

OREGON WILDLIFE

JANUARY 1982

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OREGON FISH AND WILDLIFE COMMISSION

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Ron E. Shay, Editor
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Cover — Clean water and lots of it . . . it's one of Oregon's greatest assets. But it wasn't always so. Irv Jones looks at water quality in Oregon beginning on page 3.

Photo by Ken Durbin

HUNTER EDUCATION PROGRAM	
INSTRUCTORS APPROVED	
Month of November	15
Total Active	1,601
STUDENTS TRAINED	
Month of November	393
Total to Date	289,544
HUNTING CASUALTIES REPORTED IN 1981	
Fatal	3
Nonfatal	29

A LUMP IN THE RUMP

This is the time of the year when many folks have been having lumps the throat after being caught up in all of the emotions of the season. However, we'd like to discuss a possible lump in a divergent part of the anatomy.

It all relates to an article found elsewhere in this issue. Don Swartz tells of the catch information on a number of the streams of the state. This data is expanded from information obtained from the catch record cards sent in by anglers. And therein lies the rub.

In Don's article you will note the return of these cards is one out of four at best and may drop to one out of five. Also in the article Don discusses various alternatives that have been explored to overcome this lack of cooperation. All of the alternatives would cost considerably more money and in fact it cost money to have a study to find out about the alternatives.

We can't help but feel that most salmon and steelhead anglers would rather see their money going to management of the fish and hopefully greater populations of fish than toward surveying people to find out what is going on. To do a proper job of managing this resource it is necessary to know where and when the fish are being harvested. The salmon-steelhead card is designed to provide that information. It could do a good job of doing just that and eliminate the need for speculation, extrapolation and projection if a higher percentage of the records were returned.

Despite what may be said, the information from the cards is not designed to send more anglers to one stream or the other. Admittedly it might have that result when the data such as that in Don's article is presented, but more importantly the basis for allocations and stream management plans is partially the catch information.

It does seem rather sad that anglers really don't care enough about the fishery to put out the small amount of effort needed to turn in the card. Most all places that sell licenses, where one might be purchasing a 1982 card, have boxes to deposit the old card. If a new license isn't being purchased immediately, just drop the old one off at any Department office or put it in an envelope and mail it in. Even though you didn't fish, or fished and didn't catch anything, the information is important. It's a rather painless way you can help in the management of Oregon's salmon and steelhead.

About the lump in the rump. It's your billfold. . . probably crammed with all sorts of important things such as old newspaper clippings, cards from salesmen who no longer work at the same place, membership cards to the local marching and chowder society and pictures of mom and the kids. So why not have a nostalgia trip and clean out that lump? And while you're at it watch for your 1981 salmon-steelhead punch card. Carefully remove it and by some means get it to the Department of Fish and Wildlife. It will make the lump slightly smaller, for a little while anyway until you put the new card in or add some more important stuff. □

R.E.S.

COMMISSION AND COMPACT MEETINGS

The Columbia River Compact will meet on Thursday, January 14, at 9 a.m. to consider general regulations and a winter season. That evening, at 7 p.m., the Fish and Wildlife Commission will conduct a final public hearing on the Department's proposed coho management plan. On Friday, January 15, beginning at 8 a.m., the Commission will conduct general business meeting and consider opening dates for major 1982 hunting seasons. All meetings will take place in the conference room at Fish and Wildlife Department headquarters, 506 SW Mill Street in Portland. □



The earth's water supply is fixed, barring some major cataclysm. But its quality is subject to change. That it remains pure is up to all of us.

WHAT'S WATER QUALITY TO A FISH?

by Irv Jones

Environmental Management Section

Some of the same water molecules that floated the boats of Lewis and Clark on their journey to the Pacific are now making that same round trip back down the Columbia to the sea.

Although that may seem strange, it makes mathematical sense, as it is based on the tiny size of the water molecule and the astronomical numbers that make up the earth's water allotment. This points to some basic truths.

Barring some cataclysm, the earth's supply of water will stay the same. The sun's energy constantly circulates those waters and, over eons of time, molecules will appear in the same places again and again. The basic mechanism in creating the freshwater part of the cycle is evaporation,

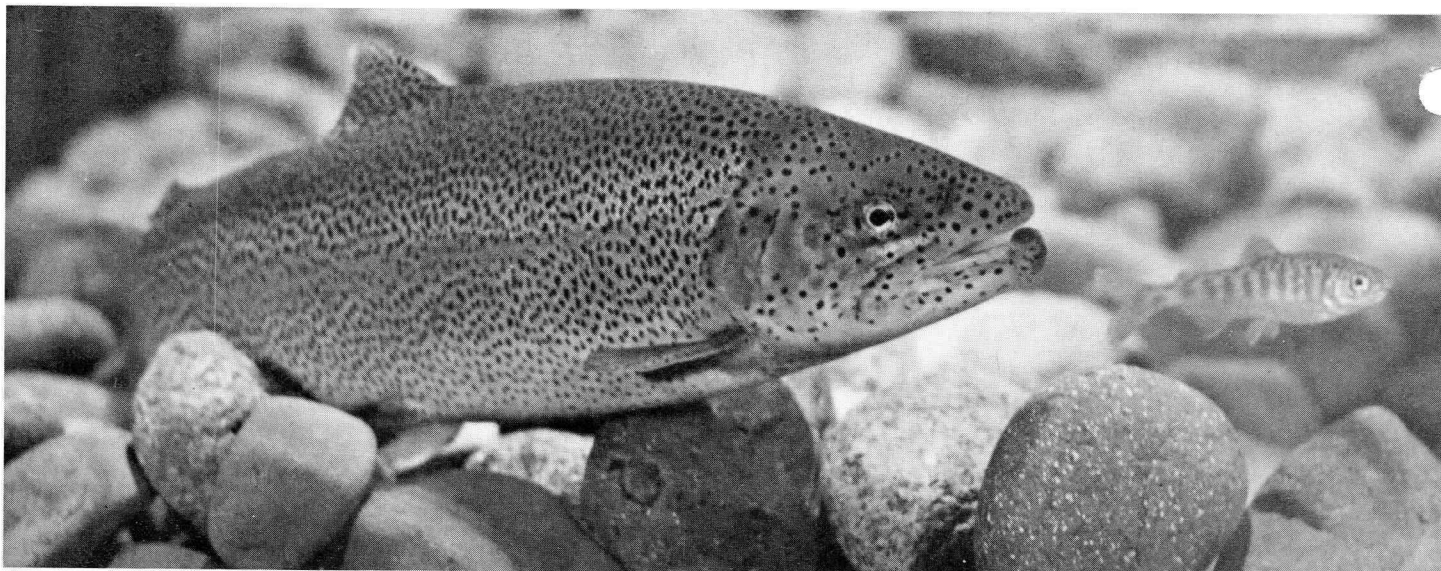
transportation with the winds, condensation, and precipitation.

