

OREGON WILDLIFE

JULY 1974

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RON E. SHAY, Editor
HAROLD C. SMITH, Staff Artist

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All correspondence should be sent to:
OREGON WILDLIFE COMMISSION
P.O. Box 3503
1634 SW Alder Street
Portland, Oregon 97208

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The Cover

Liquid chemicals for the control of undesirable fish species have made the process easier. For more details see feature article.

Photo by Ken Durbin

HUNTER EDUCATION PROGRAM

Instructors Approved

Month of May10
Total to Date 3,390

Students Trained

Month of May457
Total to Date 208,518

Firearms Hunting Casualties Reported in 1974

Fatal0
Nonfatal5

Guest Editorial

Dollars For Wildlife

Last month we editorialized in a general way about the factors that have combined to influence the Commission's decision to request additional revenue in the 1975 legislative session. We also speculated on possible sources from which additional revenue might be obtained. In this and future articles we intend to examine each of the factors in more depth and to discuss those program needs which demand greater attention than the Commission's financial resources presently will permit.

The Commission's primary responsibility by statute is to manage the wildlife resource of the state. This duty cannot be discharged effectively in the absence of intelligent environmental management and protection. Habitat is the key to wildlife abundance and the Wildlife Commission has little authority to manage wildlife habitat. Protection and enhancement of habitat on public lands is achieved primarily through recommendations and assistance to other agencies which administer such lands. Input on wildlife needs is also achieved by providing data to various planning entities at local, state, and national levels. It is in the latter category that the workload on wildlife biologists has increased markedly in recent years.

Meaningful recommendations for environmental protection require a strong biological base for the wildlife species involved. This means that it is necessary to obtain more specific and detailed information than is normally acquired in routine management activities. Because of these added demands which essentially involve collecting and analyzing data for others, the basic wildlife management activities of the Commission are being short changed.

Currently, biologists in the field are spending from 15 to 25 percent of their time assembling information and preparing reports for use by other entities of government. It is essential that this kind of assistance be provided to assure that wildlife values are considered in developing and implementing plans for the use of the land and water resources.

Money to finance these special investigations relating to environmental protection and management comes almost entirely from the Wildlife Fund. The question arises — should hunters and anglers be expected to foot the bill for essential activities of this kind or should supplementary financing from another source be obtained? Of course, sportsmen will benefit from the retention and enhancement of wildlife habitat but so will all of the other citizens who enjoy seeing and photographing wildlife or who benefit from the resource in other ways.

The Commission has calculated that an additional investment of approximately \$750,000 will be necessary between 1976 and 1981 to effectively meet the needs associated with environmental protection. This, in turn, will enable key field personnel to more adequately perform the important and fundamental task of managing the wildlife resource to the benefit of all the people.

R. C. Holloway

Moore Reappointed to Wildlife Commission

Frank Moore, current chairman of the Wildlife Commission and well known sportsman and conservationist from Douglas County, was reappointed to the Commission by Governor McCall. The appointment for a term of four years is effective on July 20.

First appointed to the Commission in 1971 to fill the unexpired term of John Amacher who resigned because of ill health, Moore has distinguished

himself as a person concerned with the welfare of all wildlife. His actions on the Commission reflect a strong belief that nature, if given the opportunity, can produce wildlife in sufficient abundance to satisfy most of the needs of the public. At the same time he has been quick to recognize that nature frequently must be assisted in situations where natural production is inadequate. □

Renewing Waters

by Ralph Swan
Fishery Staff Habitat Biologist



The motivation for renewing waters. Stunted game fish or undesirable species of nongame fish cause lakes and streams to have little appeal to the angler. Chemical treatment is the manager's tool to try to get the waters back into balance producing desirable fish.

Chemical rehabilitation is a management tool used by fishery agencies to realize the maximum production of desirable fish. Oregon began the practice in the early 1940s and since then has treated over one hundred major waters, including Diamond Lake, the Tenmile Lakes, Lake of the Woods, and Thompson Valley Reservoir.

