

OREGON WILDLIFE

March-April 1985



Biennial Report
1982-83

OREGON WILDLIFE

March-April 1985
Volume 40, No. 2

OREGON FISH AND WILDLIFE COMMISSION

R. Gene Morris, Chairman Ashland
William H. Neel, Vice Chairman Eugene
Donald Barth Newport
Jane Capizzi Corvallis
Leonard B. Netzorg Milwaukie
Fred Phillips Baker
Phillip W. Schneider Portland

JOHN R. DONALDSON, Director

Oregon Wildlife (ISSN 0094-7113) is published every other month by the Oregon State Department of Fish and Wildlife at 506 S.W. Mill, Portland, Oregon 97201. Volumes 1 through 28 were entitled Oregon Game Commission Bulletin. Oregon Wildlife is circulated free of charge with second class postage paid at Portland, Oregon. Material may be reprinted; credit would be appreciated.

Readers and POSTMASTER: Send address changes to:
Oregon Wildlife
P.O. Box 3503
Portland, OR 97208

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

Ron E. Shay, Editor

Cover — The department stocks millions of catchable-size trout in lakes and streams throughout the state. *Photo by Jim Gladson*

HUNTER EDUCATION PROGRAM INSTRUCTORS APPROVED

Months of
December-January 11
Total Active 1,014

STUDENTS TRAINED

Months of
December-January 409
Total to Date 319,173

HUNTING CASUALTIES

(Reported in 1984)

Fatal 6
NonFatal 14

(Reported in 1985)

Fatal 1
Nonfatal 2

A Special Edition

As you start through the pages of this issue of OREGON WILDLIFE you will note a change of format. This change is not to be a permanent thing, but is to make this issue serve a dual purpose.

Oregon law makes it necessary for the department to report to the legislature concerning the activities of the past biennium. In the past we have produced a separate publication as a biennial report. It was quite comprehensive and, probably had more information in it than most people wanted.

The agency as a whole has gradually been doing away with the large, all encompassing reports in favor of shorter, less expensive and less expensive ones. This obviously saves money. It also gives people more specifically what they want and makes for more efficiency and perhaps better reports.

This issue of our magazine will be the biennial report for the period from July 1, 1982 through June 30, 1984. It will attempt to give a very brief look at some of the wide variety of department activities during the period mentioned. Obviously, these are selected highlights. Not even the larger report previously published could cover every operation that took place. Managing Oregon's fish and wildlife resource becomes ever more complex. As there are increasing demands on the water and land habitat base, it takes more meetings, planning and liaison with others to try to protect the resource. This is added to the already considerable load of biological data gathering carried on by the staff.

Many of you may never have seen a copy of the biennial reports of the past. We hope you will find this issue of interest. You'll also notice that we have used the "This and That" page to pass along some current items that may be of interest to you. Since the major portion of the magazine will be dealing with the past, we decided it would be well to use a page to try to update you.

Information and Education staff member Jim Gladson, who is a regular contributor to the magazine, did most of the copy editing and putting together of this issue. The original copy came from the various units covered in the report.

RES

SPECIAL NOTE: The Commission has announced they plan on enacting a significant change this year concerning applications for special deer and elk controlled hunts. Individuals wishing to apply for most of these hunts this year will have to purchase their tag before applying. Procedures for applying will be changed from last year so watch for information at your local license agent following the June 1 meeting when the final rules will be adopted. Application deadlines will allow only a short period of time to get the tags and applications and send them in.

March — April Commission Meetings

March 22 8:00 a.m. Antelope, Cougar, Bighorn Sheep Regulations
April 18 7:00 p.m. Coho Plan Decision
April 19 8:00 a.m. Ocean Salmon Regulations

All meetings will be held at Department headquarters, 506 S.W. Mill St. in Portland.

WILDLIFE RESOURCES

The department is responsible for all resident wildlife species in the state. The wildlife division is charged with managing these animals. Field biologists, regional office administrators and Portland headquarters staff personnel coordinate efforts to formulate management programs for the benefit of the wildlife and optimum enjoyment by the public.

There are 557 common forms of wildlife found in Oregon, including ten big game species, 12 varieties of upland game, approximately 35 species of waterfowl, 17 species of furbearing mammals and 483 species classified as nongame. The department works under federal guidelines in the management of a variety of migratory birds.

Management funds are derived primarily from hunting license sales. Habitat improvement and land acquisition programs are maintained by a mix of license dollars and federal funds allocated through the Pittman-Robertson Act. These dollars come from a manufacturers' excise tax on sporting equipment including firearms and ammunition.

Hunting license sales decreased for both years during the reporting period. Purchases declined by five percent from 1981 to 1982, and three percent from 1982 to 1983.

Deer tag sales also declined during this period. The decline in deer harvest from 1982 to 1983 was caused largely by a decrease in the number of antlerless tags issued. Elk tags sales also declined for the first time since 1977.

Big Game

Weather has been a major factor in the management of Oregon's big game herds during the biennium. The winter of 1982-83 was mild, and allowed good production and survival. In contrast, the following winter was highlighted by Oregon Wildlife

early snowfall, extreme cold and poor forage conditions. Baker, Union, eastern Grand and north Malheur counties were especially hard hit. Fawn survival was extremely low.

The conditions prompted a massive feeding program that quickly exhausted department funds for winter feeding. Public donations and volunteers helped run the effort through the winter.

Spring surveys showed some deer herds in such poor shape that the Fish and Wildlife Commission was forced to close five management units completely and a portion of a sixth to deer hunting during the 1984 season.

Upland Game & Waterfowl

Interest in hunting upland game birds and waterfowl continued high during the biennium. Good production and high populations of most upland species in 1983 provided 96,000 hunters with more than one million birds. The hard winter of 1983-84 and a wet spring also took a toll of upland birds in some areas of northeastern and central Oregon.

Waterfowl populations were similar to that of the previous two years. Hunters took almost 600,000 ducks and geese in 1983. The 1984 Pacific Flyway midwinter counts were 6.6 million ducks, up 50 percent from 1983. Birds were concentrated by cold weather in southern states and a larger than normal percentage was probably tallied.

Furbearers

Trappers took 195,213 furbearing mammals of 16 species during the reporting period. That is a six percent decline from the previous biennium.

