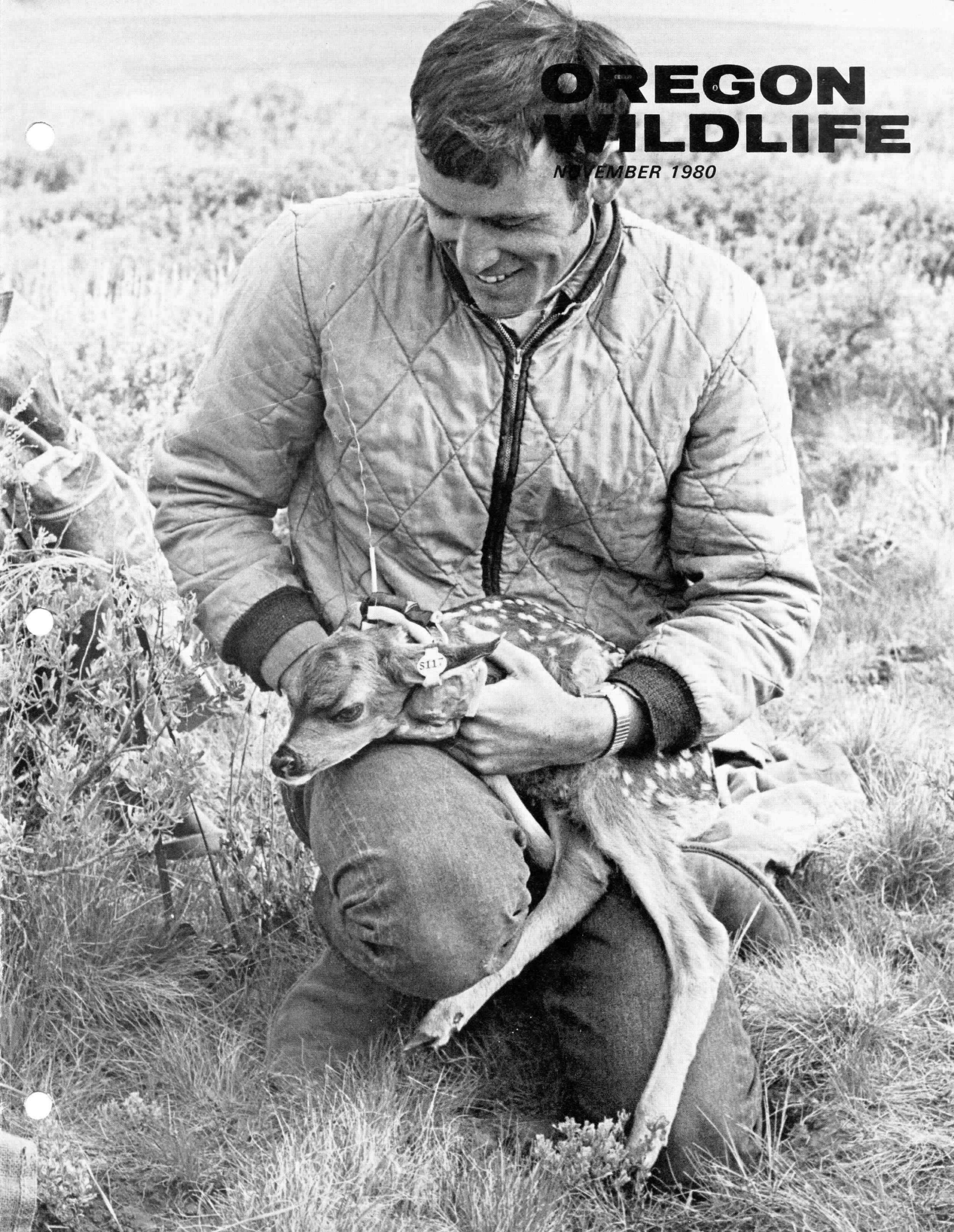


# OREGON WILDLIFE

NOVEMBER 1980



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Volume 35, No. 11

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**Cover** — A research project to study mule deer populations on the Steens Mountain was begun in 1968. A summary of research findings appears on pages 8 and 9.