The raindrop falls or the snowflake drifts to the ground in Oregon and there begins our stewardship of the waters of the state along with the rewards and the costs. Early on, even in the late 1800's, legislation was passed that recognized the very basic truth; if water quality is changed for the worse, its value for any number of other uses is either diminished or eliminated.

Fortunately for all of us, in most rivers and streams in Oregon, the water pollution situation has gone from worse to better within a generation. Some of the early laws against pollution of streams appeared in the Fish and Game Code. In 1936 and before, however, staff

and funds were spread woefully thin, and many of these regulations were simply not enforced. As a consequence, it took an aroused public, viewing the sorry state of pollution in many Oregon streams and rivers to pass the law in November, 1938 that created the State Sanitary Authority and charged it with enforcing the state's water pollution laws.

Continued public demand, new federal laws, private money, and cost share funds have resulted in a pollution control effort that has attracted national acclaim. The story of the clean up of the Willamette River for instance, has been told many times over and justifiably so. The present water pollution control agency is the Department of Environmental Quali-



What is good water quality for fish is also good for us and for other uses. Oregon's overall water quality has substantially improved after severe abuse earlier in this century.

ty under Director Bill Young and the Environmental Quality Commission.

Continued effort and expenditure of money will be required to hold gains already made and to continue the fight to assure that clean water will be available and protected for beneficial uses. Identified in administrative rules are: domestic, commercial, industry, agriculture and recreation. Especially mentioned and protected are uses for livestock, wildlife, fish, other aquatic life, and habitat.

Nature is not always kind to the critters that live on land or in the water. Witness the deep snows, the floods, landslides, droughts, algae blooms and low oxygen levels that can all result from natural causes. The pollution control program realistically considers only man's activities as they influence natural water quality. Anything else is not called pollution.

But what's water quality to a fish? The answer is; everything. Their total life requirements — food supply, oxygen, breeding area and travel routes depend on water quality that can supply those necessary elements. Trout and salmon, for instance, like their water cool, with oxygen near the saturation point or eight to 10 parts oxygen per million parts of water. The water should also be fairly clear to permit some visibility and without silt so as to pass without irritation

over gill tissue. It should be free of toxic chemicals such as insecticides or heavy metals like copper, zinc and lead or strong acids or alkali, or oil, or salts or radioactive material or chlorine, which is widely used to disinfect sewage treatment plant effluent.

Given the right conditions, the fish will be quite happy and well fed. It should be mentioned especially that the same conditions as are livable to the fish are also livable to the food organisms on which the fish depends for its livelihood. The biologist likes to call this basic relationship the "food web" which starts with plant life growing on submerged rocks and extends through the aquatic insects, snails, crayfish and other intermediate goodies that in the end wind up as the fish's dinner.

Warmwater fishes such as bass, crappie and bluegill grow well and survive in conditions that would kill a salmon or trout outright. These fish can survive temperatures of 90 to 93 degrees Fahrenheit, whereas a trout or salmon usually is in trouble above 68°. Dissolved oxygen can drop as low as five parts per million for a salmon; however, seven parts or more are required for egg hatching and a good rate of survival. A warmwater fish on the other hand can survive down to three or four parts per million and carry on life processes. Because most waters in Oregon

have mixed populations of warm-water fish and salmon or trout, dissolved oxygen content is kept as high as practical. Thermal addition is kept within limits that will meet water quality standards to assure survival for both types of fish. Wastes from cities and industry are generally treated by taking out toxic elements, supplying oxygen to organic substances that would lower oxygen levels in streams and settling out suspended solid material that would create sludge deposits in areas of slow moving water. The acidity or alkalinity of some discharges must be neutralized so that water quality and aquatic life are protected.

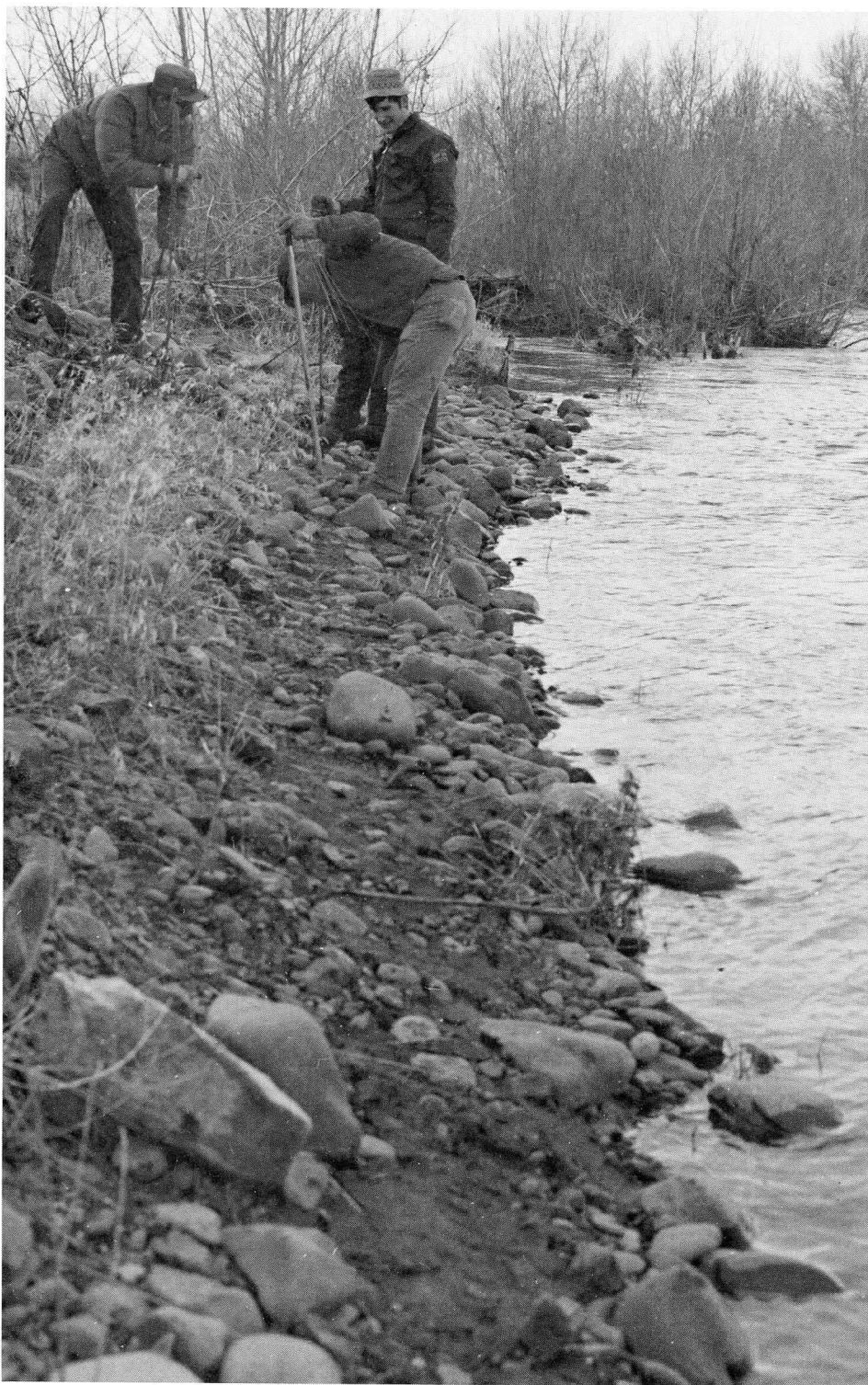
Luckily, Oregon is located on the eastern side of the vast Pacific Ocean and the rain that comes from the west is not polluted with the acid which is devastating to fish and aquatic life in the northeastern United States, Canada, Europe, Scandinavia, and elsewhere. The acid, produced during combustion of fuels, especially those containing sulphur, is brought back to the earth as acid rain. In one Norwegian report, 741 of 2,083 lakes surveyed by biologists were found to contain no fish. The list is growing. Before 1940 477 of those lakes contained fish but were lost before 1972. Another 516 lakes show levels of acid high enough so that fish are present only in small numbers.



