality, and the effects of hunting, and then goes on to discuss management practices including basic habitat management, artificial feeding, stocking, refuges, and predator control.

The booklets may be ordered from the National Rifle Association of America, 1600 Rhode Island Avenue NW, Washington, D. C. 20036, for 50 cents per copy. When ordered in bulks of 100 the price is \$20 per 100 copies.

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## New Bluegill Record Set

Oregon has a new record bluegill. It was caught in July from a farm pond near Prineville and tipped the scales to 2 pounds, 2 ounces. The chunky critter measured 13 inches in length and 13 inches in girth.

The new record was taken with a light fly rod on a nymph pattern attached to a 2-pound test tippet by Dudley Nelson, a State Police game officer from Prineville.

Nelson's fish bests by 2 ounces one taken in 1973 from Becker's Pond in Ontario by 10-year-old Jeff Davis. That fish was not weighed on a certified scales but the photograph which accompanied a short story in the Ontario Argus Observer showed an obviously overweight bluegill in the hands of a very proud youngster.

Prior to that, the record for Oregon was a 1-pound, 14-ounce bluegill taken at Tahkenitch Lake way back in 1938.

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## Oregon Wildlife Editor Honored

Editor Ron Shay has been named an honorary consultant to the Commission on Education of the International Union for Conservation of Nature and Natural Resources. The IUCN is a union of sovereign states, government agencies, and non-governmental organizations, joined together to promote the wise use of natural resources throughout the world. It works with a number of the United Nations agencies and very closely with the World Wildlife Fund. Shay is one of five individuals from the United States invited to work with the Commission along with other members from throughout the world.

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## Salem Audubon Films

Last month we mentioned the Audubon film series that was being shown in Portland. We were informed that the same films will be available for you readers in the Salem area also. On November 27, Walter Berlet will present "West Side Story, Mexico to Alaska"; on January 31, William Jahoda will give a program on Bermuda; and on March 12, Eben McMillan will show a film on Outback Australia. Programs are at Parrish Junior High School and tickets are available at Salem Meier & Frank or Stevens & Son Jewelers or at the door. Price \$1.50. □

# Horses Gathered

A total of 599 wild horses, gathered from overstocked national resource lands in Oregon have been placed with caretakers throughout the United States this year, according to Larry Lee who advises on wild horse management for BLM in the state.

Lee said 1,000 horses have been gathered since the project began two years ago. The object is to keep the horse herds in balance with forage, available water, and other wildlife and domestic livestock.

One of the more successful gatherings was completed last summer in the Morger's Allotment southwest of Vale in eastern Oregon's Malheur county. A total of 170 of the animals were gathered at a cost of \$90 each.

Water trapping was employed, a method where a water hole is fenced. A gate is left open and the horses are allowed free passage to the water source until they become accustomed to the installation. Then, the gate is closed by remote control when horses are within the enclosure, allowing an easy gathering.

A contractor is currently gathering horses on BLM's Prineville District at a cost of \$195 per head. BLM costs in conventional roundups have averaged \$200 to \$250 per head. The agency plans to gather 440 horses during the next year.

A new central holding facility is being completed near Burns where 100 horses awaited adoption at the end of September. BLM finds no problem in placing colts and younger horses, but older horses—particularly high spirited stallions—are in oversupply.

The Bureau trucks horses from gatherings throughout eastern Oregon to the central pickup point. Lee said the horses are much calmer at the new facility, located outside the city, than they were at the Harney County

their former reservation despite the fact that they sold their lands for several million dollars. The former Klamath Reservation of approximately 1.2 million acres at the time of termination includes the Klamath National Wildlife Refuge and some privately owned land, which, under the Court's decision, may now be used by the Klamaths for hunting and fishing.

The Klamath case has inspired other terminated tribes to claim that they have the right to unlimited hunting and fishing on federal lands, and even on lands owned privately or by the State. The Coos, Lower Umpqua and Siuslaw Indians have issued an "earth rights" declaration listing what they maintain are still valid treaties or agreements, and adopting their own hunting and fishing regulations. They claim these rights cover most of the land from Tenmile Creek (north of Florence) to Coos Bay, and inland to the Coast Range, as well as seaward for 12 miles. Similarly, the Upper Umpquas have issued a tribal wildlife management plan covering a similar area. All of these groups have announced their intention to disregard state hunting and fishing regulations.

These tribes, which were terminated at the same time as the Klamaths, in 1954, can be laying the basis for a suit in federal court to establish that their hunting and fishing rights survived termination, based on the Ninth Circuit's decision in *Kimball v. Callahan*. If successful, these rights will affect several hundred thousand acres rich in fish and wildlife, and much of which is privately owned. In addition, some of the other tribes which were terminated in 1954 may claim to have some remaining hunting and fishing rights on the original Coast Indian Reserve of 1.4 million acres, an area which covers a large portion of the remainder of the Oregon Coast and includes seven major salmon and steelhead producing rivers. Altogether, the former reservations of terminated Oregon tribes included slightly over six million acres and many of our coastal streams. Moreover, unlike the Columbia River, these coastal streams simply cannot support a commercial fishery by Indians or anyone else. Gillnets stretched from bank to bank can decimate an entire run of fish.

Obviously, we are headed for a serious confrontation which this commission could help avert by recommending necessary federal legislation to compensate the tribes for any valid rights which may have been taken from them. Any obligation owed to the Indian people is a national one and must be so recognized. It cannot be satisfied solely at the expense of state resources and the non-Indian citizens residing in the state. The creation of special rights for a small group has led to resentment by the rest of the citizenry.

I believe it is extremely important to future relations between the State of Oregon and its terminated Indians that legislation affecting this State does not become a vehicle for the limitation of State jurisdiction over hunting and fishing by terminated Indians. The State of Oregon hopes that this Commission recommends legislation which will further the legitimate aspirations of our Indian people while recognizing that any hunting and fishing rights which survive termination, must, in fairness to the resource and to the State's non-Indian citizens, survive in the form of a claim against the United States for compensation. □

Fairgrounds, the former holding facility.

Cowboys and both wild and domestic horses have been injured in chases across rugged terrain. The use of aircraft to herd the horses would be much more humane, Lee believes. □