*Photo by Ken Durbin*

HUNTER EDUCATION  
PROGRAM  
INSTRUCTORS APPROVED  
Month of September . . . . . 67  
Total Active . . . . . 1,534  
STUDENTS TRAINED  
Month of September . . . . . 2,673  
Total to Date . . . . . 276,494  
HUNTING CASUALTIES  
REPORTED IN 1980  
Fatal . . . . . 0  
Nonfatal . . . . . 2

## CONSERVATION ... A WORLDWIDE CONCERN

When one has been working in the field of wildlife conservation for a number of years, it sometimes seems that nothing has changed. We started quite a few years ago trying to put across, through the use of information and education techniques, some of the ideas of conservation. The catch phrase to define conservation was "wise use". This has been greatly expanded and in many cases become confused with preservation and numerous other ideas that have come down the pike.

In March of this year, a document hit the world press that indicates the old concepts still are valid and that there are many individuals in many places still trying to put those ideas across. The document is the **WORLD CONSERVATION STRATEGY**. This publication was compiled by the International Union for Conservation of Nature and Natural Resources, the World Wildlife Fund and the United Nations Environment Program. During preparation, the strategy was reviewed by several hundred people from many nations and of numerous disciplines. Copies of the WCS have been distributed to national leaders worldwide and it has drawn considerable attention from the press.

The complete document is rather lengthy and at times involved, in that it covers all fields of renewable resources and their use by all types of nations. It emphasizes that conservation and development are not incompatible, providing proper planning takes place; that resource conservation cuts across and must be considered by all sectors; environmental planning must have long-range, broad goals; and several other concepts that, if not considered, can be obstacles to conservation.

However, the basic aims of the strategy are ones that we have been dealing with for a number of years. They are digested and summarized as the main objectives of living resource conservation. Briefly, they are: (a) to maintain essential ecological processes and life-support systems on which human survival and development depend; (b) to preserve genetic diversity on which depend many of the natural processes and life-support systems; and, (c) to ensure the sustainable utilization of species and ecosystems.

Though the statements are broader and more general, they state the conservation concerns that we have here in Oregon. Such things as protecting spawning streams, allowing adequate escapement of various strains of fish, protecting essential wildlife habitat through land use planning, and protecting unique pieces of habitat such as estuaries and marshes to name but a few examples.

The interesting and perhaps satisfying part of seeing the **WORLD CONSERVATION STRATEGY** is twofold. It not only gives us some assurance that our ideas are shared by others and secondly that the ideas are not completely provincial and narrow based, but are mutual concerns of people of many nations.

Publication of the **WORLD CONSERVATION STRATEGY** will not turn around poor conservation practices worldwide in a day, year or month. But, it is a step in the right direction in that it puts forth ideas of concern in many nations and points toward cooperation in conservation. □

R.E.S.

## COMMISSION MEETING

*The Fish and Wildlife Commission will conduct a general business meeting on Friday, November 14, beginning at 8 a.m. The meeting will be held in the Commission meeting room at Fish and Wildlife Department headquarters, 506 SW Mill Street in Portland. □*





Lewis and Clark at the mouth of the Washougal.

## WISH YOU WERE HERE???

by Jim Harper  
Ass't Chief, Wildlife Division

Many times while hunting, fishing, hiking or merely driving through the country, I have wondered what Oregon looked like when the pioneers first arrived and what changes have taken place through time. Did wildlife abound; were there trees or grass in the valleys; what did our ancestors eat? These, and many other questions come to mind.

The answers to these questions are readily available in the various libraries around the state and in the archives of the Oregon Historical Society. Many of the early trappers, explorers and pioneers kept journals and other records of daily events and travels. By reading these documents, a person can journey back in time

and get a mental image of what our great state was like in bygone days. Let's take a few of these trips.

October, 1805 — We find ourselves on the Columbia River with the Lewis and Clark expedition (Patrick Gass' Journal). There is a considerable quantity of timber on the hills and a high mountain to the south covered with snow (Mt. Hood). Supplies have been short and on October 28, we purchase some dogs from the Indians and our hunters kill one deer. After buying some more dogs the next day, we continue our downstream journey, crossing the Cascade Mountains and moving on to the mouth of the Willamette River, arriving November 3; we kill two deer and 17 waterfowl for food.