Lakes and streams may be rehabilitated for a variety of reasons but mostly the process is to eliminate the competition between game and rough fish. Rough fish have a tendency to overpopulate a body of water, particularly if it is marginal for trout. In other instances rough fish have been used illegally as bait and eventually taken over trout waters. Warm-water species also overpopulate waters when not adequately cropped and become stunted from lack of food. Even trout may reproduce beyond the capability of lakes to support them.

Methods of control such as trapping, netting, and special angling regulations have been used but they seldom have the desired effect. Various chemicals have been tried

over the years but only two or three are in use today. The others were eliminated because of cost, inefficiency, or excessive toxicity to nontarget species. Only rotenone and Antimycin (Fintrol) are registered by the U.S. government for use in water. Squoxin, a chemical specific to squawfish, has been developed but has been available for experimental use only.

A rehabilitation project has its beginning long before the chemical is applied. District fishery biologists regularly monitor lakes and streams. Detailed studies may begin if fish sizes and catch rates begin to drop. Fish populations are sampled by use of nets and creel census and food production is measured. Such activities may go on for a year or more before enough information is gathered to make a decision on what has to be done to revitalize the fishery.

When the facts are in and the decision to treat is made, many steps remain before treatment can begin. The first is to determine costs and budget funds. If the proposed project is a large one, funds may not be available until the next budget period or biennium. Once a body of water has actually been scheduled for treatment, preliminary work can begin. Initially, all project plans must be submitted to the state pesticide clearing house. Plans are also circulated to eight state agencies concerned with the effects of chemicals on the environment before approval is given. Projects involving federal aid funds must be approved by the federal working group on pesticides. Waters on national forest lands require approval from the U.S. Forest Service.

Owners of land adjacent to waters to be treated are contacted, informed of activities to take place, and their approval solicited. Local sportsmen's groups, newspapers, and other media are also informed of the reasons for and timing of the proposed treatment.

Surveys must be made to determine water volumes. If a stream system is involved, upstream limits of the rough fish must be determined. While the goal of any project is a complete kill, circumstances sometimes make this impossible. Even though a complete kill is not realized, the value of the game fish produced after treatment is much greater than the cost of retreatment.



In the "GOOD OLD DAYS" powdered rotenone was the only chemical available for killing fish. It was pre-mixed with water, then sacked in burlap bags to be dispersed into the water. Though not toxic to mammals, heavy exposure to it can be very irritating to eyes and throat.



The sack brigade. As the boats cruised along, it was necessary to constantly jerk on the ropes holding the rotenone-filled sacks so the material would go into the water. Many a weary arm developed by the end of the day.



A full 55-gallon drum isn't easy to handle but the dust and pre-mixing of old powdered rotenone are gone. A venturi system on the back of the boat sucks the liquified material out into the water as shown in the cover picture.

Procedures for the application of chemicals have changed greatly since lake and stream rehabilitation began. A considerable amount of effort is still required but the current operations are a far cry from the number of men and amounts of equipment used early in the program. The most significant change has been from powdered rotenone to the liquid form. The powder had to be handled many times and mixed with water so it would readily dissolve when applied. Originally, concrete mixers were used near the larger bodies of water to mix the dry chemical with water for use. Later, self-contained mixing devices were mounted on barges and the rotenone was mixed and applied simultaneously.

Today the liquid form of the chemical is brought to the lake or stream in 55-gallon barrels and a pressure system is used to transfer it directly to the boats or streamside stations. Handling of full barrels weighing 500 pounds or more has been greatly reduced by the use of pumps. Instead of pulling a sack of powdered rotenone in the water behind a boat, venturi-type boat bailers draw the liquid out of the barrel and discharge it into the prop wash. Aircraft, both fixed wing and helicopters, are used to distribute chemicals in swampy, muddy, or otherwise difficult places to treat. A pickup-mounted 250-gallon sprayer is used on ditches and isolated pools. The 5-gallon back-pack pump is still an essential piece of equipment for small areas.

Rotenone, the standard chemical used for many years, is a natural chemical derived from root of the Derris plant. South American Indians have used it for many years to kill fish for eating purposes. It kills the fish by causing malfunction of the gills and does not affect the edibility of them. It is virtually harmless to mammals.

