

# OREGON WILDLIFE

May-June 1985



# OREGON WILDLIFE

May-June 1985  
Volume 40, No. 3

## 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** — Folks have been donating manpower, money and materials for fish and wildlife for many years. The Astoria Rod and Gun Club helps plant fish from a truck hauled on a train provided by Crown Willamette RR in the 1930's. For more on volunteerism, see page 8.

| HUNTER EDUCATION PROGRAM       |         |
|--------------------------------|---------|
| INSTRUCTORS APPROVED           |         |
| Months of February-March . . . | 27      |
| Total Active .....             | 1,322   |
| STUDENTS TRAINED               |         |
| Months of                      |         |
| February-March .....           | 475     |
| Total to Date .....            | 319,648 |
| HUNTING CASUALTIES             |         |
| (Reported in 1985)             |         |
| Fatal .....                    | 1       |
| Nonfatal .....                 | 5       |

## Commission Adopts Salmon Seasons

The Oregon Fish and Wildlife Commission has adopted ocean salmon seasons for state territorial waters inside three miles identical to those approved by the Pacific Fishery Management Council (PFMC) April 11.

Under the regulations, sport fishermen will have an opportunity to catch almost 100,000 more coho salmon this year than were harvested in 1984.

Sport fishing between Cape Falcon and the Oregon/California border will begin July 1. The coho quota will be 170,000 fish, including those fish harvested in the California sport season that began in February.

Fishing will be allowed seven days a week. The 1984 quota was 130,000 coho.

The season between Cape Falcon and Leadbetter Point in Washington will begin June 30 under a quota of 99,000 coho and 12,100 chinook. The 1984 catch totaled 44,000 coho. Chinook fishing was closed last year.

Fishing will be open in this area Sunday through Thursday only. No ocean sport salmon fishing will be allowed on Friday or Saturday. The partial closure is intended to prolong the season by spreading out fishing effort.

A special one-week, all-species sport season between Cape Blanco and the Oregon/California border will run from May 25 through May 31.

Oregon Fish and Wildlife director, Jack Donaldson, sought PFMC and commission approval for this brief fishery noting that a fishing season at that time would boost the local economy during the annual Brookings Azalea Festival.

## Commission Meetings

May 10 — *Big Game Mammal Proposals*

May 17 — *Town Hall Meeting, Ontario, 7:00 p.m., Treasure Valley Community College*

May 18 — *Town Hall Meeting, Klamath Falls, 7:00 p.m., Mills Auditorium*

May 31 — *Public Hearing on Big Game Regulations*

June 1 — *Big Game Regulation Decisions*

June 21 — *Columbia River Compact, Sockeye Status and Potential Season Setting*

Unless otherwise noted, Commission meetings are held at Department headquarters, S.W. 5th & Mill in Portland, and start at 8:00 a.m.

Chinook-only fishing will also continue through October 31 between Blanco and the Oregon/California line after the coho quota is reached.

All sport fishing between Cape Blanco and Cape Falcon would halt when the coho quota is reached. Fishing would also stop between Cape Falcon and Leadbetter Point upon reaching the earliest of September 19, the 12,100 chinook quota or the 99,000 coho quota.

## SPECIAL REGULATIONS CAPE FALCON TO THE OREGON/CALIFORNIA BORDER

\*Anglers would be limited to the taking of only six salmon in seven consecutive days. This approach is intended to slow down the coho catch rate.

\*Anglers must keep the first two fish hooked. No size limit will be in effect.

\**Barbed* hooks *may* be used in this area.

\*Fishing is open from 0 to 2 miles.

## CAPE FALCON TO LEADBETTER POINT

\*A conservation zone closure at the Columbia River mouth will be in effect between the red buoy line on the south jetty to Klipsan Beach.

\*The bag limit is two fish with minimum sizes of 24 inches for chinook and 16 inches for coho.

\*Fishing will be allowed Sunday through Thursday only in ocean waters.

\**Barbless* hooks *must* be used in this area.

\*The area is open for fishing from 0 to 200 miles.



# 1984 Big Game Seasons

*By Rod Ingram  
Assistant Chief  
Wildlife Division*



Roosevelt Elk

Deer tag sales decreased for the third year in a row and most of the decrease was again attributed to the sale of eastern Oregon tags. Eastern Oregon rifle deer tag sales were nearly 19 percent below 1983 levels. A six-percent decrease was also noted in deer bowhunting tag sales.

Elk tag sales were down two percent below last year. Roosevelt bull elk tag sales increased slightly, but Rocky Mountain tag sales decreased approximately five percent. Resident elk bowhunting tag sales increased slightly, but non-resident sales decreased about ten percent.

*In 1984, there was no annual hunter survey to provide information on big game harvest. Revenue declines due to reduced license and tag sales caused serious funding shortfalls for the agency. In an effort to meet these shortfalls, several programs were reduced or cut entirely. Funds for the hunter survey were among those cut for this year. Without the hunter survey data, information was obtained from field checks and is quite general.*

## Deer

Hunters were required to choose between western or eastern Oregon and 64 percent chose to hunt in western Oregon. Fifty-eight percent of the deer hunters hunted in western Oregon in 1983.

Opening weekend hunting conditions for the 40-day, black-tailed deer season were generally poor because of warm, dry weather. Field observations indicated hunter success increased later in the season as storms moved through western Oregon and leaves began to drop.

Fawn survival was extremely poor in some units in eastern Oregon due to very severe winter conditions. Five units were closed to deer hunting; 18 units had five-day seasons and 23 units had a 12-day season. Forecasts of a poor hunting season in much of eastern Oregon discouraged hunters and tag sales decreased nearly 19 per-

cent to 101,282 tags sold. Mule deer hunters encountered warm, dry weather on opening day but storms moved through several areas on Sunday. These favorable weather conditions improved hunter success in several units. Overall success was better than predicted in several units.

### **Elk**

Hunters were required to choose between Roosevelt or Rocky Mountain elk hunting and between first and second seasons. Permit entry was continued in the Snake River and Chesnimnus units. Forty-four percent of the hunters hunted Roosevelt elk units. Approximately 48 percent of Roosevelt elk hunters chose the first hunt period, while 60 percent of Rocky Mountain elk hunters chose the first period.

Hunters were again allowed to purchase Saddle Mountain and Tioga Unit tags at license agents, but were restricted to hunting only these units. Hunters in these units declined about three percent.

Generally, hunter success in the Coast Range was comparable to 1983 except in the Tioga Unit where success was poor. First period hunters in the Cascade Mountains experienced better than average success as heavy snow in upper elevations pushed elk to lower elevations. Field observations indicated significant shifts of hunters to the first period in some Cascade Mountain units due to snow depths.

Rocky Mountain elk hunters dropped approximately five percent from 1983. Sixty-percent of these hunters elected to hunt the first period. During the past three years, an average of 68 percent of the hunters chose the first period. It would appear the Wednesday opening of the first period in 1984 moved hunters to the second hunt period. Individuals wishing to hunt the Snake River and Chesnimnus units were limited by hunter quotas and a three-point antler regulation was in effect in the Snake River Unit.

Early storms resulted in snow in the higher elevations of many areas and elk began to move to lower elevations before the season opened. Hunting success at mid and lower elevations of many units during the first period was good. Snow created hunter access problems in some units during the second period and hunter success appeared to be below 1983 levels.

A total of 760 antlerless permits for Roosevelt elk and 13,675 permits for Rocky Mountain elk were issued. Access problems due to snow hindered success in some Rocky Mountain elk units.

### **Antelope**

The number of buck antelope tags issued in 1984 was 150 below the 1983 level and three less units were open to antelope hunting. This reduction was due to winter losses during the severe winter of 1983-84.

Field observations indicated success comparable to the previous year in most units. Success rates have historically been around 60 percent on antelope seasons. Six antelope were reported taken by muzzleloaders in the West Fort Rock Unit and four antelope were reported taken by bowhunters in the Gerber Reservoir area.