The country on both sides of the Columbia appears level and closely timbered with cottonwood, maple, some ash and, in the background, a type of "spruce pine" (probably Douglas fir). Game appears more plentiful here than up the river and as we travel to the mouth of the Columbia, which we reach November 16, the hunters kill three deer, 23 waterfowl and one crane. We also purchase some dogs and roots from the Indians.

On December 7, we arrive at the site that will be our home for the next 106 days; Fort Clatsop. On the 25th we sit down to our first Christmas dinner in Oregon; a meal consisting of poor elk meat spoiled by the moisture, some roots and rotten pounded

fish obtained from the Indians.

We reside at Fort Clatsop until March 23, 1806, then pack up and begin our journey homeward. During our stay, 131 elk and 20 deer are killed for food. A total of 338 pairs of elk skin moccasins are made to wear on our homeward trek.

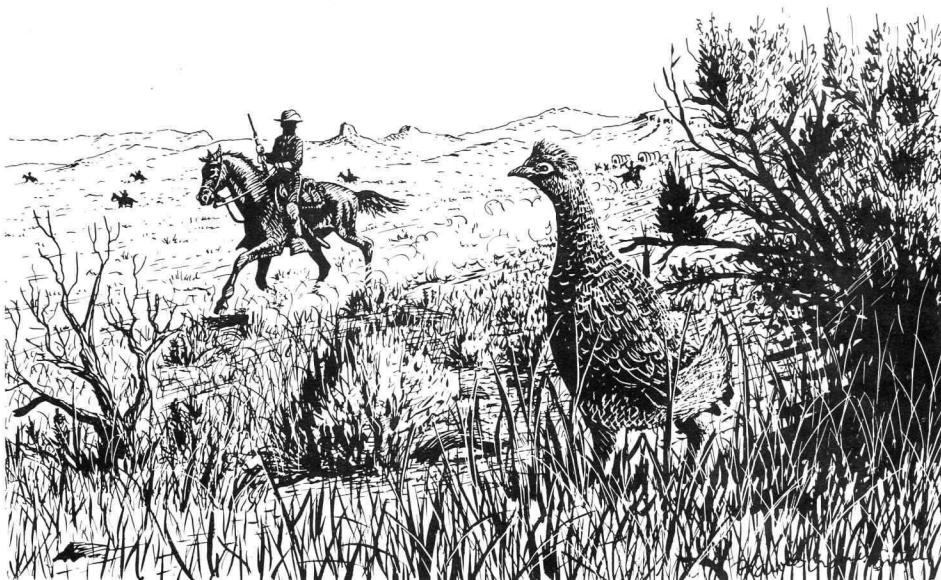
During the first week of May we reach the Snake River and depart from the Oregon Territory. After passing the Willamette River on our journey up the Columbia, game becomes scarce. Since April 9, we have purchased over 60 dogs and a horse for food. The heavy diet of dog made Lewis exclaim:

"... the dog now constitutes a considerable part of our subsistence and with most of the party has become a favorite food; ... I prefer it to lean venison or elk, and it is far superior to the horse in any state." —

Let's jump forward to October 1843 and join Fremont as he travels through the Malheur River Valley. — The bottomlands here are covered primarily with long, dry grass. As we move northward into the Burnt River drainage, we encounter slopes of timber interspersed with bunchgrass. In crossing the divide between Burnt and Powder rivers, we find that the mountains from south around by the west are black with pines. Those to the east are bald, with the exception of some scattered pines.

In the Grande Ronde Valley we encounter a burn that has removed the old grass from the surrounding hills. Wherever the fires have passed, a vigorous growth of strong, green grass has appeared. The floor of the valley is a beautiful level basin covered with good grass. Traveling across the hilly country to the headwaters of the Umatilla River, to the Walla Walla River and down into the plains, alternate bodies of timber and prairies are encountered. Many of the prairies are covered with lush green grass, a result of fires that had occurred early in the autumn. —

A description of the vegetation makes one imagine that these areas must have been a biological paradise in terms of wild game. John Work's travels 12 years previous, in 1830, indicate that, even then, a person had to work hard for his meat. We pick



up this expedition in the country surrounding the Owyhee River. —

June 27, 1830 — two antelope observed today, which is certainly a novelty. As we travel toward the Steens Mountain, the hunters manage to kill two antelope, one on the 28th and another on the 30th. We have decided to kill a horse for food. On July 1, the hunters are out, but kill nothing. Another horse is sacrificed. As we pass Malheur Lake, numerous waterfowl are observed, but the hunters are again unsuccessful, the birds being extremely flighty.