Average pelt prices for both long and short hair fur increased slightly. Bobcat pelt value remained high,

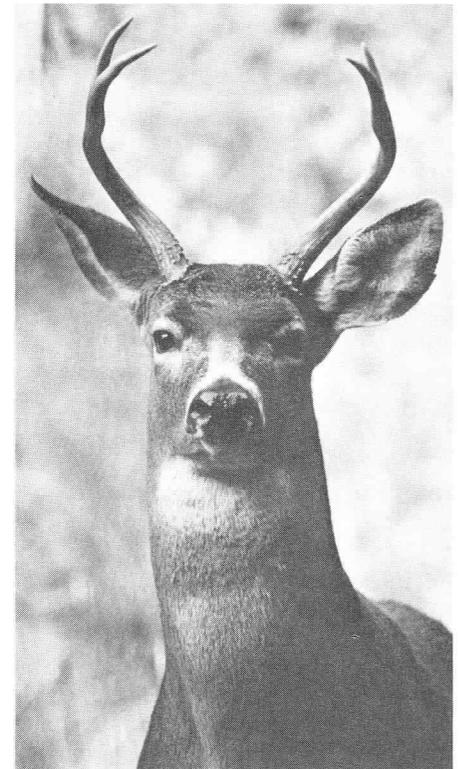
averaging \$118. The total value of pelts sold during the biennium was \$2,249,867, compared with almost \$3.1 million during the previous two-year period.

Nongame

The Nongame Wildlife Tax Check-off Program was in its third and fourth year of existence and netted \$220,000 and \$244,000, respectively. The upward swing in donations in 1983 was attributed to a weakening of the recession.

The Nongame Fund was used to finance 57 projects over the two-year period. Projects included research studies which looked at food and habitat requirements of various animals such as pelicans and owls. Status surveys determined abundance and distribution of animals including bats and reptiles.

Habitat improvement projects included water developments, and shrub and tree plantings. An expanded birdbox construction program was instituted. The fund was also used to purchase the 50-acre Stow Marsh near Reedsport. □



While mule deer herds have declined in some areas, blacktail deer numbers remained stable.

Transplants Expand Bighorn Ranges

The bighorn sheep program in Oregon continues to expand for both Rocky Mountain and California bighorn sheep. Historically, California bighorn sheep disappeared from the state by 1915 while Rocky Mountain bighorn sheep were gone by 1945. It is speculated that a combination of factors, including illegal hunting, overgrazing by livestock and transmission of domestic sheep diseases and parasites, led to these declines.

In 1954, 20 California bighorn sheep were transplanted from Williams Lake, British Columbia to Hart Mountain, northeast of Lakeview. This reintroduction was successful and in 1960, bighorn sheep were transplanted from Hart Mountain to the Steens Mountain. In 1965, 17 bighorn sheep were moved from Hart Mountain to Leslie Gulch on Owyhee Reservoir.

Twenty Rocky Mountain bighorn sheep were transplanted from Jasper Park, Alberta to Lostine River Canyon in Wallowa County in the first successful reintroduction of this subspecies. This population has provided a source of stock for transplanting sheep to other ranges as well as trading stock with adjacent states.

The first permit-only hunting season for California bighorn rams was authorized in 1965 for Hart Mountain and in 1968 for the Steens Mountain. Presently, California bighorn sheep are hunted at Hart Mountain, Steens Mountain, Leslie Gulch and Abert Rim with 38 permits issued in these areas in 1984. The first Rocky Mountain bighorn sheep hunting season for rams was held in 1978. Six permits were issued in 1984.

The sheep transplant program remains an active part of Oregon's management program. In 1983, 73 California bighorn sheep were captured at Hart Mountain and moved to four new sites, bringing to 10 the number of areas with California bighorn sheep populations.

Rocky Mountain bighorn sheep are now located in five areas in northeast Oregon. Sheep removed from the Lostine Range have shown a marked tendency to



Imports and exchanges of Rocky Mountain bighorn sheep and in-state transplants of California bighorns has expanded the ranges of both species.

migrate back to the Lostine Range. In an effort to negate this tendency, Lostine bighorn sheep have been traded to Washington and Idaho for sheep which will not readily migrate to the Lostine Range.

In 1983 and 1984, 11 sheep were

received from Washington and 11 from Idaho. In return, 16 Lostine Range sheep were sent to Idaho. Trades of bighorn sheep will continue to play a major role in the sheep management plan in northeast Oregon. □

BIG GAME Trapping and Transplanting

Roosevelt Elk		Rocky Mountain Elk	
Winter	Total	Winter	Total
1982 - '83	0	1982 - '83 (mild winter)	0
1983 - '84	160	1983 - '84 (from damage sites)	71

Transplanted to Cascades and Coast Range to increase herd ranges.

Mountain Goats

In 1983 the department obtained six goats from Idaho and released them into the Elkhorn Mountains in Baker County. The intent is to establish and manage a mountain goat population in that area.

Bighorn Sheep

The 1983 and 1984 captures and releases were intended to expand sheep ranges. Rocky Mountain Sheep transplants were designed to expand ranges and improve genetic diversity in existing populations.



The department recorded the concerns and comments of elk hunters at 25 workshops throughout the state. Almost 5,000 interested persons attended the sessions in late 1983 and early 1984.

What Do Elk Hunters Want?

The 25 elk workshops held in 22 Oregon communities in early 1984 drew 4,950 individuals. There were 198 small work groups. Each generated an average seven-sheet roll of easel-sized paper containing all the prioritized concerns and solutions offered during the one and a-half hour small group session. The material was eventually transferred to 434 typed pages for the record.

While the workshops were underway, 42,214 questionnaires were sent to a sample of elk tag holders to get responses to several questions such as: Are there too many bull hunters? Should there be more closed roads? Should we have one hunting season for bulls? Should a three-point rule be adopted? Should there be no changes?

Approximately 16,000 contacts were made during the rifle bull season to reach hunters in the particular unit they hunted in 1983. This made it possible to create a mailing list by hunt period, species and unit.

Almost 26,000 statewide questionnaires were sent out to reach hunters who may have hunted elsewhere than their favorite unit in 1984, bowhunters with a three-point tag and those in a controlled unit. These went mostly to persons who were selected to receive the annual harvest report form.

As near as can be determined, this effort using questionnaires Oregon Wildlife

and workshops to find out what elk hunters and others interested in elk want, is unparalleled among western states.

Workshop Results

The wide variety of expressions of concern in the elk work group records gradually evolved into a listing of 32 categories from the top five group priorities of each group. Every concern of each group fell somewhere in the 32 categories.

In August, a special report of elk workshop concerns was mailed to all participants and a supply was provided for the public at each district and regional office.

The roading issue was by far the number one concern, surfacing among the top five priorities 159 times out of a possible 198. While 92 percent of the recommendations supported road management of some kind, 39 percent called for more closures, closely approximating the mailed questionnaire results.

Habitat turned out to be such an all encompassing category that it was split into forest habitat loss, conflicts with livestock, winter range and habitat improvement programs. Had that not been done, habitat would have been priority two with 131 work group votes. Instead, enforcement/penalties, with 116 votes, ended up priority two. □

Wildlife Research Goes High Tech

The electronic age has produced valuable equipment and technology being used in wildlife research. Radio-telemetry and satellite habitat mapping are two forms of electronic technology in use either by themselves, or in combination.