### **Bear**

The 1984 bear season allowed 98 days of hunting compared to 96 days in 1983. Bear tag sales increased about two percent in 1984. Estimates determined from report cards indicate approximately 1,350 bear were taken; about five percent below the harvest in 1983.

### **Cougar**

Cougar permits were increased 25 percent over 1983 levels and an increase of 38 percent was noted in the harvest. Seventy-nine cougar, of which 42 were taken in eastern Oregon, were taken in 1984 compared to 57 cougar in 1983. Most of the increased harvest was recorded in western Oregon where 37 cougar were taken in 1984 as compared to 13 in 1983.

### **Bighorn Sheep**

Forty-four, sheep tags were issued in five areas in 1984. Thirty, California bighorn sheep were taken by 38 hunters. Seventeen sheep were taken from Hart Mountain; five from the Steens Mountain; six from the Owyhee (Leslie Gulch); and two from Juniper-Warner. Six, Rocky Mountain bighorn sheep were taken by six hunters from Hurricane Divide in Wallowa County.

### **Bowhunting**

Bowhunters were allowed a 30-day statewide general season for deer and elk in 1984. Hunters were again asked to choose between rifle and bowhunting seasons prior to purchasing a tag. There were seven units available for late season opportunities on deer. Late season elk opportunity was under a controlled hunt program with 4,195 permits available. The Chesnimnus Unit was closed to bowhunting.

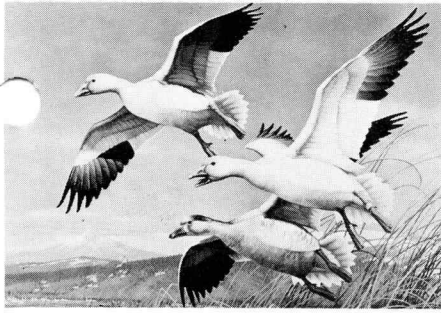
The sale of bow deer tags declined 1,032 tags from 1983 for resident hunters and 232 tags for non-resident hunters. Part of the reason for the decline was the poor mule deer population and a restriction of buck-only for bowhunters in eastern Oregon.

The sale of elk bowhunting tags increased slightly for residents, but decreased approximately 11 percent overall. The state of Washington adopted more liberal bowhunting seasons which may explain some of the decline in sales of non-resident deer and elk bowhunting tags.

### **Harvest Survey**

Harvest information in this article has been general in nature due to the lack of a hunter survey in 1984. Some hunters were contacted by telephone after the season. This information is quite limited and will be used in making recommendations for the 1985 big game seasons. Hunter surveys will be summed in 1985 as the department moves into a new budget period and the program can be funded again. □





## New Waterfowl Stamp

Minnesota wildlife artist Michael Sieve's painting of three lesser snow geese, flying over Klamath Lake with Mount McLoughlin in the background, will appear on this year's Oregon Migratory Waterfowl Stamp, available in June.

The design received the highest score in all five categories used by the selection committee in evaluating 49 pieces of art submitted this year by publishers for consideration. Committee members were not told artists' names until the six finalists were ranked and sent to the Fish and Wildlife Commission. Sieve's work received a 282 rating out of a possible 300.

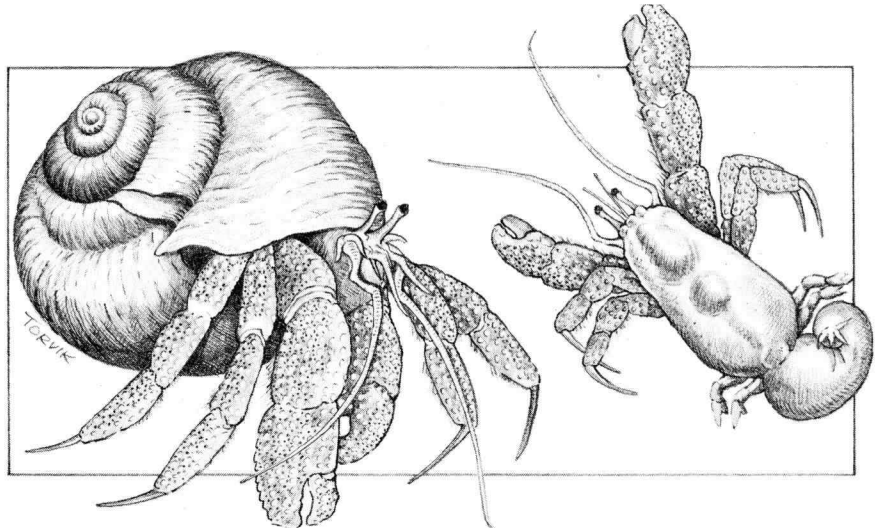
## Tip of the Hat

This month's tip of the hat goes to Douglas County Justice Court Judge Gloria McGinnis of Canyonville.

Late last year, two Myrtle Creek subjects were apprehended using bare treble hooks to snag salmon. They had just landed and killed a 39-inch long female ready to spawn. Both subjects were cited and their fishing gear seized.

Judge McGinnis noted that both subjects had been arrested earlier in the year for deer poaching and that one had also been arrested previously for angling during closed season.

She stated she felt they both had demonstrated total disregard for the fish and game laws. She then sentenced each of them to a fine of \$1,055, one year in jail, with 30 days to be served, and suspended their hunting and angling privileges for five years and confiscated their fishing gear. □



## Hermit Crab

Gazing into a rocky tidepool can remind the viewer of still-life art. A variety of creatures fixed to submerged rocks wave tentacles or lacy, fanlike feeding arms with such subtlety that motion seems only an illusion.

But charging through this tranquil scene comes a snail shell with claws grabbing at floating morsels that may be food. Within that shell is a hermit crab, forced by an odd twist of evolution to seek protection within the covering designed for another species. Several species of these animals may be found in Oregon's tidepools and subtidal areas. The best viewing spots are the pools at the high tide line.

The hermit crab has no shell of its own. It lives in a succession of previously-owned housing, discarding each when body growth makes the fit too tight. A single shell may be used again and again — alternately cast-off, then reoccupied by a smaller tenant.

While the hermit is not born with a shell, it is born to fit one. That the abdomen of the crab bends to the right is no accident. The whorls of most snail shells also spiral to the right, thus assuring a comfortable fit. The crab claws are also sized and shaped so they shut off the opening of the shell when drawn in.

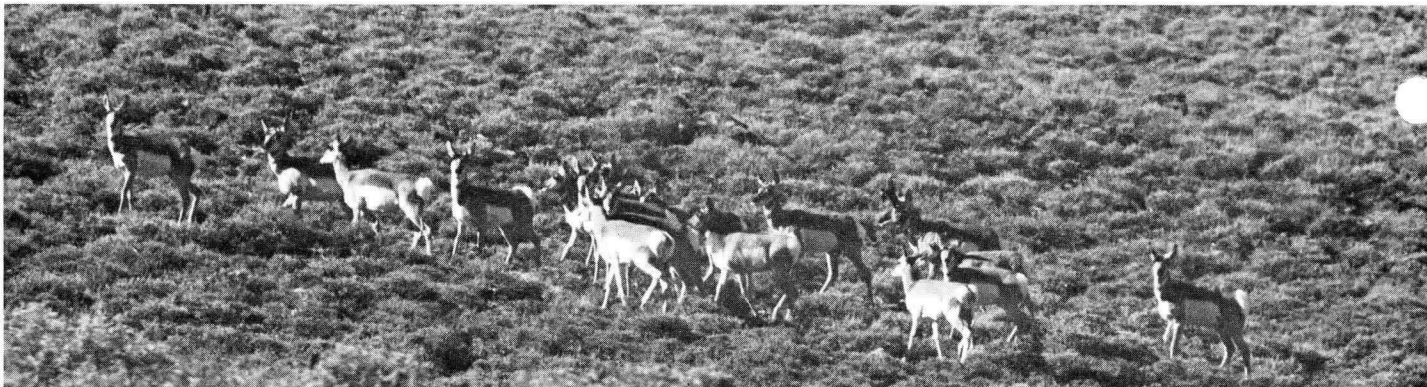
Selecting a shell is important business for this crab. The hermit will not leave an old shell until it has an acceptable new one. First it turns a likely prospect over and over, inspecting the exterior. Then the crab probes its claws into the shell checking for occupants or obstructions. With preliminaries over, the crab hustles from old home to new. If the shell does not feel as good as it looked, then the crab hustles right back and begins the search again. The hermit crab does not kill snails to get at their shells. The crab goes in only after the snail passes on.