Abusive logging practices that were common in the past have been largely reduced through legislation and a keener public awareness of the value of pure water.



Problems still exist. Unrestricted grazing access to streams has caused major problems in some systems with loss of streamside vegetation and physical damage to streambanks. New legislation will give landowners reason to be more protective of streamside vegetation.



Given protection, stream courses will heal themselves. But man can speed the process as these men are doing by planting willows along the water's edge.

In Ontario, Canada, 140 lakes have been "killed" by acid and thousands of others are approaching the danger point. Hundreds of lakes in the eastern United States are also affected. The "silent spring" for fish is well underway in those waters. . . (with apologies to

Rachel Carson). In Oregon, although lucky enough now, we should be aware of this global problem and support efforts to identify sources and reduce emissions that contribute to this serious environmental catastrophe.

When streams are high in the winter and spring, little thought is given to rationing of the water except possibly for flood control and dams. With the onset of summer, however, in many areas competition for water is extensive. As water is taken out for other uses such as irrigation, domestic and industrial use, fish habitat is affected. With reduced living space, warmer water, and less food production, fish resources are decreased accordingly. For this reason the Department recommends to water management agencies minimum flow criteria to protect in-stream values.

Several legislative acts have been passed in recent years that will help preserve and enhance healthy fish populations. A significant benefit to Oregon water quality is the Forest Practices Act (effective in 1972) that regulates activities such as road building, "cat" work, harvest methods and retention of shade trees and buffer strips which are left uncut along streams. The result is better water quality in streams originating in forest lands. Other water use and economic interests are protected.

In the last session of the Oregon Legislature a bill was passed that created a program of tax incentives for owners of agricultural or forest lands encouraging protection of streamside vegetation. Although not yet in effect, the law will provide erosion control and will improve stream life and water quality, as well as some wildlife uses. Details of the program are being worked out by the Department staff and other agencies.

Pollution can result from water draining across land impacted by man's activity. This is called non-point pollution, as it does not originate in one location and does not run out of a pipe. Section 208 of the Federal Water Pollution Control Act, passed in 1972, requires that the state control and prevent pollution from both point and non-point sources. The program is underway with elements of water quality improvement in wheat lands, forest lands, animal feeding areas, irrigated lands, ground water and irrigation return water.

JANUARY 1982

The fishery resource stands to benefit greatly from improved water quality that will result.

A damaged oil tanker foundering in a storm offshore from Oregon or colliding with another vessel in the Columbia River channel could have a devastating effect on property, water quality, and fish and wildlife. To provide response in Oregon, Washington, Idaho, and Alaska, Region 10 of the U.S. Environmental Protection Agency coordinates a Regional Response Team composed of the U.S. Coast Guard, 11 other federal agencies, and the states. The Oregon Department of Environmental Quality and the Fish and Wildlife Department have participated in oil spill response, oil spill response training drills, and in a special task force to guide use of detergent-type dispersing agents. Both departments cooperated in development of an Oil Spill Protection Plan for the natural resources of the Columbia River, authored by Bruce Sutherland of DEQ. Work is now progressing on similar plans for Yaquina and Coos bays. Important resource areas have been identified and oil boom sites are recommended.

One of the most significant protections against spillage of oil from tank vessels is the U.S. Coast Guard Office of Harbor and Waterfront Safety. Construction standards, equipment, and operational procedures are prescribed by federal codes to provide for safe operation and to prevent spills. The program is appreciated by resource management agencies, as it is obviously less damaging and much easier to contain petroleum than it is to clean up after it hits the water.

Over Oregon highways, pipelines, and waterways moves a staggering tonnage of industrial and agricultural chemicals and petroleum products. Accidents caused by operator error, equipment failure or other unforeseen circumstances can result in spill or discharge of any number of differ-

ent compounds that can make messes, threaten human life, and pollute waterways. The Oregon Accident Response System coordinated by the Department of Environmental Quality, is composed of 14 state agencies, all responsible for some part of a coordinated response to accidents and spills. Fast response and clean up are the primary objectives after protection of human life.

A telephone call to the Executive Department Emergency Management Division sets in motion the state, federal, and private response necessary or available to cope with these accidents. The 24-hour toll free telephone number is 1-800-452-0311. If you see a major accident or spill occurring, call, and the information network is set in motion.

Occasionally fish will die unnatural deaths from pollution. The Department investigates reported incidents and compiles a summary which is sent annually to the Monitoring Branch of the Environmental Protection Agency in Washington, D.C. Last year, up to December 1981, pollution had accounted for 12 incidents with as few as eight fish to a high of 7,400 fish. Johnson Creek, draining Portland and east Multnomah County, had the dubious distinction of

being reported the most of any stream. Three kills were noted, all from pollution from unknown sources. Other kills were caused by pesticides (1), mine drainage (1), industrial waste (1), irrigation water return (1), food processing wastes (1), and brine (1). Total number estimated killed is 12,360, not unusual for an average year. With these exceptions, the adherence of Oregon's waters to water quality standards is reported as "very good" by the Department of Environmental Quality. In regular observations at checkpoints on streams throughout Oregon, 85 percent pass dissolved oxygen tests, 94 percent pass tests for dissolved solids, and 96 percent pass acidity/alkalinity tests. Not too bad.

There are still problem areas in Oregon where one water quality parameter or the other could be improved; however, given time and resources, these areas can be improved. In the meantime, most fresh and salt waters provide a satisfactory home for fish, most all the time, and dinner is on the table. □



More aggressive efforts to keep our waters clean will help prevent fish kills like this.



A brace of winter steelhead.

SALMON-STEELHEAD CATCH ESTIMATES

*by Don Swartz
Staff Fishery Biologist*

In 1980 anglers harvested an estimated 417,294 salmon and 203,712 steelhead from Oregon waters. The salmon catch was made up of 345,000 ocean fish; 45,000 from coastal streams; and 27,000 from the Columbia River system. Of the steelhead catch, 131,000 were from coastal streams, and 73,000 were from the Columbia River system.