We journey up to Silvies River, and encounter little except an occasional beaver. Fifteen miles up the river the hunters kill four antelope and four beaver. The next day we decide to stay in camp and, in the process, catch 13 beaver. The hunters kill one deer and one antelope. On July 6, one of the men arrives in camp with a load of young herons to eat. We sup sumptuously.

On July 10, we cross to the John Day River through mountains thickly wooded with tall pine. We travel down the river about 25 miles and camp near Indians who are attempting to catch salmon. We trade for a couple dogs, but even these animals are lean, a sure sign of the scarcity of food. We continue downstream to the North Fork, up the North Fork for 15 miles, then turn northward through the mountains. We observe

a few elk tracks and kill one deer. We finally arrive at our destination, Fort Nez Percés (near the present town of Pendleton) tired and bedraggled. During our voyage, we killed eight horses for food. —

Now, let's take one final trip with John Work, Chief Trader of the Hudson Bay Fur Company. The expedition leaves Fort Vancouver May 22, 1834. — Crossing the mountains to the Tualatin Plains, we pass through stands of fairly large pine (Douglas fir) and cedar with thick undergrowth. Camp is pitched the first night on a broad flat plain (North Plains). Continuing south, we cross three streams and camp on the banks of a fourth (near Gaston). The hunters go out but return empty handed reporting that some deer were seen, but they were too spooky and could not be approached.

The party slogs through the wet swampy margin of Wapato Lake, turns eastward and crosses some low hills covered with a few trees and a lot of bushes. The hunters meet us at the evening campsite with one deer.

Moving southward we pass the future sites of Dayton, Amity, Dallas and Monmouth. The plain continues on without interruption except for a few trees along some small streams. In places it is several miles wide. The banks of the major rivers hold a few trees, principally fir with a mixture of oak. There are also isolated patches



of oak scattered here and there.

Following the Long Tom River and turning westward, we reach the Siuslaw River on June 4. Since leaving Fort Vancouver 13 days ago, the hunters have been out daily and have brought in five deer.

The timbered mountains to the south are crossed, bringing us to the broad, grassy slopes above Elk Creek near Drain. We travel to Scottsburg without incident and return to Drain on June 11. The game seems more abundant here and in the 10 days that pass before we begin our northward journey home, 12 deer, one elk and one beaver are killed for food. The return trip passes through future sites of Saginaw, Cottage Grove, Springfield and then over to the Long Tom and northward. The hunters kill three deer and two others are obtained from Indians. —

Some methods used by the Indians, and the pioneers, to secure food, are of interest. For instance, the following are taken from a letter or articles written by early pioneers in the Oregon Territory. —

Talmadge Wood — 1846: "I have been compelled to (by) hunger to eat mules, horses, dogs, wolves, badgers, ground hogs, skunks, frogs, crickets, ants, and have been without food of any kind for six days and nights. Cats, dogs, or anything else is right good eating meat at such times."

"... early in the mornin, when the crickets (which are in some parts very numerous and as large as the end of your thumb) by the coolness of the air and dew are very stupid, and climb to the top of weeds in great numbers ... they are at such times easily captured by jarring them off into a basket and then roasted ... make very good eating when one gets used to it."

Wallis Nash — 1882: "... about 20 miles up Marys River from Corvallis ... the woods were a sure find for deer, and we could kill one almost any day by planting a gun or two at points in the valley ... and then turning the hounds into the woods above."

Louis Labonte — early 1800's: The Indians had a unique way of hunting bucks during the rutting season. They

would place the head of a deer, including the hide of the neck, over the head of the hunter. The hunter would then creep up on the lee side of a deer herd, occasionally jerking his head from side to side, as if nabbing flies. The plan did not always work well. As Mr. Labonte reports: "... the Indian himself, if he chanced to miss his mark, was sometimes viciously attacked by the deer as to be badly gored or trampled or possible killed."

And one final report — Jedediah Smith — 1828 — concerning Indians on the Chetco River.