Once settled in its shell, the crab is difficult to dislodge. Appendages on its tail act as hooks that cling to the shell. One scientist noted that the hermit crab would allow itself to be pulled in two before it can be pulled out of the shell.

The female hermit must exit the shell to allow the larger male crab to secrete sperm and fertilize the eggs. Males have been known to drag around in-shell females for days waiting for her to decide to pop out.

Like most crabs, the hermit is a scavenger. Almost anything organic has food potential. It grabs floating animal and vegetable matter in the tidepool. It will also stir up the mud with its big claws and strain the suspended material through its mouth parts. □

*Jim Gladson*



Pronghorn in the sagebrush. *Photo by Joe Van Wormer (May not be reproduced)*

## People, Pivots and Pronghorns

*By Gregory P. Robart  
Assistant Wildlife Biologist  
Deschutes District*

"I just can't stand the problem anymore. I would rather have 1,000 sheep on my field than one of them goats." A Fort Rock rancher complains bitterly about damage done by antelope to his new alfalfa seedlings. "I wouldn't mind 40 to 60 head, but 400 at one time on 120 acres of alfalfa is just too much."

This concern is echoed by other alfalfa growers and ranchers in the Fort Rock basin who, with modern pivot irrigation systems, have turned a traditional wintering area for several hundred antelope into an area of easy pickings. The winter pinch period beginning in late November attracts pronghorns to the green fields and haystacks in the shadow of the famous fort-shaped rock southeast of Bend. The newly-planted alfalfa fields are especially vulnerable to antelope which favor the tender young shoots.

With the advent of electricity to

the Fort Rock basin in 1954, agriculture flourished and the basin developed a widespread reputation for high quality alfalfa hay. Of the 2,500 square miles in the Fort Rock basin, approximately 100,000 acres are suitable for irrigation. Approximately 50,000 acres are currently under-irrigated.

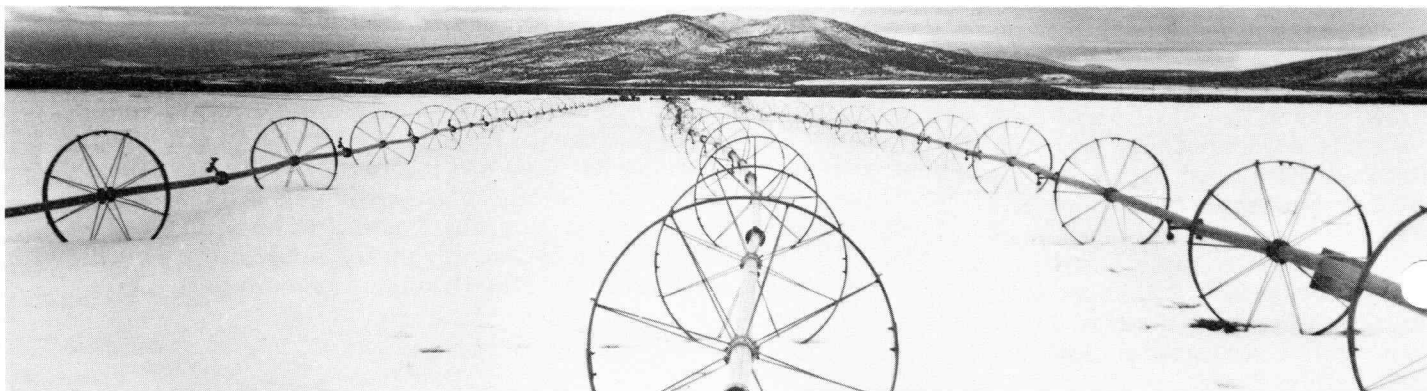
In response to increasing crop damage complaints, several management options were considered and presented to Fort Rock area ranchers in a grange hall meeting in early 1984. Controversy arose when other Fort Rock ranchers expressed a liking for antelope and concern for protection of the herd. "I wouldn't want to see the herd killed or manipulated in any way," said a local rancher. "We enjoy watching them. I think coyotes can keep the herd in check. We don't mind having them eat some from our haystacks. I know of only two ranchers here who are complaining."

Management options, including fencing of haystacks and limited hunting of the herd, were discussed at the grange hall meeting. In the week prior to the meeting, New Zealand-style electric fences, with values upward of \$100,000, were erected around alfalfa haystacks.

One of the ranchers, who sustained excessive damage to his haystacks, expressed appreciation for the cooperative effort of the department and Oregon Hunter Association members in fencing his haystack. He said he thinks he has something he can live with now.

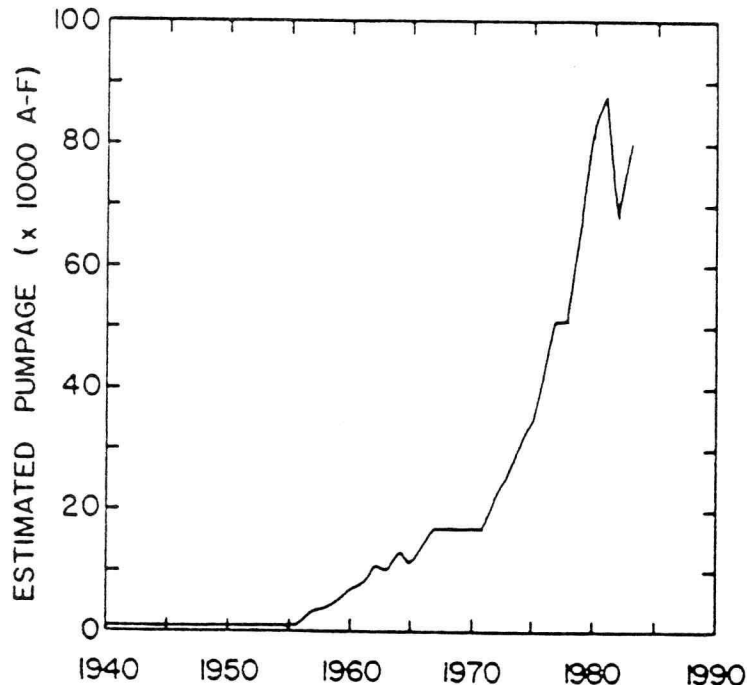
Also presented at the grange hall meeting were the results of a 1983 radio collaring study conducted on the Fort Rock antelope. Biologists explained the objective of collaring antelope was to determine the migration route and summer habitat of the herd. Slides were shown of biologists firing drug-filled darts from a helicopter. A sedative drug was used to immobilize the animals which allowed department biologists a few minutes to affix plastic collars containing radio transmitters.