One major research project completed during the biennium involved placing radio transmitters on newborn antelope, and monitoring them daily to determine survival rates and causes of mortality.

Telemetry and satellite mapping of elk habitat were both used on the Northeast Oregon Elk Study to monitor and document elk use of habitat components.



A good eye to spot them, and a quick net to catch them are required to tag a young pronghorn.

Pronghorn Study

During 1981 and 1982, radio-telemetry was used to determine factors influencing mortality of fawns and to identify important habitats that pronghorn used during spring and summer on two study areas in southeastern Oregon. Rates of mortality during summer among 131

fawns instrumented with transmitters were very high at Jackass Creek area (100 percent in 1982); Fawn losses were lower at Bear Valley (36 percent in 1982). Ninety-one instrumented fawns died during the study. Coyotes accounted for 60 percent of all fawn losses, golden eagles nine percent, bobcats eight percent, badgers two percent, and unknown predators 12 percent. Disease, starvation, and unknown causes comprised nine percent of the losses.

Elk Cover Study

Management objectives adopted for Rocky Mountain elk have offered recreation for some 76,800 hunters who have harvested about 12,500 elk annually since 1980. Forest managers need standards and guidelines to establish objectives for habitat management that will help maintain those production levels. Standards and guidelines were established by biologists in 1976. Subsequent research from this project, the Eastern Oregon Cover Study, has provided an evaluation of relationships between elk use, elk productivity, and habitat components in the Blue Mountain province of north-eastern Oregon.

Distribution and availability of elk habitat components were mapped and inventoried over almost 12 million acres of existing and potential elk range in the Blue Mountain province. Resource specialists from several agencies completed this work by correlating Landsat satellite multispectral scanner data with forage area, hiding cover, and thermal cover stands identified on aerial photographs and sampled on the ground.

A data access system was developed that enables managers to retrieve inventories and maps of special interest to them, e.g., from portions as small as 20-acre harvest units within timber sales to as large as 4,070,025-acre elk study areas. The satellite-computer system provides for cost-effective updating of inventories and maps, about one cent per acre at present costs. □

Nongame Funds Support Falcon Recovery

The recovery of wildlife species on the threatened and endangered lists is considered a priority among nongame management efforts.

One such project has involved peregrine falcons. The objective was to insure the reproductive success of the peregrine falcon at Crater Lake National Park. Crater Lake has the only known nesting pair of peregrine falcons in Oregon.

Peregrine falcons have been seen at Crater Lake National Park from the late 1800's to the present. Young were reported fledged in 1975. Peregrine were observed in 1977, and in 1979 a nest contained two young which were both fledged. A third egg failed to hatch. Three eggs were laid in 1980 with all three failing to hatch. The unhatched eggs were analyzed and showed shell thinning as the cause.

An Action Plan developed by Oregon Department of Fish and Wildlife and U.S. Fish and Wildlife Service biologists was implemented in 1981. The three eggs laid in May 1981 were removed from the nest and replaced with two young chicks. The young successfully fledged. Two of the three eggs removed from the nest were incubated and hatched at the Predatory Bird Research Group facility at the University of California at Santa Cruz.

This manipulation allowed for the successful fledging of two young and the hatching of two wild eggs which would have probably failed if they had not been removed.

A similar program in 1982 again successfully fledged two replacements, however, the three eggs removed for incubation were not viable.

The adults failed to return to the national park in 1983 so a "hacking" program was initiated. Hacking is a method by which juvenile birds are fed in an enclosed box until able to fly. Three young peregrine falcons were placed in a large "hack box" perched on the edge of a cliff. The falcons were fed daily through a tube that dropped domestically-reared quail into the box. This method prevented human contact and also avoided the associated human bond.

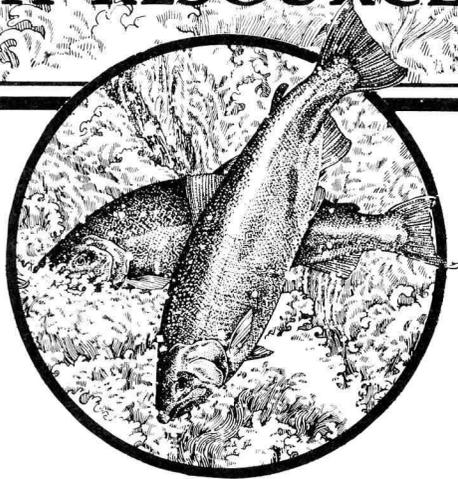
The quail were fed to the falcons daily until they were capable of flying. At this time, the box was opened allowing the young birds come and go at will. Food was supplied at the release site until the birds were successfully hunting on their own.

Future plans for the Crater Lake peregrines will depend on adult activity around the nest site. However, because of the thin shelled egg problem, either replacing chicks for eggs or hacking will most likely take place. □

**A Comparison of Nongame Tax Checkoff Returns
for the Tax Years 1979-83**

Tax Year	Amount Donated	No. of Taxpayers Receiving a Refund	No. of Taxpayers Who Donated	Percentage of Taxpayers Giving	Average Amount of Donation
1979	\$347,000	824,764	94,848	11.5	\$3.42
1980	\$359,981	876,488	97,803	11.1	\$3.68
1981	\$272,152	813,286	65,916	8.1	\$4.13
1982	\$220,138	726,371	51,544	7.1	\$4.27
1983	\$243,781	694,379	51,359	7.4	\$4.75

FISH RESOURCES



Oregon has nearly 30,000 miles of fish producing streams and 400,000 acres of standing waters which contain fish. These waters provide a smorgasbord of angling opportunities for species ranging from bass to walleye, trout to catfish, plus a variety of anadromous fish, such as salmon and steelhead, that spend portions of their life cycle in state waters. In addition, Oregon's Pacific coastline also supports sport fisheries for a variety of marine fish and shellfish.

Commercial fishing boats actively play the waters of the Pacific Ocean seeking such economically valuable species as salmon, bottomfish, shrimp, crab, tuna and other miscellaneous foodfish and shellfish.

Commercial gillnet boats on the Columbia River fish for several salmon species, sturgeon, smelt and shad.

Warmwater Fish

Although no formal estimates of angler preference have been made since 1978, there appears to be steadily increasing interest in warmwater angling. Indirect indicators include the advent of about 30 bass clubs in the past few years, ever-increasing availability of bass, walleye, and panfish tackle in stores, and more anglers on both standing and flowing water for a greater part of the year. Hybrid Oregon Wildlife

bass (white bass males crossed with striped bass females) were introduced into North Ten Mile Lake (Coos County) and Ana Reservoir (Lake County) in 1982 to test their utility in both weedy coastal lakes with abundant bluegills (Ten Mile) and desert lakes with high populations of tui chub (Ana Reservoir).