A recently developed chemical, Antimycin, is being used in various parts of the United States in lake and stream rehabilitation. Rotenone is applied in parts per million; Antimycin concentrations are used in parts per billion. It has the advantage of requiring much less material and handling but costs are comparable to rotenone with most fish species. Catfish are hardest to kill and require more material than other fish. Antimycin has been used in Oregon as a means of partial control where the en-

tire lake or reservoir cannot be treated. It remains toxic to fish for only a few days whereas rotenone lasts from two to three weeks.

Rotenone and Antimycin can be detoxified with potassium permanganate to protect downstream fish stocks or to clear a lake for early restocking. The detoxicant is sprayed into the water in the same proportion as the rotenone or Antimycin. Potassium permanganate is an oxidizing agent used in industry and for bacteria control. It breaks down rapidly and has no lasting effect on fish or plant life in the water. The treatment chemicals lose their toxicity naturally over a period of time but the process is accelerated in special cases through the use of the neutralizer.

Unlike the other two regularly used chemicals, Squoxin is a chemical which affects only squawfish when applied in the proper concentration. A stream or lake containing trout or other game fish can be treated to eliminate the squawfish with no harm to other species. Portions of the North Fork of the John Day River and Phillips Reservoir have been successfully treated recently and there are other places in the state where Squoxin could be used.



The liquid chemicals have taken away the dust but back work is still necessary to get to small isolated water spots. Pack cans and hand pumps come into use during almost every project.

However, there is one requirement that must be met concerning Squoxin before it can be used routinely. It must be approved and registered by the U.S. Environmental Protection Agency. Recent usage has been under a temporary permit accompanied by research at Oregon State University concerning its effects on nontarget species. The data gathered will be presented to the Environmental Protection Agency in the registration process.

Most of the rehabilitation projects scheduled for the 1973-75 biennium were conducted in the summer and fall of 1973. An extremely low water year made it advantageous to treat at that time. Less chemical was required and a better kill could be expected. The following table lists the waters scheduled for treatment in this biennium.

The Umatilla River is scheduled for the middle of September. Future rehabilitation projects under consideration are the Cow Lakes in Malheur County, Malheur Reservoir in Malheur County, and Big Lava Lake in Deschutes County.

The continuing program of lake and stream rehabilitation is designed to enhance fish production and angling opportunities in Oregon waters. □

Rehabilitation Schedule 1973-75

Water	Acreage* or Miles	Year Treated	County	Fish to be Removed	Fish Stocked
Bully Creek Reservoir	200	1973	Malheur	Suckers Squawfish	Rainbow Bass
Beulah Reservoir	5	1973	Malheur	Suckers Squawfish	Rainbow
Middle Fork Malheur	60	1973	Malheur	Suckers Squawfish	Rainbow
North Fork Malheur	20	1973	Malheur	Suckers Squawfish	Rainbow
Thompson Reservoir	1,000	1973	Lake	Roach	Rainbow
Ochoco Reservoir	120	1973	Crook	Roach	Rainbow
Fall River	4	1973	Deschutes	Brook	Brown
North Fork John Day	50	1973	Grant	Squawfish	Rainbow
Gilchrist Mill Pond	60	1973	Klamath	Roach	Brown
Umatilla River	80	1974	Umatilla	Squawfish Suckers	Rainbow Steelhead
Middle Fork John Day	65	1974	Grant	Squawfish	Rainbow

* At minimum water levels

Environmental Events

Critical concentrations of dissolved nitrogen have not occurred in the Columbia and Snake Rivers to the degree that had been anticipated for the 1974 runoff. Excessive amounts have existed below Little Goose Dam on the lower Snake and Bonneville Dam on the lower Columbia River. The Lower Monumental Dam spillway deflectors or "flip-lips" are operating for the first season and are reducing the gas supersaturations by about 10 percent. The Wildlife Commission staff has asked the Corps of Engineers to construct deflectors at Bonneville Dam this year.

The State of Oregon and Pacific Northwest River Basin Commission have agreed to make a comprehensive study of the Columbia River estuary. The first two years are to be devoted to the development of management guidelines. That is to be followed by a five-year investigation of the complex physical, social, and environmental factors.