Former sagebrush, now irrigated alfalfa. *Photo courtesy Jeff Neilson, Bend Bulletin. (May not be reproduced)*



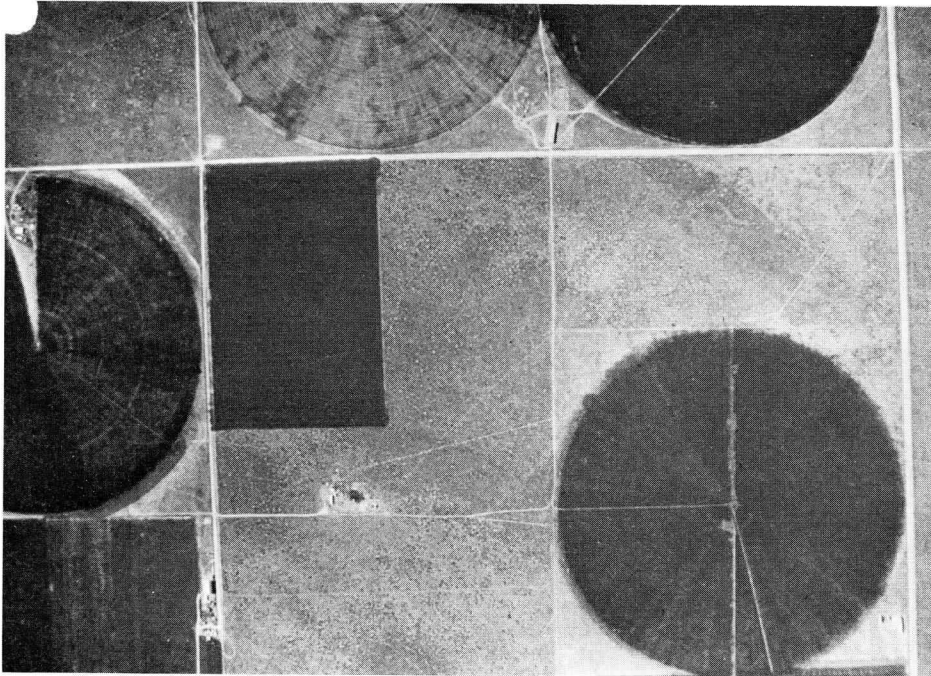


## GROUND WATER PUMPAGE



As shown on the chart, the groundwater pumpage from Fort Rock Basin has increased dramatically in recent years. (Data from Oregon Dep't of Water Resources)

Aerial view showing some of the irrigation circles where alfalfa is now grown in the Fort Rock area. Antelope herd in the area has increased.



Department biologists believed the animals would go east along the desert toward Benjamin Lake where large numbers of antelope are seen each summer. Instead, biologists were surprised to find the antelope spending their sum-

mer south and west from Fort Rock near Sand Creek along Highway 97. Transmitter signals were even heard from collared antelope in the timbered areas of Crater Lake National Park.

Fort Rock grange hall meeting

participants listened with mixed emotions to a proposal from department biologists for a 175-tag, either sex hunt. Some favored harvesting animals to reduce an apparently increasing herd, while the majority objected to any cropping of animals.

During the big game regulation meeting, the Fish and Wildlife Commission listened to testimony from both archery and muzzle loader hunters and voted to limit the either-sex hunt to muzzle loading weapons only. According to Ralph Opp, Klamath District Wildlife Biologist, success in the Fort Rock Unit antlerless antelope hunt was poor. "Antelope were sighted in the Fort Rock unit immediately prior to the hunt and just after, but people were just not finding them during the season," according to Opp. Following the muzzle loader hunt, a telephone survey was conducted to determine hunter success. Of 28 hunters contacted, only three indicated they had harvested antelope for a 12.8 percent success rate.

What does the future hold for Fort Rock antelope? "We are observing a healthy buck and fawn population in the herd and it's in the process of expanding," according to Ralph Opp. One of the questions that remains unanswered is, "just how many antelope are enough," Opp said. It may boil down to just how many antelope the Fort Rock ranchers can tolerate. Fencing the fields may not be the whole answer. Fencing materials, other than the New Zealand electric-type, are expensive and impractical for many of the large 120+ acre fields around Fort Rock. "Besides," said Opp, "the antelope herd is increasing because of the availability of alfalfa which provides good winter forage. Excluding the animals from the fields to which they have become accustomed might stress the herd and create a crash decline in numbers."

While data is continuing to be collected on population trends of the Fort Rock antelope herd, biologists are continuing to examine all management options amidst intriguing biological and sociological considerations. □

# Volunteerism — it has many forms

Over the years, the fish and wildlife management activities in Oregon have been greatly assisted by volunteer help. From the virtual beginnings of the agencies charged with fish and game protection and management, volunteers of one type or another have stepped forward to help.

In the very early days, much of the assistance revolved around fish production and planting. Since that time the variety of activities has blossomed. At times the only limiting factor is the ability of the department to come up with projects that the volunteers can take on.

It would be impossible to list all of the work, materials and moneys that have been donated to help enhance the fish and wildlife resource. One of the ongoing groups has been the hunter education instructors. From the 1950's, prior to the time such training was made mandatory, this group of dedicated individuals has made the program work.

Much of the credit for the comeback of the wood duck can be attributed to the many nest boxes built by sports clubs, youth groups and individuals who wanted to help.

Other types of habitat projects have occupied groups and individuals. Bitterbrush plants now grow in many areas as a result of seed collection and seedling plantings, and many streams have been made better places for fish as a result of cooperation by volunteers.

But the list is long. With the accompanying photos we thank and salute all of you who have been and are participating in volunteer activities. If we haven't mentioned your particular activity, it is certainly not meant as any slight. We appreciate all of the help that has been given . . . we thank all of you who have been volunteers!□

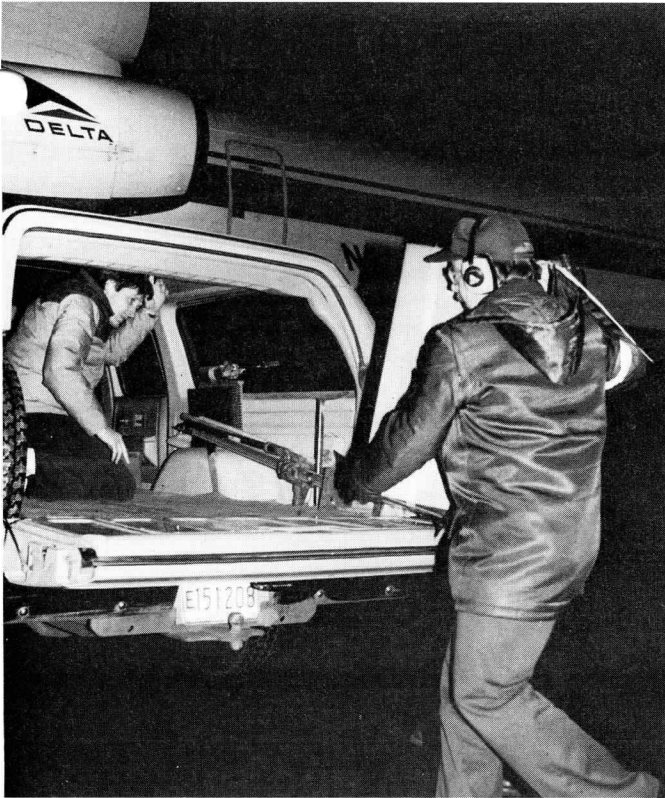


Since before the hunter education law was passed, volunteers have been teaching firearms safety. In the 1950's, one such group was the Multnomah County Sheriff's Reserve. Backbone of the current program is the great corps of volunteer instructors statewide.

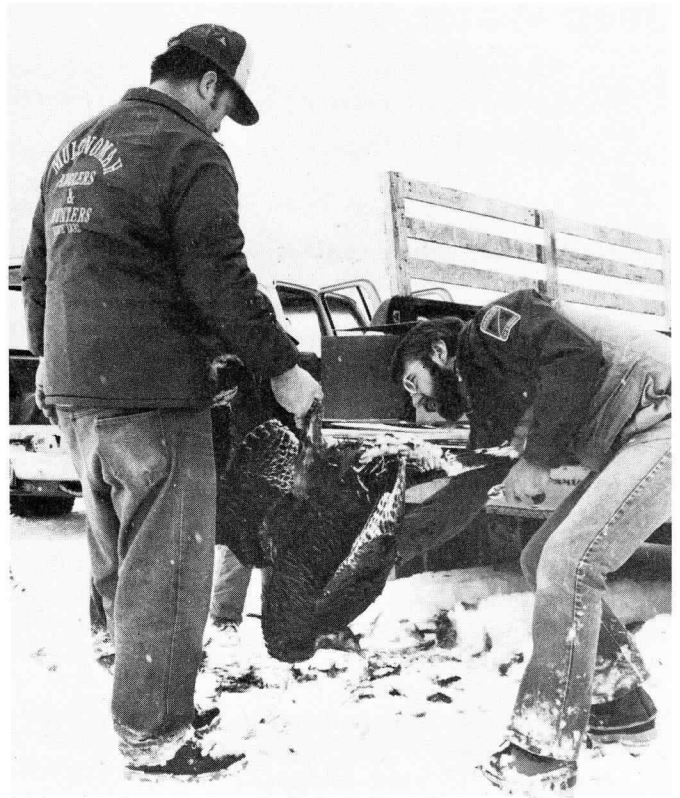
During the recent tough winters, thousands of individuals donated time and money to help feed starving big game. A wide variety of clubs and other groups participated. Chuck Derrick mobilized the folks at Safeway Stores and the result was 90,000 pounds of alfalfa pellets trucked to La Grande.