The record for Oregon's largest walleye, broken twice in 1982, was broken again during the biennium. In 1984, an angler landed a Columbia River walleye weighing more than 14 pounds. The record was broken again later that year when another mid-Columbia angler landed a lunker weighing more than 17 pounds. The world record walleye, taken from Old Hickory Lake in Tennessee in 1960, stands at 25 pounds. The next world record walleye may well come from the Columbia as populations continue to grow.

Trout

There is a mystique about opening day of trout season that is hard to fathom. It is anxiously awaited, planned for and participated in by thousands of Oregon anglers. But opening day is something of a misnomer, because many lakes in Oregon are open year-round. The only governing factors are the weather and the angler's desire to go. Since 1982 most lakes and

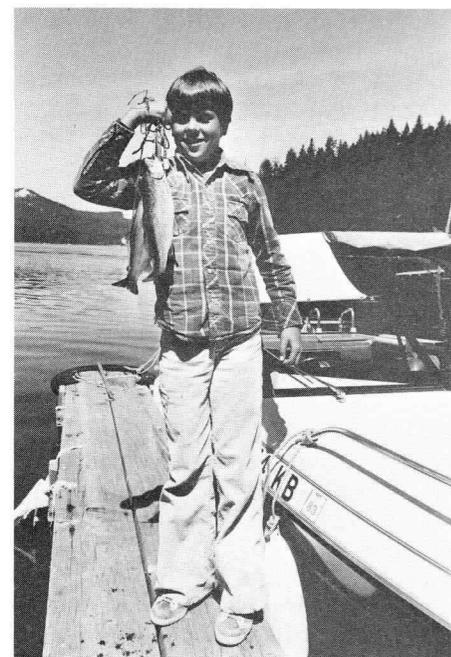
reservoirs in Oregon have been open for trout fishing. Only streams and a relative handful of lakes close during the winter months. In spite of this, many anglers wait for the official "opening".

One of the most popular and exciting trout events is the high lake stocking program carried out each year. More than 400,000 fingerling trout are poured into nearly 425 lakes located in seven national forests cloaking the Cascades.

Historically, there were no fish at all in most of the alpine lakes. In the early years, stocking was done by men leading pack strings of horses or mules. The fish were carried in steel milk containers, and the water was cooled and resupplied with oxygen at each small alpine stream met along the way.

Now a helicopter, borrowed from U.S. Forest Service fire crews during slack periods, takes just a few hours for the job that took nearly all summer in the early days of this program.

Rearing of trout for the statewide trout program is a big part of the department's fish culture budget. In 1982 and 1983, about
(continued on next page)



The trout stocking program at Diamond Lake worked well for this young angler.

27.3 million trout (rainbow, cut-throat, brook, and brown) were reared and released into Oregon waters to satisfy increasing public demand. During this time, it took nearly 12 million pounds of fish food to feed these hungry critters, along with salmon, steelhead, and warmwater fish reared at Oregon's hatcheries.

Access

Oregon is blessed with large areas of public lands which make access to the fisheries resources of the state among the best in the U.S. Still, tracts of private ownership in key areas hamper the state's fishermen. One major accomplishment that went a long way in improving angler access was the acquisition of 3,221 acres of land along the Lower Deschutes River in 1983. The purchase was accomplished through a major fund-raising effort spearheaded by the Oregon Wildlife Heritage Foundation. The acquisition stands out as a landmark effort combining state budgets and the dollars of interested citizens and public spirited foundations in Oregon.

Public Involvement

Volunteers continued to enlist in the Salmon and Trout Enhancement Program (STEP). The response of the public to this program to enhance the state's salmon and trout resources has been tremendous.

Volunteers have conducted physical and biological stream surveys, improved stream habitat, hatched and released juvenile fish, collected brood stock or eggs for ODFW's hatchery program and participated in other resource improvement activities.

Four new STEP biologists were added during this biennium to help coordinate the growing interest by the public in assisting natural stocks.

This expansion has brought full-scale programs to the Willamette Valley, southwestern Oregon and some areas east of the Cascades.

Public involvement of another kind was stimulated during the

biennium. A team of biologists was formed to draft a statewide comprehensive steelhead management plan. As part of their efforts, a series of public workshops were held in 14 cities around the state. The purpose was to get early public participation in the development of the plan.

Nancy MacHugh, a steelhead biologist for the department and head of the planning team, says the workshop approach early in the plan development is something of a departure for the agency. Often in the past, plans have been developed to a draft stage before public input was sought.

This time, the public participated from the ground floor — an example of a plan that will be a product of the public and the department.

Steelhead and Salmon

Oregon's anadromous salmonids take most of the limelight and most of the dollars in the fisheries program. They also represent the greatest average contribution to



Volunteers of all ages are getting involved in raising and releasing salmon and steelhead fry as part of the STEP program.

the Oregon economy, in terms of commercial catch value plus tourist dollars expended in pursuit of recreational opportunities. Hatcheries released about 119.7 million salmon and 13.5 million steelhead during the two-year period.

El Niño

During the winter of 1982-83 and the spring and summer of 1983, extensive changes in water temperatures and the cycle of ocean upwelling currents occurred off the Oregon coast.

These oceanographic changes were related to a major shift in global weather patterns. Known as El Niño, this phenomenon pushed warm equatorial water north along the shores of South and North America. Ocean temperatures soared to seven degrees or more above normal off Oregon. Salmon fishing seasons got off to a fair start, but quickly turned dismal along much of the coast.

El Niño was to result in increased adult mortality and decreased size for Oregon's coho and chinook salmon. Actual returns adult coho salmon in 1983 were only 42 percent of the preseason prediction. Abundance of chinook stocks in most Oregon coastal rivers was also reduced, as were numbers of Columbia River chinook stocks that show localized ocean distribution.

Only those stocks which migrate far into the north Pacific were spared the effects of El Niño. The average weight of coho and chinook salmon was the lowest ever recorded. The number of eggs per adult coho was also reduced by 24 percent at coastal hatcheries and 27 percent in the Columbia River.

El Niño dissipated in the winter of 83-84, but its effects will be felt by many species of fish and shellfish off the Oregon coast for several years. The effect on the salmon resource was a hard and lasting blow to Oregon's economy, especially the commercial and sports fishing industries.

Research

Adding to our knowledge of Oregon's fisheries resources and strengthening management programs are some of the goals of the

department's fisheries research and development section.

This group of scientists investigates such areas as the effects of dams and ways to lessen the impacts. They study distribution, growth and food habits of fish and, thus, identify factors limiting their numbers and enhancement opportunities available. Researchers also track hatchery production to determine the most effective methods of rearing and releasing fish.