The Oregon Coast Conservation and Development Commission proposed that 4,500 acres of Coos Bay's South Slough be classed as a national estuarine sanctuary. If approved, it would be the first sanctuary established under the Coast Zone Management Act of 1972.

Portland General Electric Company and wildlife technicians have agreed to Sandy and Little Sandy River minimum flow regimens should the Company's Bull Run hydroelectric project be relicensed.

The Wildlife Commission staff has urged that Coos County remove an illegal fill off Coalbank Slough in Coos Bay. About 27 acres of productive saltmarsh habitat and 3 miles of tidal stream channel are blocked by the fill and a tidegate.

The Corps of Engineers proposes using navigation channel dredge spoil to build an island at Miller Sands, a lower Columbia River shoal. If constructed, desirable types of vegetation would be planted to encourage wildlife use. □

Hunter Training Broadened

On July 1, Oregon's present hunter safety training course was replaced by a new hunter education program. The revision, which has been under development for nearly six months, was prompted by an increasing need to provide first-time hunters with a broader understanding of hunter responsibilities and safe use of hunting equipment. In addition, a revision in the Wildlife Code requires that training be given in all hunting equipment including muzzle loaders and archery gear as well as conventional firearms.

John Thiebes, recently appointed hunter education coordinator, indicates the purposes of the new program are to promote responsible hunter conduct and safe handling of

all hunting equipment. Increased emphasis on responsibilities and ethics of hunting are supported by a recent Colorado study indicating that much of the anti-hunting sentiment today is really a reaction against hunter misconduct.

Eight hours of instruction will be required for certification under the new course. This is an increase from the current six hours necessary for any youngster under 18 years of age to hunt with firearms. Certification will now be necessary when hunting with archery equipment as well as all firearms. In addition to hunter responsibilities, ethics, and safety, instruction on wildlife management, hunting traditions, and outdoor skills will also be presented. □

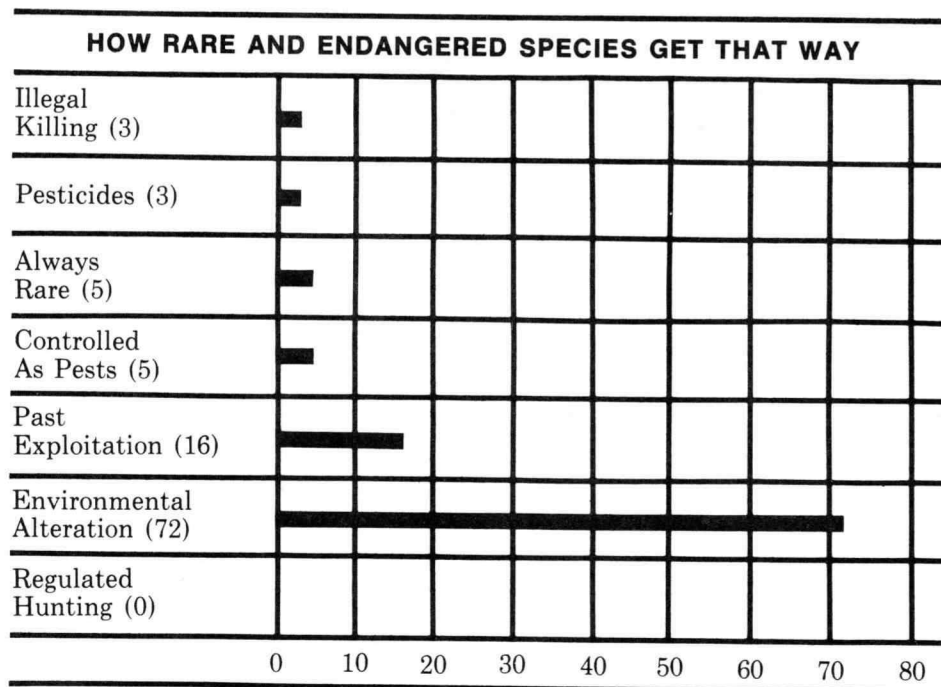


An article in one of our past issues inspired Brad Barton and Mike Fredrickson of Salem to try to do something about the pull-tabs from cans left over from pre-bottle bill days. According to Ruth Jaynes of the Family Campers Association, some 5,000 of the tabs have been picked up, but picking is getting mighty slim since the pull-tab has been outlawed in Oregon. This we're happy to hear. The group is zeroing in on other kinds of litter.