Wild turkeys have been available from several states. The problem has been getting them here and to release sites. One group came from Texas via air freight, courtesy of Delta Airlines.



Another group of turkeys got to Portland because of the donation of Multnomah Anglers and Hunters Club. Members of the club continued with the project and helped transport the birds from PDX to release sites.

*(continued on back page)*

One of the very active groups of volunteers currently is the STEP group. In many areas of the state hatchboxes have been installed and great progress has been made in improving the stream habitat. Such work may involve cleaning out debris, putting in gravel and boulders or other instream improvements.



# Deep Water Survey

By Bill Barss  
Assistant Project Leader  
Marine Region

Rattail, thornyhead, sablefish and Dover sole are some of the strange sounding names of fish that inhabit deep ocean water off the Oregon Coast. Today, such species are no longer just a curiosity. The condition and abundance of these fish is now a concern to fishery managers.

Interest has recently been expressed to explore for petroleum and minerals in the Gorda Ridge and Juan de Fuca Trench areas off Oregon. Exploration and subsequent extraction of petroleum and minerals have the potential to impact species living at or near the location of that activity.

The Oregon fishing industry greatly expanded in the 1970's primarily as the result of booming shrimp and rockfish fisheries. Today, with reduced abundance in several traditional fisheries, fishermen and fish processors are looking for new species and fishing grounds to help survive difficult times.

With the increased commercial interest in offshore areas, fishery managers need to know the fishery potential of deep ocean areas beyond traditional fishing grounds. One of the best methods to study marine fish is the trawl survey.

The National Marine Fisheries Service (NMFS), Northwest and Alaska Fisheries Center chartered the 108-ft. commercial stern trawler/crabber F/V *Half Moon Bay* to conduct a bottom trawl and trap survey on the upper continental slope off Oregon. The survey was scheduled to occur from September 7 through October 15, 1984, off the central and northern Oregon coast in 60 to 500 fathoms (360-3,000 ft). Some of the special tasks to be accomplished during the survey were:

1. to investigate the depth distribution of principal species.
2. to collect catch and biological data on selected species.

3. to study the vertical distribution and availability of sablefish to bottom trawls by utilizing vertically deployed fish traps.

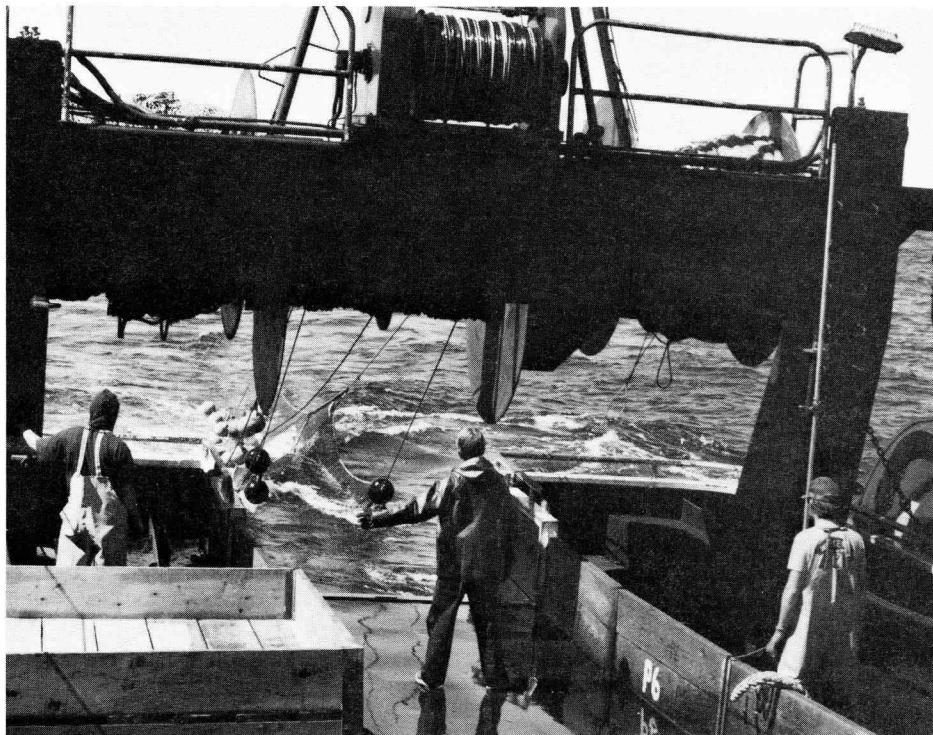
4. to assess the abundance, product quality and meat yield of Tanner crab.

The vessel F/V *Half Moon Bay* was designed for large volume midwater and bottom trawling and king crab and tanner crab pot fishing. The vessel fishes pots for crab and participates in joint venture pollack trawling off Alaska. The boat also trawls off the Washington Coast. The gear includes 1200 fathoms (7,200 ft) of cable on each winch so that it can trawl at depths over 500 fathoms (3,000 ft). The back deck includes four net reels to hold trawls and a large crab block, rope coiler, and "picker" to aide in handling pots.

The vessel was built for extended periods at sea. Accommodations included a large kitchen and a dining table that can be used to serve eight men. A stereo and video player are located in the din-

ing area. A washer, dryer and shower also help make living at sea more enjoyable. The vessel has bunks for 11 men, although it usually manned by four men. Six crewmen work on the boat, with each man serving on a rotation basis of two months on and one month off duty. The vessel has a shop with a large complement of spare parts so that most mechanical problems can be corrected at sea.

We enjoyed the company of all six crewmen; skipper, Danny Hansen, and crewmen, Chris, Scott, Sammy, Al and Harry. These men live in the Westport and Seattle areas during their infrequent visits to land. The crew was relatively young ranging in age from 25 to 35 years. The rugged life of commercial trawl and pot fishermen requires physically strong, hard-working men. Besides performing their own regular duties, they assisted us with our sampling operations. Their good humor helped pass the long days at sea.



The Department participated in a deep bottom trawl survey on the vessel *Half Moon Bay*. Here the trawl net is coming aboard after a bottom drag.



On our trip we enjoyed the cooperation and friendship of Akihiko Ebisawa, a visiting fishery scientist from Okinawa, Japan. Thankfully, Akihiko allowed us to use the nickname of "AB". He was visiting the United States for six months to polish his English and study our fish. The first half of his visit was spent with NMFS at Seattle and on the deep-water trawl survey. During the second half of his visit he would go to Florida to study tropical fishes. His expertise is tropical fish. AB was a good worker and a very friendly and interesting companion. Under his direction we enjoyed eating sashimi (raw fish). Sashimi was eaten by taking a thin slice of raw fish or squid, dipping it into soya sauce, rubbing it against some very hot Japanese mustard and then popping it whole into the mouth. Favorites of AB and the crew were squid, mackerel and rockfish. In Japan we learned that a comparable dish of sashimi would cost around \$20. Akihiko also prepared an interest-

ing appetizer of raw larval sole (rex sole) which was soaked in vinegar. A few of us enjoyed joining AB on the back deck where we ate raw shrimp and slices of raw rockfish. That's what I call fresh seafood!