"These Indians catch elk in pits dug in places much frequented. They are 10 or 12 feet deep and much larger at the bottom than top. They are covered over and some of my hunters with their horses fell into one and got out with considerable difficulty." —

Maybe these reminiscences will help in giving us a better understanding of Oregon in its early years. It's true, the pioneers did not have traffic jams or mob violence or crowded hunting conditions; but roast crickets for breakfast? I don't know... □



Kind of Winter?

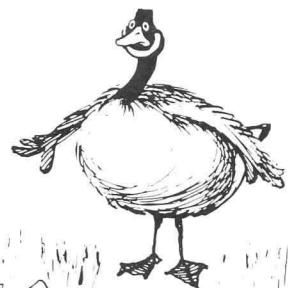
# THE CATERPILLAR KNOWS



... OR AT LEAST SOME  
PEOPLE THINK IT KNOWS.  
WIDE BAND, MILD  
WINTER; NARROW BAND,  
HARD WINTER. A  
WOOLY-BEAR STUDY  
SOME YEARS AGO FOUND  
NO CONNECTION  
BETWEEN WIDTH OF BANDS  
AND SEVERITY OF THE  
COMING WINTER.



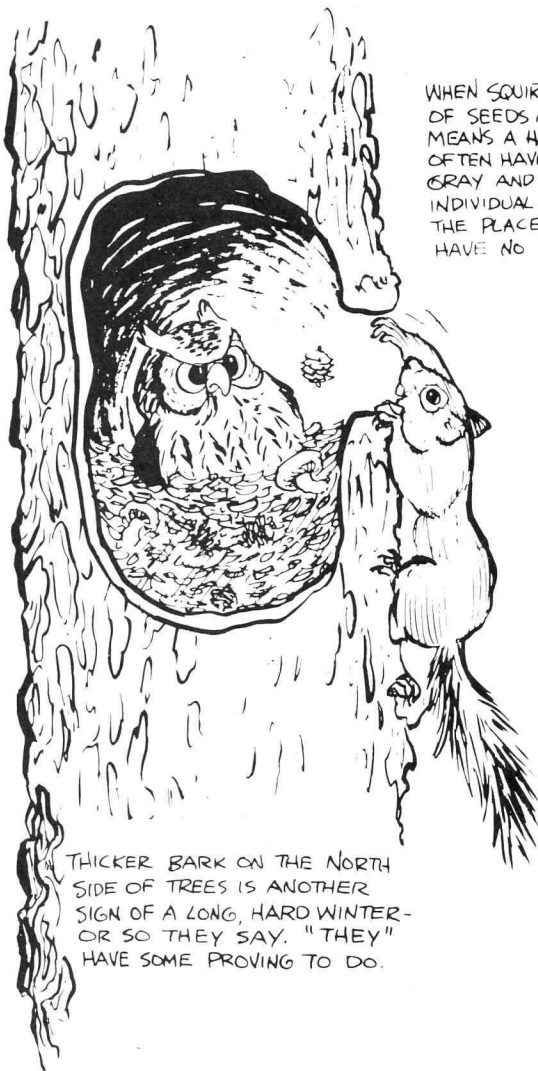
SOME BELIEVE GROWING  
A THICK PELT OR HEAVIER  
DOWN, OR LAYING DOWN  
LOTS OF FAT PREDICT A  
COLDER WINTER.  
IT IS KNOWN THAT AN  
ABUNDANCE OF FALL  
FOODS AND GOOD HEALTH  
HAVE A MORE IMMEDIATE  
EFFECT THAN COLD  
WEATHER 3 TO 4 MONTHS  
IN THE FUTURE.



AVAILABILITY OF VEGETATION NOT  
SEVERITY OF THE COMING WINTER  
DETERMINES SIZE OF A MUSKRAT  
OR BEAVER HOUSE.