The leading ocean salmon ports were Winchester (88,000), Columbia River (61,000), Newport (49,000), Coos Bay (43,000), and Brookings (36,000). Top coastal streams in order of salmon catch were Rogue River (8,800), Trask

River (5,000), Tillamook Bay (3,200), Nestucca River (2,900), and Miami River (2,900). Top salmon producing streams of the Columbia Basin were Lower Willamette River (8,900), Clackamas River (5,000), Lower Columbia River (2,900), Eagle Creek (2,400), and the Sandy River (2,300).

The top producers among coastal streams for steelhead were the Nestucca River (16,000), Rogue River (12,000), Siletz River (11,700), Alsea River (8,800) and Umpqua River (6,200). In the Columbia Basin top steelhead streams were Sandy/Salmon rivers (19,000), Clackamas River

(11,800), Deschutes River (5,200), N.F. Santiam River (4,200), and Hood River (3,800).

Each year the Department computes catch estimates by using information from salmon/steelhead tags voluntarily returned by anglers. Tag sales total about 300,000 annually, along with about 100,000 or more daily angling licenses. On each tag and license is space for recording catch by species, location, and date. Also on the form is a request that the catch record be returned to the Department or a license agent after expiration. In recent years returns have averaged about 25% of the

JANUARY 1982

salmon-steelhead tags sold and about 12% of daily licenses sold. Thus the annual catch estimates are based on information supplied by a minority of anglers. Studies have shown that tag holders who fail to return their tag tend to have a lower catch rate than those who do return their tag. The catch estimates are made by multiplying the sum of the catch on returned tags times a factor which recognizes the nonresponse bias.

The present method of estimating the annual salmon and steelhead catch is relatively inexpensive but the accuracy of the catch estimates for individual streams, especially the smaller ones, is not as good as desired. A variety of alternatives to the voluntary tag return system have been proposed to increase returns and improve catch estimates. This year the Department hired a consulting firm that specializes in business systems analysis to evaluate the existing return system plus proposed

alternatives, and recommend a system to improve accuracy.

The following types of systems were evaluated:

1. Present system — voluntary returns.

2. Lottery — returned tags eligible for cash prizes.

3. Rebate — discount on next tag purchased.

4. Rebate — to agent for each tag returned.

5. Mandate return — issue citation, or deny future tag.

6. Mail survey — random samples of a percentage of tags sold.

7. New data processing system — use modern computer methods.

The consultants' first task was to determine for options 1 through 7 the potential of providing an estimate always within 20% of actual catch for those streams with a catch of 500 or more fish annually. The second task was to provide a recommended alternative in detail within anticipated costs.

The evaluation report received by the Department show options 1 through 6 have little or no potential to provide accurate estimates for individual streams. Under existing circumstances the degree of error for options 1, 2, 3, and 4 cannot be determined. A lottery (op-

tion 2) is unlikely to increase rate of return, and is currently illegal in Oregon. The rebate options (3 and 4) would create additional accounting problems for the Department. Mandating returns (option 5) is beyond our present enforcement capability and has the negative aspect of creating an adversary relationship between anglers and the Department. The random survey (option 6) has some advantages, but would not provide accurate estimates for individual streams. Since options 1 through 6 will not do the job, that leaves only option 7. Was option 7 recommended? Yes.

What is a new data processing system? In short, it is starting from scratch with an assessment of need, a review of what information is available, identifying problem areas, and then develop a system which uses available resources to overcome problems and provide needed information. The Department is currently in the assessment stage of this proposal.

The need for accurate catch estimates and other data is vital to develop management goals for salmon and steelhead in statewide and individual watershed plans. Management plans will be no better than the information on which they are based. The future of our fish resources lies in maintaining a balance between fish production and catch. A "key" starting point in maintaining that balance is the availability of accurate catch statistics of known precision.□



PROJECT WILD

Toward A Brighter Future

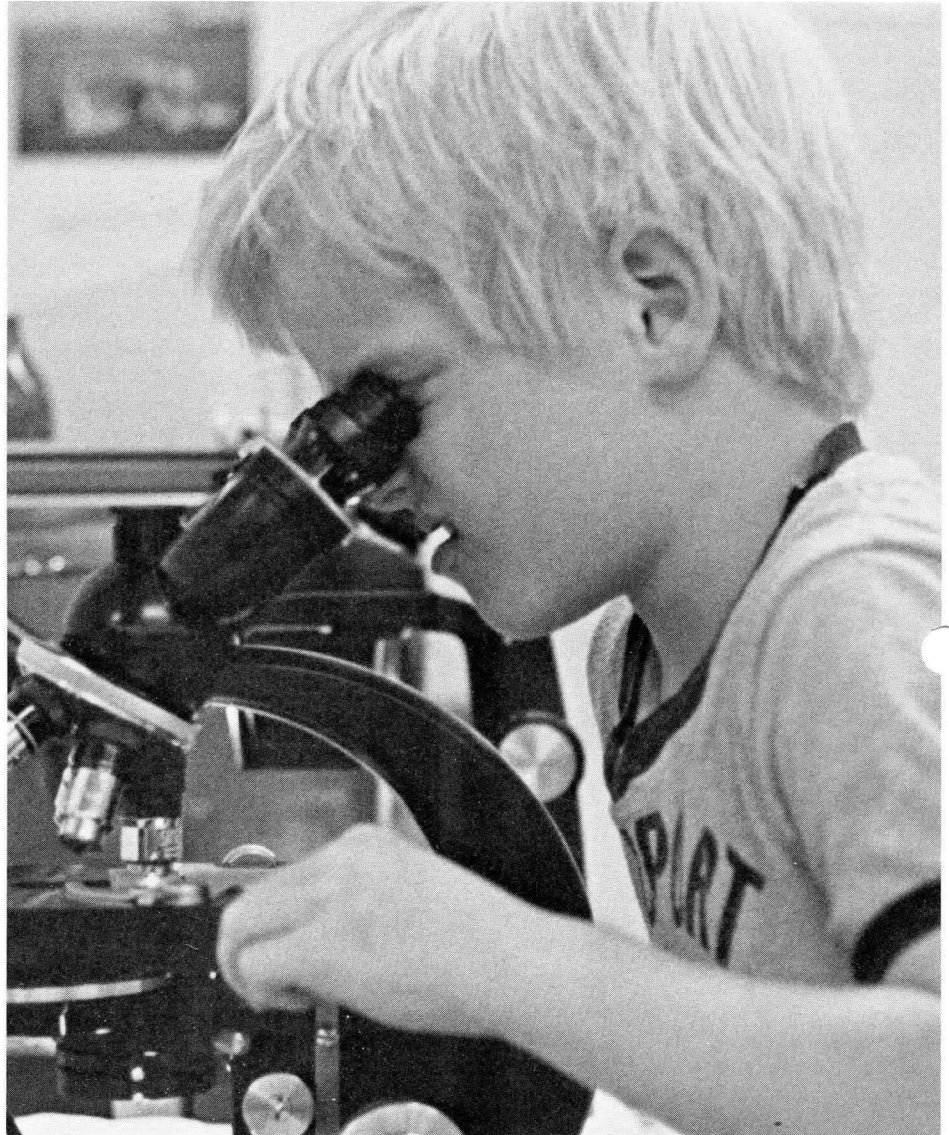
by Cliff Hamilton

Folks who manage fish and wildlife have a lot of dreams. Many dream of light winters or damp summers where all creatures survive well. They also dream of an end to conflicts between land developers and wildlife habitat, of completing seemingly endless planning, zoning or environmental impact statement reviews, and of hunting and fishing seasons where everyone is satisfied with the results. Unfortunately, most dreams do not come true.