Ocean Fisheries

Because the ocean is so large, it is easy to believe that the fish are in endless supply and that we cannot possibly catch too many. The story of the Pacific Ocean perch reveals that view as shortsighted.

ODFW HATCHERY RELEASES (in millions)

Calendar Year 1982		Calendar Year 1983	
Trout	11.0	Trout	10.3
Steelhead	5.7	Steelhead	5.5
Coho	15.8	Coho	17.4
Chinook	41.2	Chinook	45.3
Other	1.2	Other	1.0
Total	74.9	Total	79.5

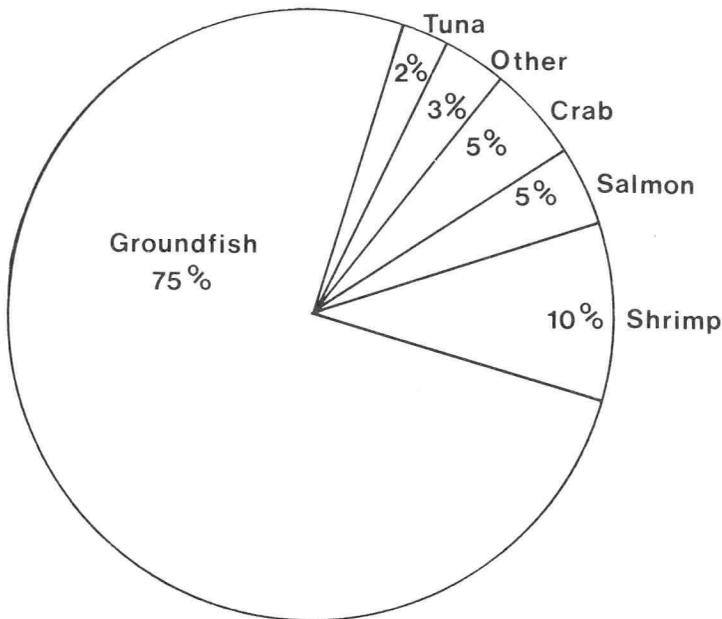
This once abundant rockfish was overfished by foreign fleets off our coast in only three years, 1966-68. Seventeen years later, the species has only begun to recover. Millions of dollars in potential revenue were lost because Pacific Ocean perch were depleted.

Due largely to the escalating harvest of many other groundfish species, the department and the

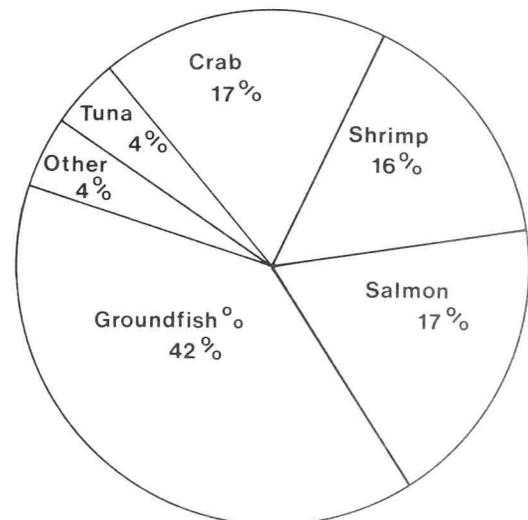
Pacific Fishery Management Council (PFMC) are now taking steps to protect other important rockfish stocks.

This will be accomplished both through research to identify just how many fish are out there, and through regulations designed to limit the numbers which can be harvested based on estimates of the total populations. □

1982 - 83 COMMERCIAL CATCH 248.9 Million Pounds



1982 - 83 COMMERCIAL VALUE TO FISHERMEN \$88.9 Million





Fish and wildlife habitat needs may conflict with the social, political and economic needs of man. The challenge facing the department's Environmental Management Section (EMS) is resolving those conflicts with the interests of the fish and wildlife resource intact.

A surprising number of people in Oregon believe that the Fish and Wildlife Department is in a position to say "yes" or "no" to development activities that may harm the resource. In fact, the department does not have land and water use regulatory authority over much of the state. Participation in decisions affecting fish and wildlife habitat is based on protective recommendations to other natural resource management authorities. "Protection" then, means avoiding or lessening the impact to fish and wildlife directly, or reducing habitat losses occurring as a result of man's activities. At times, compensation for habitat losses (mitigation) can be required if a detrimental activity or project is implemented. Determining losses to the resource and subsequent mitigation measures is an important function of EMS. When resource impacts are too great, the department will indicate it cannot support a project.

Waterway Activities

The department works with other agencies to assure that adequate water quality and quantity needs of fish and wildlife are met. A variety of water-related water policy issues brought to the forefront by SB 225 (Minimum Streamflows) and SB 523 (Strategic Water Planning) required extensive involvement from department biologists as fish spawning, rearing and migration needs were assessed.

The affects of proposed hydroelectric projects on fish and wild-

life were assessed as part of the agency's responsibilities under various state and federal statutes. Small hydro projects may seem to be relatively harmless when, for example, less than a five-percent loss to the fishery would result. However, the cumulative impact of several such projects developed on a major river system such as the Willamette could be significant and causes each project to be evaluated on a "bigger picture" basis.

The department role in review of proposed and monitoring of existing hydroelectric projects is to minimize and/or prevent adverse impacts to fish and wildlife. In those cases where impacts or the risk of impacts are substantial, the department recommends to the federal and state licensing agencies that the project should not be built. In other cases the department may request conditions and physical measures which will prevent serious impacts. In all cases, the department's work on hydroelectric projects requires substantial staff effort at a considerable

cost to assure that the public resources are considered.

The affects of existing dams and power generation facilities on migrating salmon and steelhead can be substantial. Upriver passage of adults over large dams is usually the first problem that comes to mind, but smaller facilities on streams all over the state also require ladders and passage facilities. Assuring adequate downstream migration of smolts heading for the sea requires extensive screening of turbine and pump station intakes to prevent the loss of tomorrow's salmon and steelhead runs.

Agency involvement in the Columbia River Habitat Protection Program includes efforts to adjust flow, spill levels, smolt transport, timing of power generation, upstream passage and other considerations in order to lessen the impact on the fisheries resource and ensure the continuation of fish runs in the Columbia. Input through technical committees, councils, interagency coordination, and multi-state compacts is provided on an on-going basis in order to resolve resource conflicts on all of Oregon's river systems.

Because fish and wildlife are often affected by these activities, the department reviews each Division of State Lands permit application for waterway alterations.



Members of the EMS section work closely with dam operators to improve passage for migrating fish. The focus of these efforts is on both improvement of existing dams, and proper construction of new facilities.

Some activities include filling in wetlands or estuaries, removal of stream gravel, channel dredging and riprap bank protection. Conditions may be required of an operator to avoid fish migrations or spawning activity. Should resource conflicts be unavoidable, mitigation requirements are attached to a permit. Again, this is a process that seeks to "lessen the impact" on a resource rather than to determine the final disposition of a project.