Paul Raymore was the scientific party chief. Paul has experience surveying off Alaska and the Pacific Coast. His special interest and training is in invertebrates. Paul's main job was to coordinate all biological sampling with vessel activities.

The second NMFS scientist was Anne Hollowed. She was a computer specialist, and this was her second extended cruise at sea. Anne was very quick to learn the many species and she assisted Paul in recording data.

I was the fourth member of the scientific party. Since I have fourteen years experience with ocean trawl fishery management and research, I could provide skills in groundfish and shrimp identification, sampling and survey methods. ODFW marine staff often cooperate with NMFS during sur-

veys off Oregon. We can provide valuable sampling skills and knowledge of our fishing grounds, and in return, we receive first-hand knowledge of our fishery stocks from the survey. In recent years cooperative studies have become more common as extensive surveys at sea have become very costly and difficult for our department to fund.

During the first leg of the survey, four sets of 20 sablefish traps were completed. Sixty tows with bottom trawl were completed successfully. Following each tow, biologists sorted and weighed the catch by species. Additional biological data, such as sex, age and length were recorded on selected species. All catch and sampling data was put onto computer tapes at sea for later analysis by NMFS in Seattle. Biologists and crewmen worked an average of 13 hours each day, seven days a week to take advantage of good weather and available ship time.

The location of the first leg of the survey was from Coquille Bank off Bandon, Oregon to an area off Newport, Oregon. About 53,000 pounds were caught in 60 half-hour tows. The most abundant species with commercial potential were sablefish — 15,300 pounds; Dover sole — 5,700 pounds; short-spine thornyhead — 2,500 pounds; darkblotched rockfish — 1,800 pounds; and Tanner crab — 1,200 pounds. Longspine thornyhead were also abundant — 2,400 pounds for 5,900 fish — at depths over 300 fathoms (1,800 ft), but they were all very small fish. While Dover sole were abundant and good size, they had a jelly-like quality of flesh when taken from deep water. The sablefish traps did not fish successfully. Biological samples were taken from 8,397 fish. Most samples were taken from sablefish, Dover sole and rockfish.

In summary, this was a successful project that will shed some light on potential fishing grounds off Oregon. Data will be processed in Seattle and will soon be available for managers and the fishing industry to make decisions concerning Oregon's deep offshore waters.□



so sampled was the sablefish population. The traps are pulled after being allowed to fish for 12 hours.

# American Shad From An Oregon River — The Umpqua

By John A. Johnson  
Ass't District Fishery Biologist  
Reedsport

It was June of 1977 and I was in a hurry to make a 10 a.m. meeting in Roseburg when I noticed about 20 rigs parked along the Umpqua River near Tyee. Being new to the district, I was curious to see what the great attraction was. As I worked my way down a well-worn path, I could hear excited shouts of "fish on", "there's a hit" and "watch him jump". The mystery was solved as I broke out of the dense, riparian willow stand.

There, right before me, stood an angler whose ultralight spinning outfit was straining against what had to be a very large and powerful fish. I was thinking spring chinook or striped bass when a silvery, 4-pound shad jumped several times and finally broke free. Looking around, I noticed several other people had fish on and nearly everyone had a stringer of shad soaking at river's edge. It was a delightful sight; everyone had fish and all were having a great fishing experience.

The Umpqua River is best known for its striped bass, sturgeon, spring chinook and excellent steelhead fishing. Relatively few anglers realize that a large run of shad enters the Umpqua each spring providing excellent fishing opportunity for sport and commercial fishermen.

The American shad, *Alosa sapidissima*, is the largest member of the herring family in North America and is native to the Atlantic Coast. In 1871, about 12,000 young shad were taken across the continent by train and planted in the Sacramento River of California. More were stocked in succeeding years in the Sacramento and Columbia rivers where they prospered. They now occur on the Pacific Coast from the Mexican border to Cook Inlet, Alaska.

The American shad is similar in appearance to many other herring-like fishes. It has a compressed fusiform shape, deeply forked tail, and large scales that are easily lost. The color is silvery with a

bluish-green metallic luster on the back. Mature males average between two and three pounds and females between three and four pounds. A few shad weighing up to 15 pounds were recorded in early years; however, today few fish weigh over nine pounds.

Shad are anadromous fish; they spend most of their life in the ocean but return to fresh-water streams to spawn. The first summer of their life is spent in the stream where they were hatched. In the fall, they migrate to the ocean where they remain until mature. Males mature at three, four or five years of age and females at four, five or six-years-old. Mature shad return to their natal streams to spawn in early spring.

Males usually enter the river first and swim to the spawning grounds where the females join

them later. Spawning occurs between 53° and 75°F. Each female lays from 100,000 to 600,000 eggs that hatch in three to eight days. Shad are repeat spawners but some die after spawning.

Young shad possess small teeth and feed primarily on insects and crustaceans during their first summer in fresh water. After entering the ocean, young shad lose their teeth and become plankton feeders by straining water through their gill rakers.

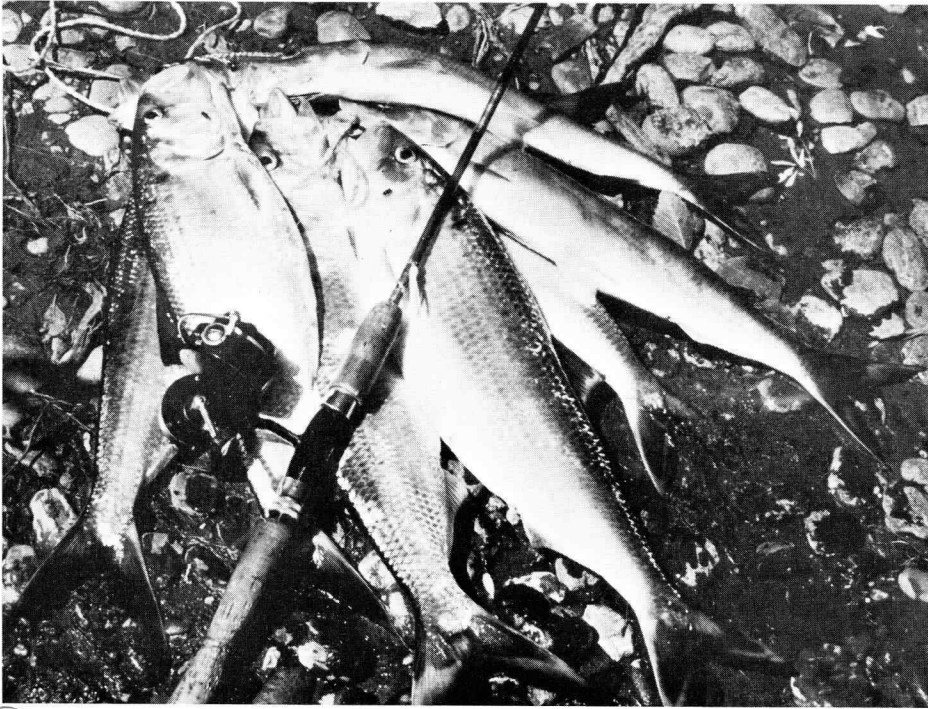
## Commercial Fishery

The commercial fishery began in 1890 on the Pacific Coast and its catch increased to 7 million pounds in 1915. Catches today are drastically reduced. This reduction is due primarily to poor market conditions rather than low population levels.



A limber rod with six to eight-pound line will give you plenty of action catching shad in the Umpqua. Though not as well known as some of the other species, they are strong fighters.





Shad have an ill-deserved reputation for being nothing but crab bait. Smoked shad, canned is superb!