High up in the priority of managers' dreams is one of a public that understands the needs of fish and wildlife and is supportive of conservation efforts. Usually this dream also melts away with the dawn. A new effort underway may gradually change all this. Project WILD is a unique environmental and conservation education program emphasizing wildlife. The heart of this educational endeavor is a group of instructional activities designed for teachers to use both inside and out of the classroom.

Project WILD materials are being written cooperatively by classroom teachers and other educators, resource agency personnel, members of private conservation groups and other community representatives. The set will contain teaching activities designed for use in all major subject and skill areas presently included in kindergarten through high school curricula. Suitability for school use and elimination of bias will be insured through extensive field testing plus review by a wide range of wildlife interests.

Wildlife is a source of fascination and interest to almost everyone. In the classroom wildlife can be an especially useful tool for motivating students in traditional subjects like language arts, math, history and even music. For this reason, Project WILD does not



treat wildlife narrowly. In addition to providing activities to incorporate wildlife concepts into major subject areas, the activities will also allow students to consider wildlife in relationship to its total environment, including humans. In this effort, wildlife is considered as all nondomestic animal life from microscopic to the great whales in size. Each activity is based on one or more concepts ranging from simple awareness to

responsible human actions toward wildlife and the environment.

Development of this exemplary wildlife education project is a cooperative effort of the Western Association of Fish and Wildlife Agencies and the Western Regional Environmental Education Council (WREEC). The latter is consortium of educators and state resource agency people from the 13 western states. Western Association membership includes state

fish and wildlife agencies in the same 13 state area. The forward-looking spirit that brought this diverse group together is a model of cooperative development unrivaled among natural resource agencies nationwide.

At present there is no comprehensive major wildlife education program operating in this country. While there is an abundance of wildlife material produced by state, federal and private groups, there is little actual curriculum material available for immediate use by teachers with their students. Other wildlife education efforts have mostly focused on materials that provide information on wildlife, their life histories, management programs or a perspective on some wildlife-related issue. Much of the content of this material is excellent. To use this type of content-based item however, most teachers must make room for an extra subject in an already full curriculum. Consequently this "add on" form of material has had limited success in today's classrooms. Wildlife can seldom be put into the curriculum as a separate subject. It must be integrated into the basic subjects by helping teachers do what they are mandated to do: by helping them insert wildlife conservation concepts as they teach required subjects.

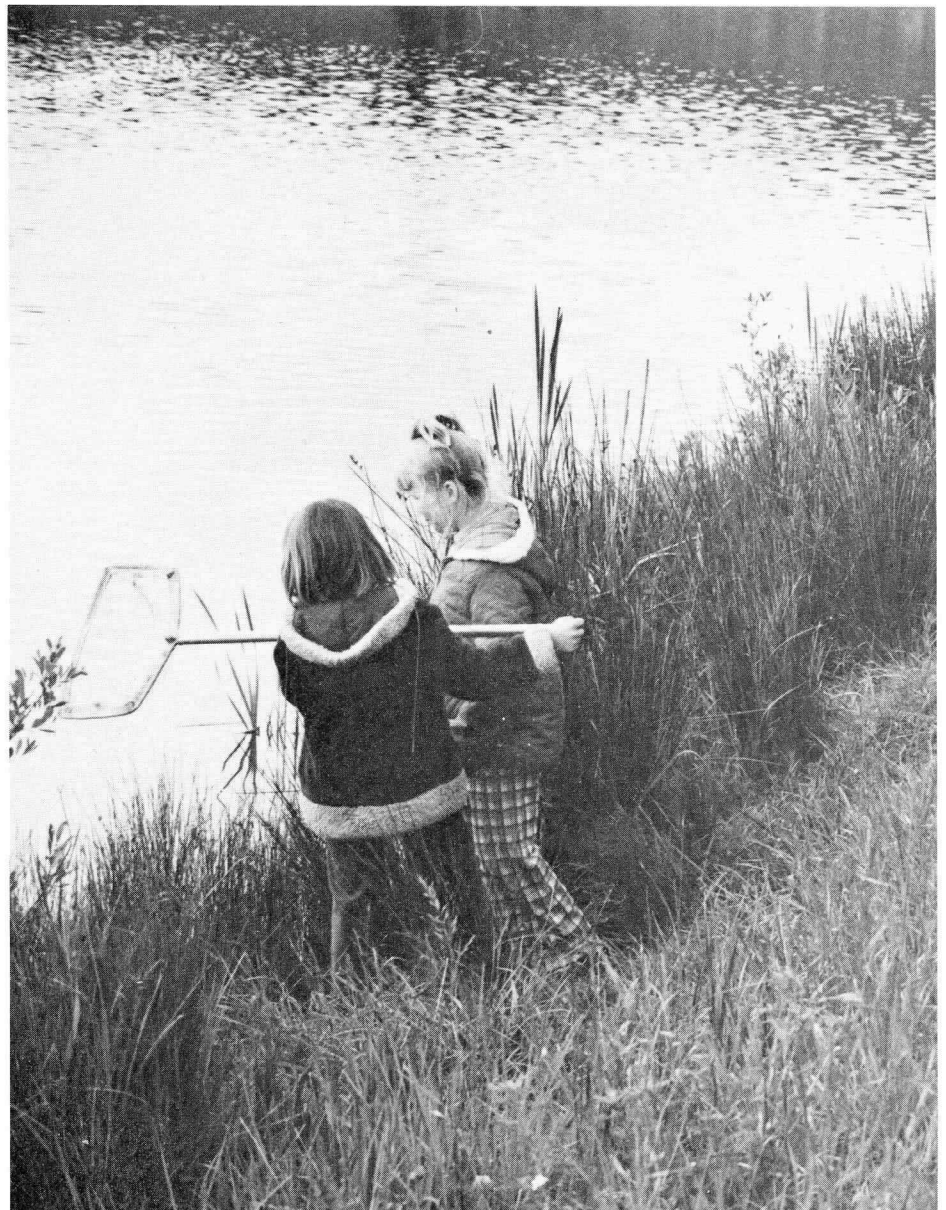
It is not wise or desirable to produce materials designed to displace any of the curriculum that now exists. Enhancement and enrichment of existing curriculum is desirable. Historically, teachers have avoided most agency-produced, content-based literature in favor of that which involves investigation, questioning, data gathering, critical thinking and valuing skills. Project WILD will provide this opportunity plus the translation process necessary to make many wildlife materials widely available today more usable by classroom teachers. Project activities do not take a stand on issues such as predators, hunting or land development. They do provide a means for teachers and students to investigate such issues, interpret their findings and reach their own conclusions.