Rare & Endangered Species . . . Is Hunting to Blame?

By Dr. John L. Schmidt
Extension Wildlife Specialist
Colorado State University
Fort Collins, Colorado

Reprinted from Colorado Outdoors



The concern for wildlife, especially rare and endangered species, is probably greater now than at any time in history. Yet how many people really understand the cause for the decimation of certain species?

The prevailing opinion held by many people is that hunters alone are to blame. They remember reading in their history book how hunters wiped out the passenger pigeon and the heath hen and nearly did the same for the bison and pronghorn. So the natural tendency is to again blame hunting when we hear that this species or that is nearly extinct.

Let's take a look at the 104 species of mammals, birds, reptiles and amphibians that are classified as rare or endangered in the United States today to see what the real problems are. But first, perhaps we should define these terms. A "rare" species is not presently threatened with extinction, but is present in such small numbers throughout its range that it may become endangered, if its environment worsens. An "endangered" species' prospect of survival and reproduction is in immediate jeopardy. An endangered species must have help or extinction will probably follow.

Data are summarized in the accompanying chart to show the reasons for the various rare and endangered species being classified as such. This information was compiled from Rare and Endangered Fish and Wildlife of the United States (Bureau of Sport Fisheries and Wildlife). For several species there was more than one reason involved. In such cases only the most important reason was cited.

ILLEGAL KILLING

"Illegal Killing" refers to those animals which, although no legal hunting is permitted, have suffered declines because of illegal killing or poaching by man. One of the best examples of the three species in this category is the American alligator. Although not legally harvested for many years, the alligator is classified as endangered because of poaching by market hunters who want only their valuable hide.

PESTICIDES

Only three species have become rare or endangered primarily because of pesticides. However, pesticides were listed as possible reasons for declines of several other species. This group consists of species that were not the targets of the pesticides but because of the persistence of certain pesticides in the environment or because of their secondary effects, these wildlife species have suffered nearly total elimination. One of the best examples is the peregrine falcon which once was found commonly over the entire United States. It is now classified as endangered and is found mainly in the northwestern U.S. Their hatching success is extremely low, in many cases zero. Certain insecticides are blamed because they cause the birds to lay thin-shelled eggs which are broken during incubation.

ALWAYS RARE

To be sure, there are a few species that have never been common. They have never been plentiful because they have very specific habitat requirements and, therefore, occupy a restricted range (geographic area). The limestone salamander, for example, is found only in Mariposa County, California, at the confluence of Bear Creek and the Merced River and along tributaries of Bear Creek, only at the altitudes of 1,200 to 2,500 feet. There are five species in this classification.

CONTROLLED AS PESTS

There were five species that man intentionally tried to exterminate and nearly did. These species competed with man and, therefore, became his enemy. The grizzly bear and the wolf killed the early settlers' livestock and were therefore eliminated from all but the most remote regions.

PAST EXPLOITATION

Past exploitation has been responsible for sixteen species becoming rare or endangered. They were harvested with no limits whatsoever, primarily by market hunters, because of their commercial value. This group contains six species of whales that have gained protection only recently and three species of fur seals.

ENVIRONMENTAL ALTERATIONS

As the previous chart indicates, a large majority (72) of our rare and endangered species got that way because of environmental changes caused by man. Most of these have rather specialized habitat requirements.

The drainage of natural wetlands and marshes to make room for various developments and agriculture has taken its toll of wildlife. California black rails and three subspecies of clapper rails are rare or endangered because the marshes where they live are being drained for housing developments or are being polluted.

The northern red-cockaded woodpecker and other forest dwelling animals have suffered from man's tampering with their habitat. A good example is the ivory-billed woodpecker that feeds on wood boring beetle larvae found in dead and decaying trees. Elimination of such trees by current forestry practices has led to their decline.

Some species simply don't tolerate the addition of man into their world. They must have a certain amount of seclusion from man especially during the nesting season. The southern bald eagle and the California condor would represent this group.