A shad commercial gillnet fishery has existed on the Umpqua River since the early 20's. Although the number of pounds landed has fluctuated, overall, catches have remained relatively high. The average number of shad taken from the Umpqua since 1964 is about 60,000 fish annually. Approximately 15 fishermen still fish shad commercially on the Umpqua, and unless economic conditions change, fewer yet will participate in this dying fishery. Light nets with 12-pound breaking strength are now mandatory to allow striped bass and salmonids to escape. They are expensive and fishing life is short-lived. Most of the picturesque, high-bowed shad boats are old and in a state of dis-

repair.

The shad eggs or roe is considered a delicacy especially on the East Coast. As the polluted rivers of the East have been cleaned up, the decimated shad runs have returned and West Coast shad roe is no longer in demand. The future of the Umpqua commercial shad fishery may well lie with development of potential foreign markets.

### Sport Fishery

Shad usually appear in the Umpqua about May 10 and stay around until the end of July. Best fishing is usually May 20 to June 15. Most fishing on the Umpqua starts above tidewater between Elkton and Roseburg. Shad are

caught on the South Umpqua near Roseburg; however, no fish pass Winchester Dam on the North Umpqua. Look for areas where fish are forced to concentrate and fish those "slots". One traditional "hot spot" is located between Elkton and Roseburg near Tyee.

Tiny lures such as small spinners, spoons, shad flies and darts, and crappie jigs are most effective. My favorite is a red and white crappie jig fished with one large split-shot about 18 inches above the jig. I cast up-stream and let the current bounce it along the bottom. As a general rule they strike ferociously; however, they often bite gently like a crappie.

Once you set the hook, get ready for action. Pound for pound shad are the most powerful fish I've taken. A limber trout rod with six to eight-pound line will give you and the shad plenty of fighting action. Powerful runs and spectacular leaps make the shad a favorite for many anglers. Shad, like other herring, have a tender mouth and you can expect to land only about 50% of the fish you hook. Should you take your limit of 25, don't feel guilty, as the Umpqua has plenty. The Fish Commission of Oregon made a population estimate on the Umpqua in 1969. Based on tag and recovery data, 340,000 fish was the estimate. Recent catch rates give no indication that things have changed much.

### Good Eating

Shad have an ill-deserved reputation for being excellent crab bait but poor eating. Try canned shad from a custom cannery — it is superb! Shad roe is considered a great delicacy when fried, and ever since the days of George Washington, "planked shad" has been regarded as the acme of success in the preparation of a delicious fish for the table. My favorite preparation is to smoke the filets and can them in pint jars. With cheese and crackers, it is hard to beat. □

# This and That

## Dates to Note

The deadline for applying for antelope, bighorn sheep and cougar tags is May 7. The drawing for the tags will be on June 12. All necessary information is at hunting and fishing license agencies.

The remainder of the big game regulations will be set on June 1.

Most of the coastal streams and those in Northeastern Oregon open to trout angling on May 25. East and Paulina lakes open May 19. Check the angling regulations for the specific waters you may be interested in.

## Denny, Ingram Promoted

Ralph Denny, previously assistant chief of the Wildlife Division, has been named Assistant Director in charge of the Wildlife Division succeeding Jim Harper who succumbed to a heart attack late last year.

Rod Ingram, former staff big game biologist, has been named to move into Denny's position as assistant chief of the division. Al Polenz, district biologist from Hines, has been named Ingram's successor.

## No Room in the Biennial Report

The condensed version of the biennial report, which was our last issue, did not allow us to present some of the tabular material normally included. One item of interest concerning finances is the accompanying chart. Though the department does not pay actual property taxes, the counties do receive payments in lieu of taxes on department lands. The lands are assessed at a rate equivalent to farm or forest lands. There are exceptions made for property used for fish hatcheries, bird farms, office quarters and fishing access sites and impoundments.

Below are the figures for the period from July 1, 1983, through June 30, 1985.

| Area                  | Taxes and Assessments |             |            |          | Total     |
|-----------------------|-----------------------|-------------|------------|----------|-----------|
|                       | In Lieu of Taxes      | Fire Patrol | Irrigation | Drainage |           |
| Big Game              | 53,967                | 62,926      |            |          | \$116,893 |
| Upland Game           | 1,259                 | 109         | 2,325      |          | 3,693     |
| Waterfowl             | 60,458                | 222         | 4,245      | 13,341   | 78,266    |
| Functional Facilities | 128                   |             |            |          | 128       |
| Fisheries             | 677                   | 1,699       |            | 121      | 2,497     |
| Totals                | \$116,489             | \$64,956    | \$6,570    | \$13,462 | \$201,477 |

## Endangered Species List Changed

Forty-six more native and foreign animals and plants were added to the U.S. list of Endangered and Threatened species list during 1984. The number of species on these lists stands at 828, of which 331 are found in the United States and 497 solely in other countries.

Conversely, several species appear headed for recovery. The Artic peregrine falcon and Utah prairie dog were moved from "endangered" to "threatened" status reflecting an improvement in their situations. Other species on their way to a more secure future include the southeastern population of brown pelicans, whose removal from the endangered list has been proposed, and the Florida population of the American alligator, whose numbers have increased sufficiently that limited harvest of the reptile may be permitted, similar to those already held in Texas and Louisiana.

*U.S. Fish & Wildlife Service*

## Hunter Safety Record Set

For the second year in a row, Oregon hunters have set a safe record for their sport. Approximately 390,000 hunters recorded only 21 accidents in 1984 compared to the previous low of 29 accidents in 1983. This is a 28 percent reduction in one year and a great drop from the total of 58 accidents recorded in 1958 with the same number of hunters.

"There's no doubt about it," says Bill Hastie, Hunter Education Coordinator for the department. "Hunting is becoming a safer sport in Oregon. The trend began in 1965 when we had 2.2 accidents for every 10,000 hunters. This ratio has steadily declined to 0.6 accidents per 10,000 hunters in 1984.

"One of the most frustrating things that remains constant is the cause of most of the accidents," according to Hastie. He points out that, "Without fail, about 80 percent of the accidents are self-inflicted or inflicted by a hunting partner. This points to the fact that a high number of the occurrences are caused by simple careless handling of guns in camp, in a vehicle or while negotiating some obstacle."

## Lottery Competition?

Want to get rich? All you have to do is prove that a creature called "Ogopogo" really exists. The creature is said to be a large, unknown animal that looks like a sea serpent, living in Canada's Lake Okanagan, near Vernon, British Columbia. Is the reward a joke? Nope . . . according to National Wildlife's Ranger Rick magazine. The money has been guaranteed by Lloyds of London.

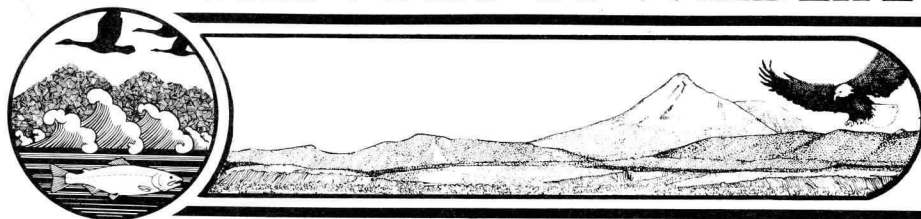
## Bodacious Appetite

The African elephant's second most serious problem, after being poached for their ivory tusks, is its appetite. An elephant may eat 500 pounds of forage a day, requiring about one square mile of average savanna per animal over the course of a year. That's a lot of land for some African countries, like Kenya, which has only 225,000 square miles and some 60,000 elephants to feed.

*International Wildlife*



# THE WAYS OF WILDLIFE



## *Learning By Experiencing*

### Those Incredible Insects!

Of all the groups of animals on the earth, insects are the most numerous. It is estimated that there are about 700,000 different kinds (species), with thousands of others not yet discovered. So it is no surprise to find them almost everywhere we look.

If you look closely at one or more insects you can see that they come in a wide variety of shapes and colors. But since they are usually small and fast-moving creatures, it is hard to study them close-up.

One way to understand how insects are put together is to build an insect model. This is a great way to learn about insect body parts. Here's how:

1. Blow up a balloon most of the way, and then use two pieces of

strong thread to tie it into the three insect body sections: head, thorax, and abdomen.