OREGON WILDLIFE

Project WILD is much more comprehensive than just interpretation of issues and use of agency literature. The activities are based on a framework of concepts that begin with simple awareness of wildlife around us and progress through wildlife values, ecological relationships, management programs, cultural interactions with wildlife and finally an examination of wildlife and responsible human actions. Although being developed in the west, the wildlife concepts in the framework apply nationwide if not worldwide. Project WILD will be readily usable from Maine to Hawaii and probably from Mozambique to Holland

as well.

Although unique to wildlife education, Project WILD is not original in its approach to introducing nontraditional subjects to schools. It is being developed in much the same manner as another very successful cooperative effort of WREEC and the American Forest Institute known as Project Learning Tree (PLT). PLT focuses on the forest environment in much the same way Project WILD will deal with wildlife resources. Introduction of PLT materials into the school systems of the west began in 1976. It is now being used in more than 30 states and three Canadian provinces. —➔



Like PLT materials, Project WILD teacher activity guides will not be available just for the asking. Educators are emphatic that such materials not be just handed out without an introductory process covering use techniques, philosophies and relationship to other parts of the school curriculum. Materials that are "just handed out" often end up gathering dust on a shelf. Project WILD resources will instead be introduced to teachers and their administrators through workshops involving the state fish and wildlife agency, the state department of education and often private wildlife interest groups. These workshops will show teachers how wildlife can be infused into existing classroom subjects and used to enrich current educational efforts.

Young people between the ages of 5 and 18 comprise up to 25 percent of our population. Thus school systems can directly reach up to a quarter of the people of each state. Over 10 million students and a half million teachers interact daily in classrooms in the western states

alone. An additional quarter or more of each states' population is made up of parents of school children. School systems thus provide an effective channel for helping young people, their parents and teachers gain a better understanding about wildlife. Providing high quality, nonbiased, readily usable material is the key.

Although Project WILD has been under development for over a year, it will be nearly two more years before it enters classrooms in a major way. Most of the past year was devoted to drafting teaching activities and the curriculum framework they will follow. The remaining time will involve testing and evaluation. Already underway is a testing effort to insure the activities can be done by teachers with students in the targeted grades and subject areas. Next year a major evaluation effort will document what students learn by experiencing the activities. These important steps have previously been overlooked in preparation of most wildlife education materials. Thanks to the guidance of a broad-based project steer-

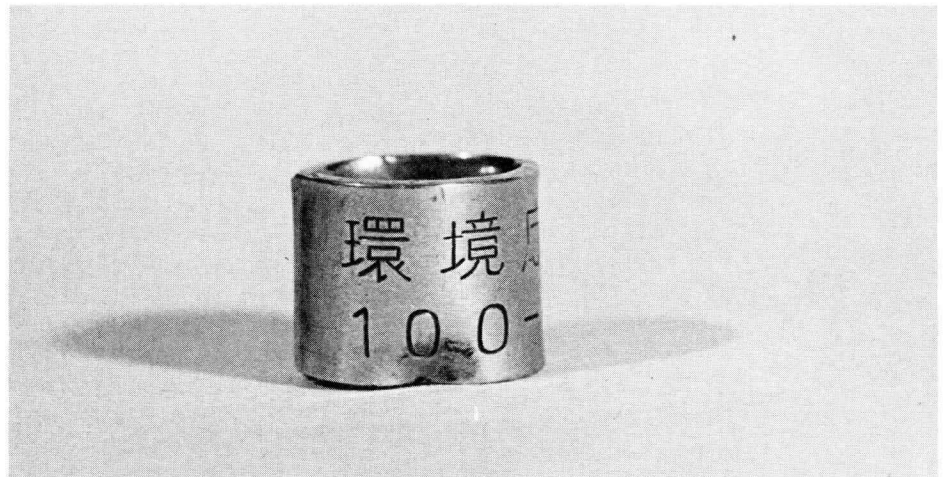
ing committee this current effort will prove a major departure from previous attempts at wildlife education.

The benefits of having a public that is informed about and supportive of any program are incalculable. By the fall of 1983, Project WILD will be ready to provide a level of wildlife literacy that has not been possible before. Schools and teachers will also have an additional motivation tool to make students more eager learners. Like any education process it is a long-term investment. Education requires a patient, consistent approach over many years to be successful. Project WILD will not quickly eliminate the problems wildlife face because of misunderstanding, economic pinch or threats to habitat. It cannot deal with daily crises that will still erupt. No education program can. That is not the nature of education. Project WILD *will* provide an exciting new dimension to wildlife education and current school curricula. It is a creative step toward making a dream come true. □

JAPANESE PINTAIL FOUND IN OREGON

When Bruce Cavallero of Portland shot an adult pintail hen on the last day of October he was not overly surprised to find a metal band on its leg. Banding of ducks has been practiced in this country and Canada for a long time and has provided an immense log of migration data on the waterfowl of North America.

But he was surprised to find in addition to the numbers on this particular band, a series of Japanese figures. And so were waterfowl managers who later saw the band. Although it is not unusual to see birds with bands or other markings from Russia, it is very uncommon for a marked bird from Japan to be found in this country. For one thing, relatively little banding has been done in Japan, but more significantly, the route from Japan to the U.S. involves a long trip over water compared to the short hop from Russia to North



America across the Bering Strait.

Jim Bartonek, Pacific Flyway Representative with the U.S. Fish and Wildlife Service, learned that the band was placed on the bird as an adult on December 4, 1979, on the Saitama Duck Refuge of the Imperial Household Bureau. Bartonek says the area is about 10 miles northwest of Tokoyo on

lands reserved exclusively for use by His Imperial Highness Prince Hitachi who happens to be an avid ornithologist.

Cavallero shot the bird on a private hunting club adjacent to the Sauvies Island Wildlife Area managed by the Fish and Wildlife Department. □

TIP O' THE HAT

Grant County Justice of the Peace Jean Zeiler, Canyon City, has a clear and easily understood message for poachers: "Don't Do It."

A young man appeared before Judge Zeiler on a charge of Taking Deer Closed Season and upon entering a plea of guilty was sentenced to pay a fine of \$1,000 and serve 10 days of a 30 day jail sentence (20 days were suspended). In addition, Judge Zeiler suspended hunting privileges for three years and imposed a two year probation period.

The arrest was made in November by Oregon State Police for killing a fawn deer near Aldrich Gulch in western Grant County. Biologist Ron Garner saw the defendant shoot the fawn twice with a shotgun. He notified State Police by radio and the defendant was apprehended leaving the area. Garner was conducting deer herd composition counts when he saw the violation.