Other species decline when man brings new diseases, predators and parasites to their environment. In Hawaii the introduction of dogs, cats, mongooses, rats, pigs and bird diseases and parasites have brought many birds near or to extinction. Already 22 species are extinct in Hawaii. Over half of the 60 rare or endangered U.S. birds are Hawaiian.

These changes which we impose upon our land may not kill wildlife as quickly as does the hunter but the effects are more devastating and permanent. When man permanently destroys wildlife's food, cover and other essentials, he not only deprives that particular generation of wildlife a place to live, but also that of all future generations.

REGULATED HARVEST

By "regulated harvest" I'm referring to hunting seasons based on scientifically gathered data as we know them today. It may surprise you that legal hunting for sport has not caused a single species to be added to the list of rare and endangered species.

It was noted earlier that the passenger pigeon and the heath hen were completely wiped out by hunters and the bison and pronghorn nearly followed. However, at that time there were few restrictions regarding hunting and law enforcement for violations was virtually nonexistent. The animals were taken indiscriminately for their meat or fur value only or, in some cases, for no reason at all. If sport hunting was indeed a factor in causing declines in wildlife, then certainly our most popular game species would show it. Do they?

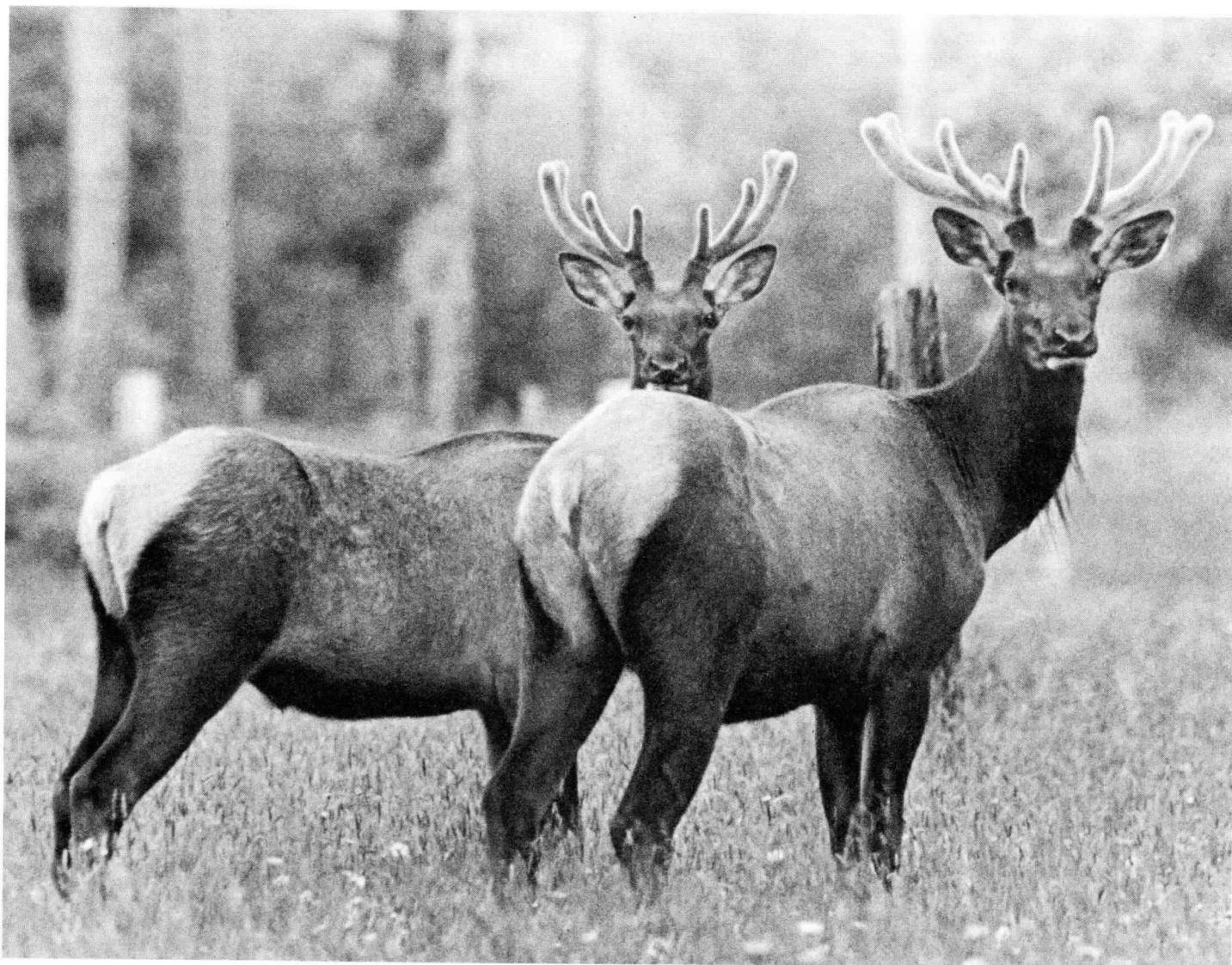
We annually harvest approximately 200,000 rooster pheasants in Colorado and yet still have more than enough to insure a maximum harvest next year. To be sure, we have problems with habitat destruction and with various predators, but we still have an adequate environment to sustain a heavy harvest.