2. Dip yarn into white glue and wrap it around the balloon in all directions. Let the body dry. Pop and carefully remove the balloon through a crack in the yarn.

3. Draw an outline for two pairs of wings on heavy paper. Cover the paper with clear plastic wrap. Squeeze the glue onto the wrap in a vein pattern and around the edges. Press pieces of yarn into the glue. Let this dry.

4. Mix white glue with a few drops of food coloring. Paint this all over the wings. Dry the wings, and then carefully peel the wings away from the paper and plastic.

5. Attach the wings to the thorax with paper fasteners. Glue pipe

cleaners to the head and thorax for antennae and legs. To make eyes cut a small Styrofoam ball in half and glue each half to the head (Be careful). Tie a strong thread to both ends of the model, and hang it up to fly.

Now that you're an expert on insects, collect some real ones! Besides the tried and true insect net (or jar and lid), here's a few other ideas:

#### *Can Traps*

First punch small holes in the bottom of the can so that it won't fill up with water if it rains. Then dig a hole in the ground and sink the can so that its top is at ground level. (Pick a spot that is rich in insect life)

For bait, you can use a piece of meat left to decay, molasses or honey, or fermented fruit. Put the bait at the bottom of the can and cover the food with a screen. (That way you won't have to pick through the bait to see the insects.)

Try different baits to see which foods attract which kinds of insects, and which baits attract the most insects.

#### *Sugarin'*

You can also attract insects by using a sweet mixture of fermented fruit juices, stale beer, mushy bananas, and molasses or honey. Mix it all together and spread it on tree trunks, fence posts, stumps and logs. Beetles, ants, roaches, flies and butterflies may come to feed. Try this activity during the day and night to see if you attract different insects. You will probably also attract daddy longlegs, spiders, sowbugs, and maybe even some mammals, amphibians or reptiles.

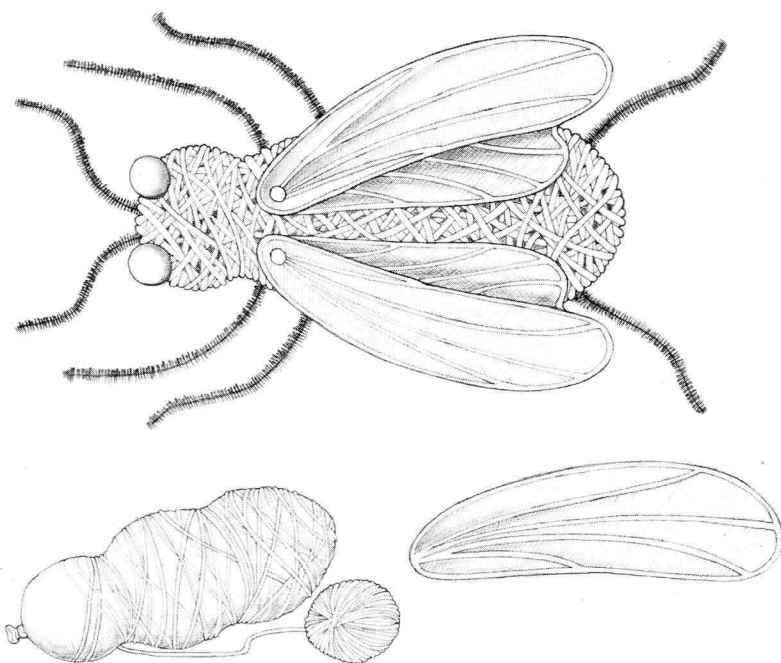
#### *The Sheet Trick*

Many insects have a habit of folding their legs and acting dead when they are disturbed. You can make use of this trick to catch them.

Spread a white sheet out under a shrub. Shake the shrub and see if any insects fall out onto the sheet and play dead.

Thanks to Ranger Rick's *Nature Scope* (Incredible Insects issue), National Wildlife Federation, 1412 16th St. NW, Washington, D.C. 20036, for this activity. □

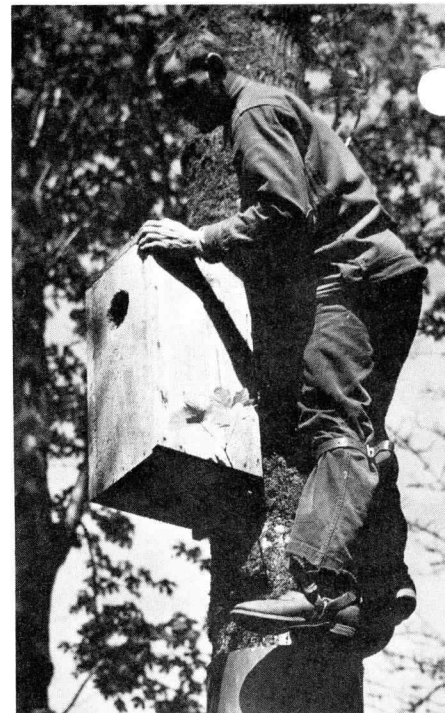
*Bill Hastie*





The Salem battalion of the Army National Guard made the donated materials and dollars go much further by constructing much of the viewing facility at the bridge at Camp Sherman. Watchable Wildlife projects such as this are largely dependent on various donations.

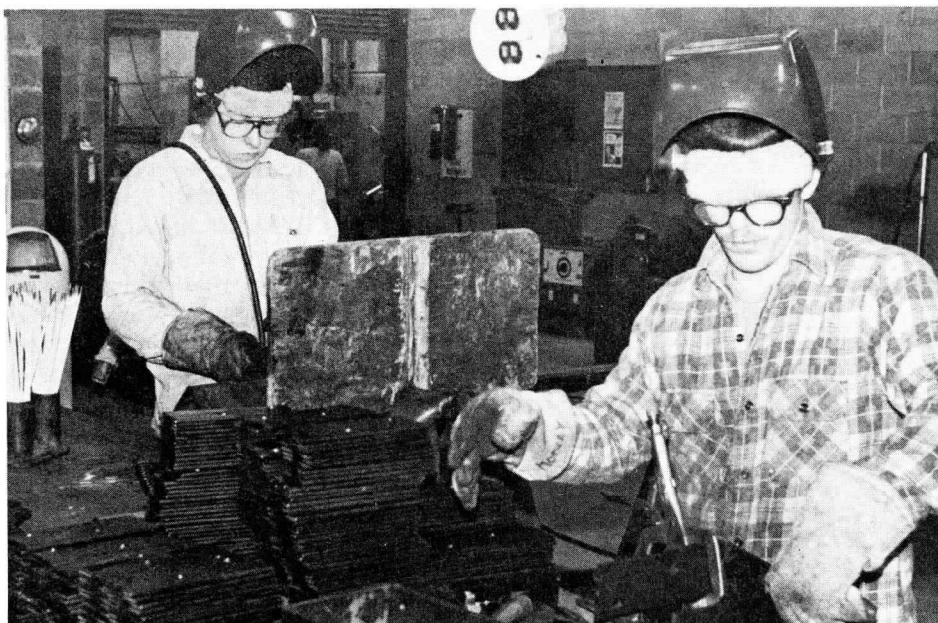
A class project at Linn-Benton Community College provided department hatcheries with walkway supports. A wide variety of class projects have contributed materials, dollars and labor to many department activities. Class levels are from grade school through university.



Wood Duck nest boxes and a variety of other types of birdhouses have been built and installed by individuals and groups of volunteers. The importance of such projects to these species is immeasurable!

In this issue, we have tried to show just a few of the great number of volunteer and donated activities that have taken place to help department programs. We hope no one will feel slighted. Obviously, we could not show more than a small sampling. However, we hope all of you who have so generously come forth with time, dollars and other donations will accept this thank you. Your assistance is appreciated and will continue to be needed if we are going to do a proper job of providing for our fish and wildlife resource in the future.

For more photos see pages 8 and 9.



## We Salute Donors of Manpower, Money and Materials



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