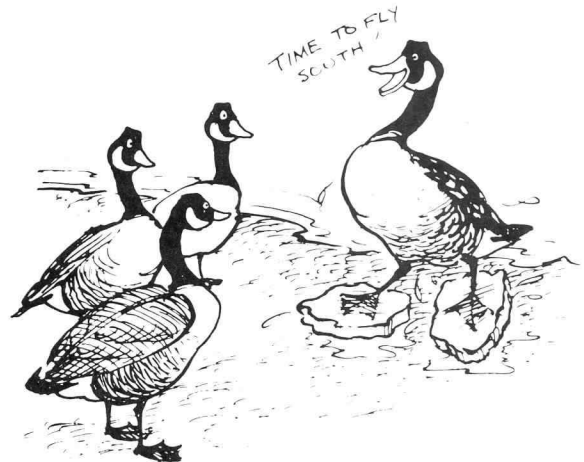




WHEN SQUIRRELS PUT UP LARGER STORES OF SEEDS AND NUTS, IT SUPPOSEDLY MEANS A HARD WINTER COMING. RED SQUIRRELS OFTEN HAVE SEVERAL STORAGE AREAS; GRAY AND FOX SQUIRRELS BURY INDIVIDUAL NUTS AND ACORNS ALL OVER THE PLACE. WINTER FORECASTERS HAVE NO EASY JOB.

THICKER BARK ON THE NORTH SIDE OF TREES IS ANOTHER SIGN OF A LONG, HARD WINTER - OR SO THEY SAY. "THEY" HAVE SOME PROVING TO DO.

EARLY FLIGHTS OF GEESE GOING SOUTH, SOME SAY, IS ANOTHER SIGN OF A TOUGH WINTER AHEAD. WEATHER DATA FAIL TO SUPPORT THIS.



NOT MUCH SNOW THIS WINTER - THE WOODPECKERS HAVE MADE MORE HOLES AT THE BOTTOM OF TREES THAN AT THE TOP. THE GRUBS GAVE US THE WORD.



IF THE GROUNDHOG SEES HIS SHADOW ON FEB. 2 WILL WE HAVE 6 MORE WEEKS OF WINTER? MAYBE. EVEN THE ANCIENT SCOTS HAD A SAYING ABOUT FEB. 2. "IF CANDLEMAS BE FAIR AND CLEAR, THERE'LL BE TWO WINTERS IN THE YEAR." THESE ARE GOOD SAYINGS AND FUN TO CONSIDER. DON'T TRUST THEM TOO FAR.





Radio transmitter, temporarily attached, permitted biologists to follow fawn deer.



Part of the study involved trapping adult deer on the winter range for marking, weighing, blood analysis and other data gathering.

## STEENS MOUNTAIN MULE DEER STUDY

*Wildlife Research Staff*

What has happened to the mule deer? This was a question often asked in many areas of the west during the 1960's and early 1970's. "The Great Basin Mule Deer Decline", as it became known, was the first widespread decrease in mule deer numbers and was a subject of widespread concern.

The mule deer on Steens Mountain in Harney County was one of the deer herds in southeastern Oregon affected by the decline. Deer population counts taken each year in late winter showed the number of deer observed per mile decreased from an average of 32 per mile in the 1950's to 17 in the 1970's. The number of fawn deer observed per 100 does in December decreased annually, indicating that something was affecting either reproduction or fawn survival.

Prompted by the decline of deer

numbers, the Department initiated the Steens Mountain Mule Deer Study in 1968. Primary purpose of the study was to determine reasons for the low number of fawns. The principal study area for the project was the central portion of Steens Mountain, roughly bounded by Frenchglen on the west, the Little Blitzen Gorge on the south, the top of the mountain on the east, and Krumbo Creek to the north.

Animals were collected to determine age, sex, body size and weight, growth rates, and fat reserves. Reproductive information was also obtained to determine pregnancy rates.

Small radios were used to determine information on fawns. Each year, about 40 newly born fawns were captured, measured and examined,

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fitted with radio transmitters, and released. The animals were subsequently relocated at various intervals to determine their condition, location, and the kind of habitat occupied. In case of mortality, every effort was made to assign the cause of death.

Throughout the course of the study, 124 dead fawns were located and the cause of death determined. Predation accounted for 80 percent of the fawn loss with 64 percent attributed to coyotes. Disease removed nine percent, starvation six percent and accidents five percent.