Protection and enhancement of riparian (streamside) habitats is promoted through the Riparian Lands Tax Incentive Program enacted by the 1981 Oregon Legislature. By offering a tax break for landowners who agree to manage their riparian land, and a tax credit for instream habitat improvements, the department hopes to provide a positive incentive for private landowners to begin improving streamside habitats for the benefit of the state's fish and wildlife.

Forest and Range Activities

With half of Oregon under federal ownership and management, fish and wildlife habitat protection often is accomplished through recommendations to the U.S. Forest Service (USFS) and Bureau of Land Management (BLM) management plans. The department responded to the USFS 1985 Resources Planning Act (RPA), which details forest management plans in the state's 13 national forests, expressing our concerns for fish and wildlife needs on those lands. Similar comments were provided to the BLM during the preparation of their management plans for forests, rangelands and wilderness areas. The RPA program will give management direction on about one-fourth of the land in Oregon over the next 45 years.

Participation on a Department of Forestry task force resulted in guidelines to reduce the impact of roads and timber harvest activities on streams and rivers. The northern spotted owl has also received considerable attention. The department was represented on an interagency force developing land management guidelines

Oregon Wildlife



A shipwreck on the Yaquina Bay bar caused this pelican's feathers to be coated with oil. Department biologists respond to all such incidents to assess impacts and speed recovery of affected fish and wildlife populations.

compatible with the needs of this threatened bird in Oregon.

Land Use Activities

EMS is responsible for reviewing county and city land use plans required by the Land Conservation and Development Commission (LCDC). Issues addressed included riparian zones, big game range, wetlands, critical habitats and destination resort siting. With a majority of Oregon counties and cities now acknowledged by LCDC, department emphasis will be on review of plan updates and amendments for consistency with department habitat protection standards adopted in local plans.

Monitoring of other land use activities including oil, gas, geothermal and mining permit applications are coordinated through EMS. Each application is reviewed for potential impacts to fish and wildlife resources and appropriate recommendations are forwarded to the agency with permit authority. Exploration is the primary activity at this time. Should findings result in a decision to develop these resources, more detailed plans will also be reviewed for impacts on fish and wildlife.

Pollution Control

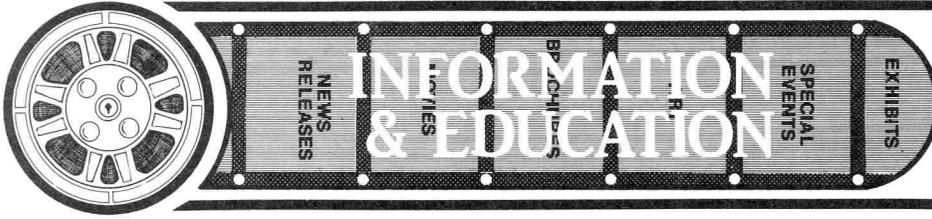
Agency biologists investigated oil and chemical spills to assess fish and wildlife losses and habitat damage. Well publicized disasters

such as the Blue Magpie grounding at Newport and the Mobiloil tanker spill in the Columbia River saw agency staff involved on-the-scene, and later through the lengthy damage assessment reviews. The staff also responded to chemical spills. The USFS Willow Creek insecticide spill during a spruce budworm spraying project in northeastern Oregon is a notable example. Fish damage compensation paid by the spiller on that particular spill was \$14,572 for fish losses and staff time.

Wildlife Mitigation

An opportunity for positive wildlife habitat improvement is being pursued through the Northwest Power Planning Council/BPA Fish and Wildlife Program. This program recognizes the losses of habitat incurred as a result of building numerous hydroelectric and flood control dams in the Columbia Basin. Funds have been allocated by Bonneville Power Administration to assess wildlife habitat lost to earlier hydroelectric development.

Phase I, summarizing impacts to wildlife resources and mitigation requirements for those losses, has been completed. Phases II through IV will involve the preparation of more detailed loss assessments, mitigation plans and implementation of habitat improvement projects. □



Oregonians take the protection and enhancement of their fish and wildlife resources very seriously. Keeping these concerned citizens informed about these resources and Department of Fish and Wildlife activities is a primary function of the department's Information & Education Section (I&E).

Members of the section use a variety of media to provide short-term information on regulations and management activities. Education experts within I&E develop longer term approaches designed to let people know not just what is going on, but also why.

Section members have daily contact with TV, newspaper and radio reporters. The I&E Section is also the main source for response to letters, phone calls and visits by the general public.

During the two-year reporting period, the section employed one full-time information specialist and one seasonal assistant whose jobs were to answer telephone inquiries. These two people personally handled 107,457 calls. A 24-hour recorded information service was also called 265,927 times. This message is updated twice weekly and is designed to answer the most frequently asked questions of the day.

Section personnel in Portland write news releases, and prepare a weekly column for weekly newspapers throughout the state. Field personnel also have frequent contact with the news media. Weekly angling and hunting reports were also distributed.

Expansion of the public information program for salmon and other ocean fisheries was also implemented during the period.

Weekly taped commentaries covering department activities or conservation issues were sent to an average of 45 radio stations, and weekly recorded hunting and fishing reports were put on a spe-

cial telephone recording for radio use.

More than 4,400 film showings were made, either by department personnel or through loan from the department film library to various groups.

Section personnel also provide audio-visual services to other divisions and sections including slide-show and film production, equipment maintenance and recording of Fish and Wildlife Commission and Columbia River Compact meetings.

The section provides photographic services not only to department personnel but also the news media, freelance writers, magazines, other government agencies and individuals. During the reporting period, work was completed on a full-length film on Oregon's upland birds. Five-minute film segments were also prepared monthly for appearances on the KOIN-TV programs "Impact" and "This Land."

In addition, five television public service spots were prepared and released to television stations encouraging donations to the non-

game wildlife program.

Oregon Wildlife, the department's free-subscription magazine, was mailed out monthly. By the end of the reporting period, 72,000 individual subscribers received monthly issues. An additional 7,000 copies were sent in bulk each month to fishing and hunting license vendors throughout the state.

A new monthly publication, Salmon News, was started during the reporting period.

Environmental education efforts during the biennium focused primarily on completion and initial introduction of a wildlife curriculum program known as Project WILD. Oregon has continued to play a leadership role in development of this effort which has now expanded to include 30 states, 5 major national organizations and all of Canada.

Liaison with educational organizations has increased significantly during the biennium. Marine education groups have received the most attention followed closely by science education organizations.