Each year U.S. hunters legally take over 2 million deer. How can we harvest so many and still maintain a high population? First, deer have adapted well to the changing environment. Secondly, through research, we know how many young are produced each year, natural mortality rates, and other essential facts. Therefore, we can determine rather precisely the number we can harvest without harming the population.

The mourning dove is the most popular game bird in terms of numbers taken annually by hunters. The annual U.S. harvest is around 40 million and yet the population is in good shape because hunters are taking only the harvestable increase.

The same basic principles hold true for every game species in the U.S. If their environment is in good shape, carefully regulated sport hunting does not affect the population.

Let's not attack the hunter because he harvests 177 million birds and mammals each year. The species he hunts are some of the most common we have, mainly because he has paid for their management, habitat acquisition, research, and for wildlife law enforcement. Let's get at the real problems: pesticides and other environmental pollutants, drainage of marshes, municipal and industrial developments and all the other land use changes that are altering our environment and destroying its ability to produce wildlife. □



Nubbins at Jewell

If you've only seen the elk at Jewell Wildlife Area in the fall and winter, a different sight is available now. The bulls, which dropped their antlers in the spring, have sprouted their new ones. These will continue to grow until fall when the soft, velvety outer covering will dry out and be polished off. Different sizes of "nubs" may indicate different sized antlers eventually or may just mean a different starting date on the growth.

Photos by Jim Gladson



This and that

compiled by Ken Durbin

No one knows for sure whether or not a bass sees color the way a bass fisherman does, but the evidence is pretty solid that the fish can distinguish between various shades and hues of color.

In the case of plastic worms, favorite colors are black, blue, red, and purple. This is the color at the surface, at least. As the worm goes deeper and deeper in the water, the color changes, and what started out red may appear black at 40 feet.

A good guideline to follow in choosing color in worms is "Dark days, dark colors, light days, light colors".

Outdoor Oklahoma

*

"Fifty Birds of Town and City" is the title of a newly published handbook for "nonbirdwatchers" put out by the U.S. Fish and Wildlife Service.

The publication is geared to the city and suburb dwellers who know little or nothing about birds and it is edited not only to inform and educate readers but also to entertain and even coax a few to the hobby of birdwatching.

It is vividly illustrated with 50 watercolor portraits and the text discusses such things as where bird names were derived, size, identification marks, distribution, calls, nests, and habitat.

For your copy send \$4 (hardback copy) or \$1.05 (paperback) along with your request to Manager, Public Document Distribution Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120.

*

This may be the season for lunker fish in Oregon. Two that have come to the attention of the Wildlife Commission within the past several weeks fit the leviathan category without question.

A 24 pound 2-1/4 ounce rainbow trout was taken from Lake Simtustus in early June by Jerry Fifield who operates the Lake Simtustus Resort. The fish measured 34 inches in length and 23-1/2 inches in girth. It took an Indiana spinner which Fifield cast into the shallows. The biggest rainbow trout recorded taken in Oregon weighed 24 pounds 4 ounces and was taken from Klamath Lake in 1956.