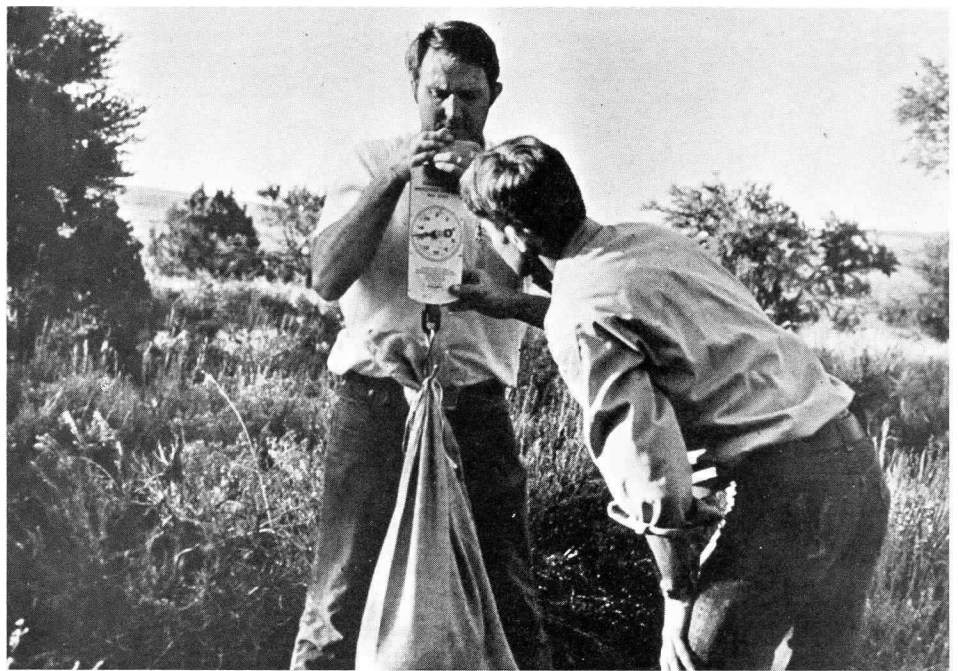
Because of the results of the mortality study, the 1975 Legislature requested that the Department initiate a coyote control program to determine if it would benefit deer survival. The objective of the study was to reduce the number of coyotes on a portion of the study area and measure the effect of the reduction on fawn survival.

The coyote removal program was accomplished with the cooperation of the U.S. Fish and Wildlife Service. Helicopters were used to remove 536 coyotes in four years. It was found that fawn mortality did decrease in the areas where coyote control took place.

The Steens study revealed other information that is of value in mule deer management. For example, there was little, if any relationship between the body condition of adult does during late pregnancy and the survival rate of fawns. In addition, seasonal body condition of the fawns was not a significant factor in causing mortality. Disease and parasites were also eliminated as major mortality factors in this particular deer herd.

The fact that predation was the leading cause of deer mortality in the Steens study does not mean a major control program will be initiated. In fact, such a program would not be practical over a large area. The study does show, though, that once a deer herd is reduced to a certain level, regardless of the cause, that predation can be a factor in holding it at that level. Over the long haul, however, the condition of the habitat and the weather will determine deer numbers. Predator control would become necessary only under extreme conditions and in localized areas.□

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Fawns were weighed at the time radio collars were attached. They were placed in bags to keep them calm and prevent injury.



By using sensitive radio receiver, biologist could follow movements of collared deer.