Watchable Wildlife, the program to provide or enhance viewing opportunities for all kinds of fish and wildlife throughout the state, has continued to develop during the biennium. The program is funded with donations and a number of non-traditional income sources. □

Hunter Education

The Oregon Hunter Education Program works with young hunters to help them become responsible hunters. Over 1,500 volunteer instructors hold classes year-round to train prospective hunters in ethical conduct, wildlife management, safe use of hunting equipment, survival skills and knowledge of wildlife laws. Through this curriculum, the program seeks to reduce hunting accidents and improve the public's image of hunting and the hunter.

Instructors certified 19,882 hunters in 1,424 classes during the biennium; an increase over last

biennium. Five hundred eighty new instructors were certified, and an equal number were dropped due to inactivity.

Accident numbers continued to drop to a total of 59; 9 of these being fatal. The five-biennium average is 88. This decline continues even though hunter numbers remain high.

State, county and local law enforcement agencies, community school programs, and civic and other service clubs, continue to sponsor classes and coordinate the program in their local areas. This improves the visibility and gives instructors a place to teach. □



The staffing level of the Department of Fish and Wildlife has remained relatively constant during the reporting period. Changes are shown in the following table.

A limited duration position was added this biennium to staff the marine mammal study. Most permanent and seasonal positions are in response to fisheries' issues: Salmon Trout Enhancement Program biologists, fish propagation and Columbia River studies.

Turnover has continued to be low; 4.5% based on vacated positions. Retirements, which previously accounted for a substantial portion of turnover, appear to be dwindling. Twenty employees retired in 1982, ten in 1983, and ten or less are expected to retire during 1984.

While the recruitment volume has not increased, the complexity associated with selection has expanded dramatically. A change in Executive Department Administrative Rules limits the life of eligible lists to one year (formerly two years).

Calendar year records show the number of promotional examinations conducted by Department of Fish and Wildlife personnel staff to be 13 in 1981, 23 in 1982 and 37 in 1983, (thirty-two have been conducted through August 1984). This increased workload is creating problems. Considerations are being given to streamlined and abbreviated examination and notification processes rather than increased personnel staff.

Loss of the safety engineer position in the Personnel Section due to funding problems has seemingly dealt a blow to the agency's safety program. The number and types of injuries and accidents reported have caused the workers' compensation insurance premium rates to double. However, the department experiences little difficulty in returning injured employees to work as the motivation to return is very high.

Oregon Wildlife

In the area of Affirmative Action, the race and sex composition of department employees has remained static over the past two years. Males predominate the work force at 86% of the total, women com-

Position Type	Filled		Change
	June 30, 1982	June 30, 1984	
Permanent	594	617	+23
Seasonal	116	123	+ 7
Temporary	232	221	-11
Limited Duration	0	1	+ 1
	942	962	+20

prise 14% and minorities approximately 2%.

In terms of salary, women predominate the lower ranges while men are concentrated in the middle and upper salary ranges. The department has made progress in moving a number of women into

higher salary ranges, generally in biologist and accounting positions, but new acquisitions have been difficult due to low turnover rates in present positions and revenue shortages that prevent staff increases.

Virtually, the entire agency was involved in the data gathering portion of the legislatively-authorized Comparable Worth Study. Employees attended meetings at various locations throughout the state to hear staff from the Execu-

tive Department explain the study. Employees then returned to their work stations and filled out a nine-page questionnaire describing their jobs. Many hours were consumed in completing this task, but the department was praised for both the quantity and quality of returned questionnaires. □

ADMINISTRATIVE SERVICES

The Administrative Services Section was reorganized in 1983 to include the following activities:

CONTRACTS and Federal Aid coordination and control.

LICENSING: sale of licenses, tags, stamps and permits for hunting, angling, commercial fishing, fish boats, trapping, wildlife-related occupational licenses; coordination of sales through 1,000 license agents throughout the state; audit of agents and fish dealers; collection of fish poundage fees; and administration of controlled hunt applications, drawing and permit issuance.

MAIL AND STORES: shipping, receiving, supplies, copy machines and logistics for headquarters activities.

PURCHASING: purchase and

obtain services and materials for fish and wildlife projects including printing, telecommunications and coordination of vehicle fleet, and related insurances to cover equipment, pilots and other services.

WORD PROCESSING: central word processing and technical assistance to field offices on office automation.

OTHER: building space utilization; cost effectiveness and Employee Suggestion Awards program; janitorial services.

Accomplishments during the biennium include automation of special license issuance, transfer of administration of controlled hunt from wildlife division, conversion to automated word processors and improvement in building security. □



The competition for living space for wildlife becomes more critical each year as the competition for land use by man and his needs becomes greater. The rapid human population increase continues to squeeze the state's wildlife into smaller and smaller parcels of land and water where competition for food and territory become the limiting factors.

In most cases, the wildlife are forced into marginal areas which no longer provide the optimum conditions necessary for survival. At the same time the population increase also places greater demands for recreation upon the shrinking wildlife and fishing resource.

During the biennium, critical wildlife and recreational lands have become more difficult to purchase because of the governmental restrictions placed upon the land and the exploding economic land values. Local governments are still reluctant to have any other governmental body purchase land in their area.

Their concerns are for the loss of their tax base and pressure from some of their citizens who still favor for "Sage Brush Rebellion" goals.

Over the past few years the value of land has risen at such a rapid rate that many of the lands are beyond reach of the department because of their high economic value.

During the biennium, land was acquired to add 78 acres to the White River Area, which saved building a mile of big game fence in very steep terrain. The Lostine Wildlife Area was rounded out with the purchase of 160 acres of very valuable critical winter range. A new agreement was negotiated with the Division of State Lands allowing the department to manage the 3,476 acres of land adjacent to wildlife lands surrounding Sauvie Island Wildlife Area.

Nongame Wildlife Lands

Donations of monies by the public through the state income tax checkoff for nongame wildlife made it possible to purchase additions to the Enterprise Wildlife Area and the Gold Ray Dam Backwater Area.

A new nongame wildlife area of 50.5 acres was purchased on the Smith River. This is a tidal wetlands with excellent habitat supporting a diverse variety of animals and birds.

Other Wildlife Lands

There are seventeen other wildlife areas scattered throughout the state which range from 3,330 acres, managed under a cooperative agreement with the Bureau of Reclamation, to the tiny four-acre Mission Wildlife Area on the Umatilla River just outside of Pendleton. These areas are very important in that they preserve critical wildlife habitat in areas where wintering habitat is sparse.

Fisheries

Competition for recreational land especially those adjacent to streams and bodies of water, has been high. It has remained high even though there has been a downturn in the economy. Public access is still insufficient on a number of streams in the state and the demand for boat launching sites and access to favorite fishing holes and streambanks continues to rise.

More and more private land is being closed to public use by the owner. The demand by the public for access creates a twofold problem for the public agencies. The available land is becoming prohibitive in view of the shortfall of public funds. This biennium, 49 transactions took place which put 12 sites in state ownership. Agreements were made with private landowners to provide public access on 37 sites.