The other big fish was a 9 foot 4 inch sturgeon landed by Ron Spada of Portland in late May. The huge fish was hooked near Tanner Creek in the Columbia River and weighed about 500 pounds. It took Spada 45 minutes to land the fish on 50-pound test line. Sturgeon under 3 feet and over 6 feet in length may not be kept under Oregon law, but the fish was carried to Bonneville Hatchery and placed in one of the holding ponds where it may be seen by visitors to the hatchery.

*

Research at the University of Virginia shows that mice, shrews, and meadow voles living along the nation's highways have abnormally high levels of lead collected in their bodies, the Wildlife Management Institute reports.

Scientists found that the closer the animals live to roadways, the higher the lead content — an indication of absorption from motor vehicle fumes. "One of the most important uses of lead today is as an anti-knock additive in gasoline," said one of the researchers. "After combustion, most of this lead is released into the environment in a particulate form in the automobile exhaust."

U.S. Public Health Service studies show that humans can contract lead poisoning when exposed to less lead than the roadside animals. One researcher speculated that "lead may negatively influence animal populations."

*

Copies of a new color film are now available from the Oregon Wildlife Commission for loan to interested groups and organizations.

"Wildlife — Our Responsibility" was produced by The American Humane Association. The film points out the importance of balancing wildlife populations with the available habitat and food and illustrates the problems which can and have resulted when overzealous regulations are hurriedly pushed into effect to provide "complete protection" for wildlife species with subsequent deterioration of both habitat and wildlife populations.

Using fur seals in the Pribiloff Islands and Rocky Mountain elk, the AHA points out the need for management based upon scientific data and informed concern for the ultimate welfare and survival of the animal species.

Copies are available from the Wildlife Commission's Portland headquarters and at regional offices located in La Grande, Hines, Bend, Roseburg, and Corvallis.

*

Ron E. Shay, assistant chief of Information & Education with the Oregon Wildlife Commission, has been elected president of the American Association for Conservation Information, an international group of communicators working for state or provincial conservation agencies.

The 36-year-old professional organization is devoted primarily to the advancement and improvement of conservation information programs throughout the North American continent.

Ron was elected at the organization's recent annual meeting held at Annapolis, Maryland. He has served as secretary-treasurer, vice president, and last year as president-elect. The meeting next year will be held in Oregon.

He has been with the Commission for 23 years. In addition to other duties, he handles most of the Commission's radio and television activities and edits OREGON WILDLIFE. □

1974 General Big Game Seasons

Consult regulations for details and exceptions and for information on
Antelope, Sheep, and Antlerless Deer and Elk Seasons
requiring separate tags and permits

SEASONS	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Archery	24		29		
Western Oregon Deer			5		10
Eastern Oregon Deer			5		17
Rocky Mountain Elk			26		13
Roosevelt Elk				16	27
Bear	1				31

Numbers Indicate First and Last Day of Seasons

High Cascade Permit Buck Season: September 14 through September 22. 5000 permits.

Bighorn Sheep Season: September 21 through September 27. 5 tags Hart Mountain
September 14 through September 18. 5 tags Steens Mountain Unit
September 21 through September 25. 5 tags Steens Mountain Unit
September 14 through September 20. 2 tags Owyhee Unit

Cougar Season: December 1 through December 31. 75 tags. Four areas.

(See synopsis for various boundaries)

THERE IS NO OPEN SEASON ON MOUNTAIN GOATS.

CLOSING AND DRAWING DATES FOR 1974 TAGS AND PERMITS

Kind of Tag or Permit	Deadline Date	Drawing Date
Sheep Tags, August Deer and Elk Permits	5:00 p.m. July 16	10:00 a.m. July 26
All Other Deer Permits	5:00 p.m. August 6	10:00 a.m. August 16
Cougar Tags Elk Permits	5:00 p.m. August 20	10:00 a.m. August 30

For forms and information regarding applications consult your local license agency.



1634 S. W. ALDER STREET
P. O. BOX 3503
PORTLAND, OREGON 97208