Judge Zeiler deserves a tip of the sportsmen's hat for her efforts to see that game animals have a chance to survive on the winter ranges until next spring. □

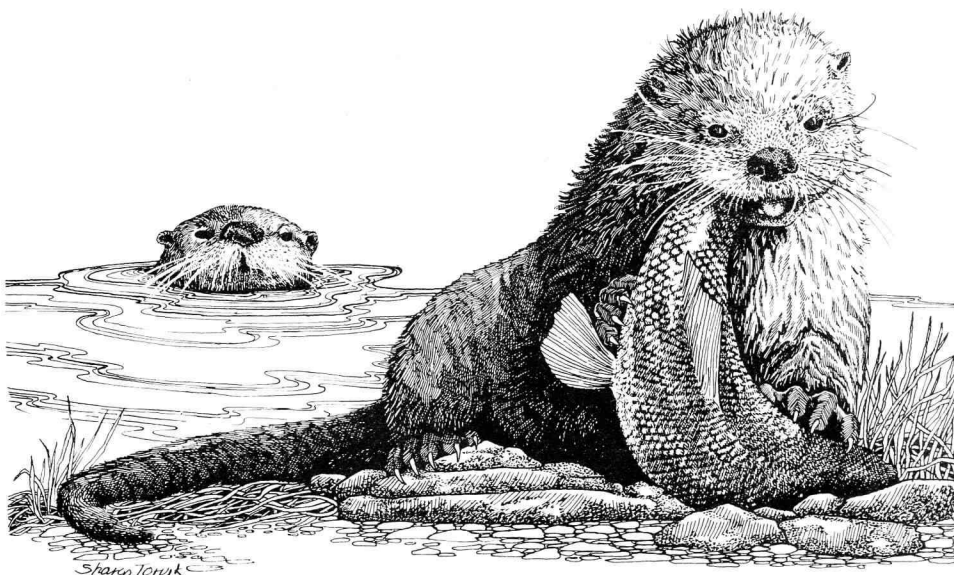
More States Get Checkoff

New Jersey and New Mexico have joined 10 other states offering an income tax checkoff program to citizens wishing to support fish, wildlife and nongame wildlife management.

The program, which is receiving more nationwide attention, provides an opportunity for a taxpayer to contribute a portion or all of their state tax refund to their state wildlife agency for fish and wildlife management.

States with an ongoing program include: Colorado, Idaho, Kansas, Kentucky, Minnesota, Oklahoma, Oregon, Utah, Virginia, and West Virginia. Four others have legislation pending: Indiana, Iowa, Michigan and Pennsylvania. □

OREGON WILDLIFE



RIVER OTTER

Recreation is a luxury few animals can afford, but this member of the weasel family has raised frolic to an artform. There is time for play because the otter is an efficient predator that is well adapted to its environment.

Known scientifically as *Lutra canadensis*, the river otter is found throughout the U.S. and is relatively abundant in Oregon, especially west of the Cascades. Its preferred habitat is in and around freshwater lakes, rivers and marshes.

Like the other species of the weasel family, the otter's body is long and wiry. Unlike most of their relatives, they are primarily creatures of the water with bodies adapted to swimming. The large hind feet are fully webbed while the front feet have partial webbing. The tail flattens out toward the tip and acts as a rudder in the water.

Otters have valvular ear and nose openings that shut tight under water. These animals may stay submerged up to four minutes and swim more than one-quarter mile on one breath. They can swim up to six miles per hour on the surface, and move even faster with an undulating lope on land.

On snow they will also take running hops and slide more than 15 feet on their bellies. Sliding is a favorite form of play. The surest sign of otter is a cleared chute on a steep, muddy river bank. Sliding down this chute and belly flopping in the water is a frequent otter activity.

Frogs, fish, crayfish and aquatic insects find no humor in otter behavior. About three pounds of these creatures make up the otter's daily diet. Otters catch most of their food in the water and eat on land. This efficient feeding makes otters frequent travellers since they would soon exhaust their food supply if they stayed in one place too long.

The female otter delivers an average of three young each spring after a delayed gestation which may last more than a year. The young can travel with the mother after about 10 weeks. The family group will stay together through the first winter.

The otter's fur is its best adaptation to life in the water. The thick, wooly undercoat and the sleek outer coat of guard hairs are waterproof. In addition, a layer of fat beneath the skin makes the otter almost impervious to cold.

This fine fur led to severe overtrapping in the 19th Century. Protection and regulation have reversed that problem, but habitat loss still threatens this clown of the wild. □

Jim Gladson

Page 13

THIS AND THAT

Compiled by Ken Durbin

Tough New Wildlife Protection Law

President Reagan has signed into law legislation that doubles fines and increases other penalties for violating the Lacey Act, the nation's oldest and most basic wildlife protection law. The Lacey Act makes it illegal to transport in interstate or foreign commerce any wildlife that is taken, possessed, bought, or sold in violation of the laws of states or other countries.

The Lacey Act originally was passed in 1900 to curb market hunting and to help states protect their wildlife against interstate and foreign trade in wildlife and wildlife products. Although the Act has been amended several times, the penalty provisions have been inadequate to discourage escalating illegal trade in increasingly high-profit wildlife products.

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A High Price to Pay

The fish and wildlife law violator may think he is getting a pretty stiff sentence if the courts fine him several hundred dollars and impose a short jail sentence in flagrant cases. But our penalties pale by comparison to some of those in force in other areas.

In the Philippines, according to a "Primer on Fisheries Conservation Laws, Rules and Regulations," the penalty for use of explosives for fishing can range from 20 years to life imprisonment. If such use results in the loss of human life the penalty is increased from life imprisonment to death. Mere possession of explosives intended for illegal fishing carries a penalty of from 12 to 25 years imprisonment.

The penalty for fishing with the use of obnoxious or poisonous substances is imprisonment from eight to 10 years, again with the proviso that if such use results in loss of human life the penalty is increased from 10 or 12 years to life imprisonment or death. Similarly stiff penalties await violations of other fishing regulations.

Page 14

Tecopa Pupfish Declared Extinct

The Tecopa pupfish has become the first species to be removed from the endangered list because it is extinct. The Interior Department's U.S. Fish and Wildlife Service made the announcement after no Tecopa pupfish were found in spite of extensive searches by Federal, State, and university biologists in more than 40 localities near Tecopa, California, where the fish could possibly have existed.

The unique desert fish, native to California's Death Valley system, was known to have lived in only two outflow springs of the Amargosa River system. It is thought to have disappeared because of alteration of its habitat and possibly also as a result of the introduction of competing, non-native fish.

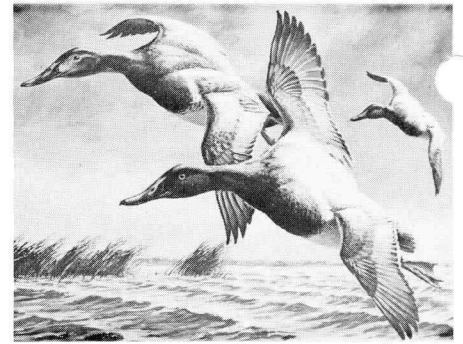
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Bats Over Frogs

The fringe-lipped bat, an unusual resident of Mexico, Central America and much of South America, disdains insects, the food of most bats, and dines instead on frogs. The bat can distinguish edible frogs at night from similar-sized poisonous ones which occupy the same ponds, and can even tell an edible-sized frog from one too large to eat. It does this, apparently, from their calls. The bats rarely ever catch a frog that does not call.