Since the department is a tax exempt agency, a fee in lieu of taxes is paid to 25 counties on wildlife lands. These payments are equal to farm or forest use taxes

paid by the private landowner. Boating sites, streambank land and office sites are exempt from taxation. □



Design, construction, repair and improvement of department facilities are primary responsibilities of the Engineering Section. Facilities include fish hatcheries, fishways, traps, wildlife structures, laboratories, administrative facilities and related. A staff of five registered professional engineers, seven allied technicians and nine building craftsmen perform the work. Most of the construction is performed by contractors selected by competitive bidding. Engineering design is supplemented by private consulting firms. Force account work often requires additional laborers who are hired for the life of the project.

Contracts for 50 construction projects were executed at a total cost of \$3.7 million between July 1982 and June 30, 1984. Contracts covered a variety of work at a large range of costs. Some significant jobs and groups of jobs are described in the following paragraphs.

Twenty-three specific jobs valued at \$265,000 were accomplished by the staff's building craftsmen. Significant among these projects raised were Canyon Creek Dam to improve safety, a new fishway on Herman Creek, a bridge at Sandy Hatchery, major repair of dwellings at Bandon Hatchery and construction of a small office in Pendleton.

These force account crews also executed 560 lesser maintenance and repair jobs throughout the state. The electrician installed many new alarm systems, wired in new equipment and replaced defective wiring and fittings. Carpenters replaced a considerable amount of rotted wood in bathrooms, work spaces and foundations. Headquarters remodeling to accommodate expanded data processing and reorganizational requirements got started shortly before the end of this report period.

Over 180 capital construction and improvement proposals were reviewed and estimated by staff engineers for budgeting in addition to preparing contract construction plans, specifications and estimates. Snake River projects dominated staff time.

Lookingglass Hatchery was completed, Irrigon and Wallowa hatcheries were readied for construction, and satellite facilities at three other locations were in the preliminary design stages. This biennium saw an 11-percent increase in the number of jobs performed in the previous two years, although the staff size decreased by 13 percent. □



The Data Systems Section provides data processing services for the department's resource managers and administrators. Data Systems is organized to handle systems analysis and design, programming, data entry and production. Data Processing also coordinates data processing functions performed elsewhere in the agency; the Business Section, Fish and Wildlife divisions, Information and Education Section, Research and regions.

Fish and Wildlife accomplishes its data processing by utilizing several different computers (large mainframes, minis and micros) around the state. This is done several ways by using in-house computers, Executive Department Data Systems, Oregon State University and Bonneville Power Administration.

The Data Processing Section has two Evolution computers used primarily for data entry, validation, sorting and listings of raw data, preliminary editing, reporting and summarization necessary for error correction, biological planning and management. The major part of the department's data entry is accomplished on these computers.

The Evolution computers are being replaced and the workload Oregon Wildlife

converted to the Burroughs computer. This conversion is necessary, as the Evolution Company has filed for bankruptcy and the department has contracted with another company for maintenance. The inability of the new company to obtain replacement parts from Evolution has resulted in considerable downtime and creates a continuing risk of failure.

It was decided to submit a Request for Information (RFI) to computer vendors seeking an understanding of what was available that would best meet our needs and handle our growth requirements.

After a review of these RFI's, a justification to purchase a computer was prepared and submitted to the Executive Department Data Systems Division. Authorization was given and formal Request for Proposal (RFP) was prepared and submitted to requesting vendors. Upon receiving and reviewing these RFP's from requesting computer vendors, a subsequent con-

tract was signed with the Burroughs Corporation. The training classes will be scheduled with the delivery of the new computer. □



The Fiscal Section has 18 employees and responsibility for the following activities: budget systems, coordination and controls; cost, property, revenue, payroll and financial accounting and reporting; accounts payable; accounts receivable; federal funds coordination and reimbursements; banking and cash controls.

Automation plans are being developed for issuance of payment vouchers, cash recording and agency accounting systems.

The following schedules and statements show the department's financial activities during the biennium. □

STATEMENT OF CHANGE IN FUND BALANCE June 30, 1984

Beginning Fund Balance July 1, 1982 —	
Wildlife Fund	\$ 7,833,143
Nongame Wildlife Fund	858,032
Predatory Animal Control Fund	<u>13,091</u>
Total Fund Balance	\$ 8,704,266
Appropriation — General Fund —	\$ 8,719,846
Revenue —	
Fiscal Year 1983	\$30,492,780
Fiscal Year 1984	<u>32,429,423</u>
Total Revenue	\$62,922,203
Balance Available for Expenditures	<u>\$80,346,315</u>
Expenditures —	
Fiscal Year 1983	\$36,563,640
Fiscal Year 1984	<u>37,707,097</u>
Total Expenditures	(\$74,270,737)
Change in Reserves —	
Inventory	\$ 793,796
Receivable	248,056
Encumbrance	<u>(550,649)</u>
Total Reserve Change	\$ 491,203
Ending Fund Balance — June 30, 1984	
Wildlife Fund	\$ 6,177,080
Nongame Wildlife Fund	371,737
Predatory Animal Control	<u>17,964</u>
Fund Balance	<u>\$ 6,566,781</u>



The Fish and Wildlife Commission takes public concerns about natural resources very seriously. Meetings throughout the state allow the people a chance to be heard on a variety of issues.



The membership of the Oregon Fish and Wildlife Commission as of June 30, 1984 was: Don Barth, Newport, 1st Cong. District; William Neel, Eugene, 4th Cong. District; Phillip Schneider, Portland, western, Ore.; Herb Lundy, Lake Oswego, 3rd Cong. District; Gene Morris, Ashland, 2nd Cong. District; Fred Phillips, Baker, eastern Ore.; Jane Capizzi, Corvallis, 5th Cong. District.

The days of once-a-month commission meetings were definitely put to rest during this reporting period. For the past decade the number and complexity of sessions requiring the commission's

attendance has steadily increased. That trend continued.

In an effort to get the public involved in the decision-making process, the commission has held frequent meetings around the state as well as at Portland headquarters. The commissioners have also endorsed staff efforts to hold expanded workshops aimed at further enlarging public input.

During this period, commissioners and department administrators faced tough choices in setting agency priorities in times of fiscal crisis. First, state general fund revenues were cut on several occasions. Before those cuts could be

fully worked out in the existing department budget, a license sale shortfall brought problems from yet another fund source.

Major policy issues required frequent attention. Questions regarding elk management placed commissioners and administrators in an uneasy position. Eastern Oregon ranchers and farmers wanted fewer elk. Hunters wanted more animals.

Issues involving salmon management and season regulations continued as a major point of controversy throughout the period. □



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