On a bright or moonlit night the frogs are able to see the bats and promptly stop calling. But on dark nights this early warning system fails and the bats become more successful. The frog finds himself between a rock and a hard spot. If he chirps he may get nailed by a bat. But if he doesn't he reduces his chances of attracting a mate. A classic case of "damned if he does and damned if he doesn't."

Dr. Merlin D. Tuttle, whose beautifully illustrated account of his research on this unique bat appears in the January 1981 issue of *National Geographic Magazine*, found the creatures gentle (except to frogs) and intelligent. He even trained one to walk or fly to his hand and attack frogs on his signal.



Canvasbacks in Flight Win 1982-83 "Duck Stamp" Competition

David A. Maass, a prominent Minnesota waterfowl artist, won the 1982-83 Federal "Duck Stamp" competition in Washington, D.C. with his oil painting of three canvasback ducks flying over water.

This becomes the second win in the U.S. Fish and Wildlife Service's annual contest for Maass. In 1973, he took first place for his oil painting of wood ducks in flight, and his design was reproduced on the following year's Migratory Bird Hunting and Conservation Stamp, popularly known as the "Duck Stamp."

This year, Maass' design topped a record 2,099 entries in judging ceremonies at the Department of the Interior. The winning entry will appear on next year's stamp, which must be purchased by all waterfowl hunters 16 years of age and older in the United States. Revenue from the sale of the "Duck Stamp" is used to buy wetlands and other types of waterfowl habitat under a program administered by the Fish and Wildlife Service. Many stamps are also bought by nonhunters with a similar interest in preservation of waterfowl habitat, as well as by a growing number of stamp collectors.

*

... And Finally

Did you hear the one about the small boy seen fishing on Sunday by a neighbor on her way to church?

"I wonder what your father would say if he caught you fishing on Sunday," the lady exclaimed.

"I don't know," the boy said, "but you could ask him. That's him just up the creek a ways."

Outdoor Mississippi

JANUARY 1982



Oregon's

WILDLIFE WINDOW

It was an easy idea to seize upon. Because of this the theory became a "fact" to a lot of people. For many it was one of the few things they really "knew" about nature. It was called the "balance of nature." The word balance was the problem. Most humans considered it in our terms; something that is exact or precise such as a checkbook or grocer's scale. A lot of people imagine nature was such a balance until humans messed it all up.

So the story goes, before humans became numerous and smart enough to effect their environment, nature operated in a system where just enough predators existed to eat up the exact number of prey animals that were produced each year. Thus everything stayed in balance. Unfortunately, nature never learned about this nice human idea.

Modern studies and historical records indicate that populations of many species fluctuated regularly. Numbers rose when conditions were good, often overshot the ability of their habitat to maintain them and then fell as seasons or weather cycles changed, disease, stress or self-destruction of food and cover dragged them down. Perhaps years passed before the habitat recovered or numbers rose again and the cycle began anew. The prey often reproduced faster than the predators. This lag in population peaks left control of many animal numbers up to the whims of nature or animal behavior.

Predators could seldom handle the job.

The boom and bust with all its local and seasonal variations was the so called "balance of nature." It was more like a wildly dancing mobile than a balance. Humans have certainly changed the nature of the dance in some cases and influenced the cycles but one cannot destroy a "balance" that never existed. We are not willing to tolerate the natural ups and downs of certain wildlife today. Thus we manage, regulate, stock, import and otherwise manipulate in an effort to achieve more of a "balance" than is possible with nature alone in control.

In the end there is a sort of aver-

aging over the long term, whether humans or nature are involved. Balance is the wrong word for the process in either instance. Maybe words like order, stability, or parity or equality would be more accurate. These words still do not transmit an accurate picture of the complex interaction of plant and animal communities. There may not be any one suitable word in our language for it. Regardless of human or nature's actions, there is a consistent trend to reestablish order, to move through succession toward a more stable condition, and to fluctuate within certain limits. For the past, present and future, however, the balance remains an illusive myth. □

THIS MONTH'S WINDOW

Ups and Downs

Seek out the journals of early explorers and try to determine what animal numbers were like before humans had much effect upon the land. How do those changes compare to what is happening today?

Write your own definition for the "balance of nature." Compare them with what others have written in the class. Can you find a better word than "balance?"

Draw a picture, make a poster, mobile, diorama or other portrayal of the "balance of nature." Defend your effort for accuracy.

SALMON ADVISORY COMMITTEE REAPPOINTED

A Salmon Advisory Committee to the Fish and Wildlife Department was reappointed by Governor Vic Atiyeh and will be meeting regularly to review and advise on various aspects of the Department's salmon management program.

The five-member committee, originally established by the 1979 Legislature and reaffirmed in the 1981 session, consists of five members appointed by the Governor. Four members of the Committee were reappointed by Governor Atiyeh to serve two years, through October 1983. They are:

- Walt McGovern, Portland, representing sports fishermen
- Al Hampson, Portland, representing private aquaculture
- Chris Kittell, Pacific City, representing environmental concerns
- Dave Schlip, Pacific City, representing commercial fishermen

Robert W. Schoning, Corvallis, was named as a new member to the Committee, representing the general public. At a November organizational meeting he was unanimously elected chairman. Hampson will serve as secretary.

House Bill 3073 which reestablished the committee, named their task to, "review the policies of the Department and make recommendations to the State Fish and Wildlife Commission and to the Department concerning the salmon resources of this state."

The committee will meet each month, usually on the second Tuesday. Often the meetings will be held at the Portland headquarters of the Fish and Wildlife Department, but the Committee also plans to schedule future meetings along the coast to hear public comment on Department policies related to salmon management. □



Salmon Advisory Committee members are: back row, l. to r., Chris Kittell, Pacific City; Dave Schlip, Pacific City; and Al Hampson, Portland. Front row: Robert Schoning, Corvallis and Walt McGovern, Portland.

FINAL CHECKOFF TALLY COMPLETE



**DO
SOMETHING
WILD!**

The final tally of dollars contributed from state taxpayer refunds through the nongame checkoff provision on last year's tax form amounted to \$359,981, a 3.7 percent increase over the \$347,000 contributed in the nongame checkoff program's first year. Some 876,488 Oregonians had refunds coming from their 1980 state income tax returns and 97,803 (11.2 percent) of them elected to "Do Something Wild" and check off a \$1, \$3 or \$5 contribution to the state's nongame wildlife fund. Under changes enacted by the 1981 Legislature, this year's taxpayers can check off \$1, \$5, \$10, or write in any amount they prefer.

Money for the nongame wildlife fund has been budgeted in the Department's Wildlife Division and is being used in a wide variety of projects throughout the state. □



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