# Oregon Freshwater Mussels

by C. Dale Snow

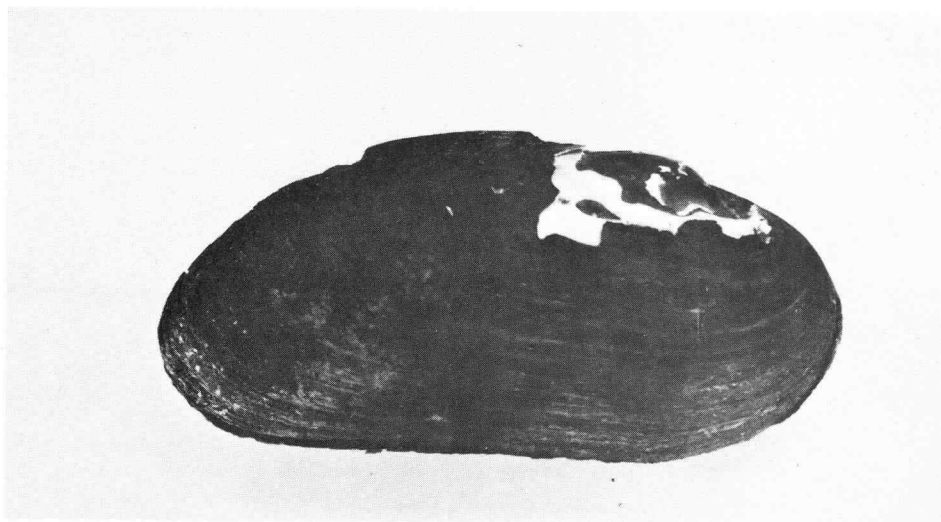
Assistant Marine Region Supervisor

Mussel or clam? Frequently this is the question asked by people who come upon the freshwater bivalves that are found in Oregon streams and lakes. The truth is, they are neither. Although they are very closely related to other molluscs such as snails, slugs, oysters, squid and octopuses. Oregon freshwater bivalves are classed as Naiades (pronounced nye-adds). The major distinction between Naiades, clams and mussels is found in the larval stages. Clams and mussels produce free swimming larvae while Naiades release parasitic larvae called glochidia that attach to the gills or fins of fishes where they undergo early development, deriving nourishment from the host fish. At the end of this parasitic period, the glochidia drop off of the host fish and take up residency in the stream bed.

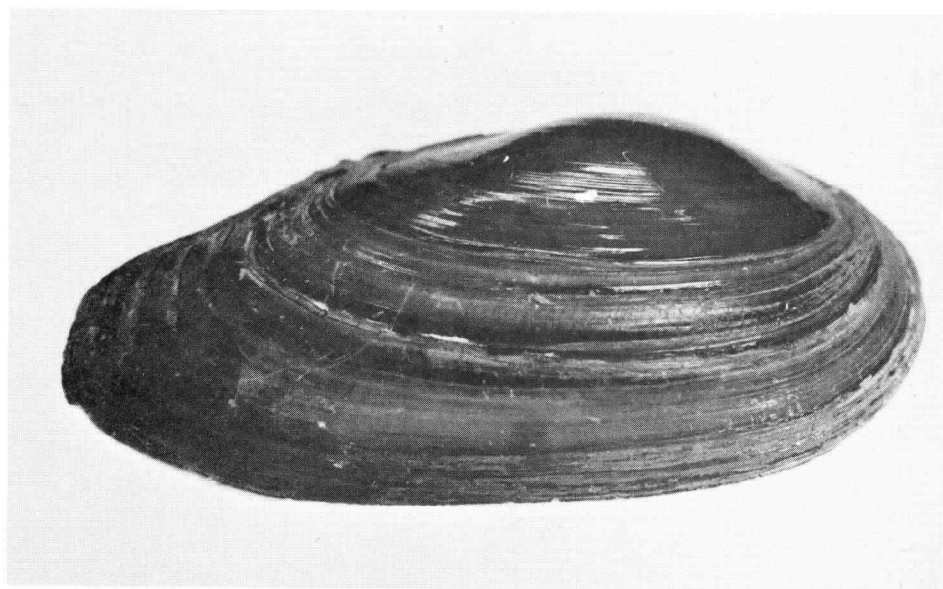
Although taxinomically the difference between Naiades, clams and mussels is significant, I doubt that the term Naiade will become popular. Therefore, for the rest of this discussion I will follow the popular reference to these animals and call them freshwater mussels.

There are four genera of freshwater mussels, *Margaritifera*, *Anodonta*, *Gonidea* and *Corbicula*, found in Oregon waters and an undetermined number of species. The purpose of this article is not to discuss the species of freshwater mussels, but to acquaint the reader with the four genera of animals that may be encountered in our streams and lakes.

The most common freshwater mussel found in our streams is *Margaritifera margaritifera* and is found in nearly every stream in the state. This animal is worldwide in distribution and is represented by a single species. Reportedly, this animal is one of the longest-lived of all invertebrates, living for more than 100 years. Typically, *Margaritifera*, has a blackish periostracum (skin-like material on the outside of the shell) and varying shades of dark purple inside the shell.



*Margaritifera*

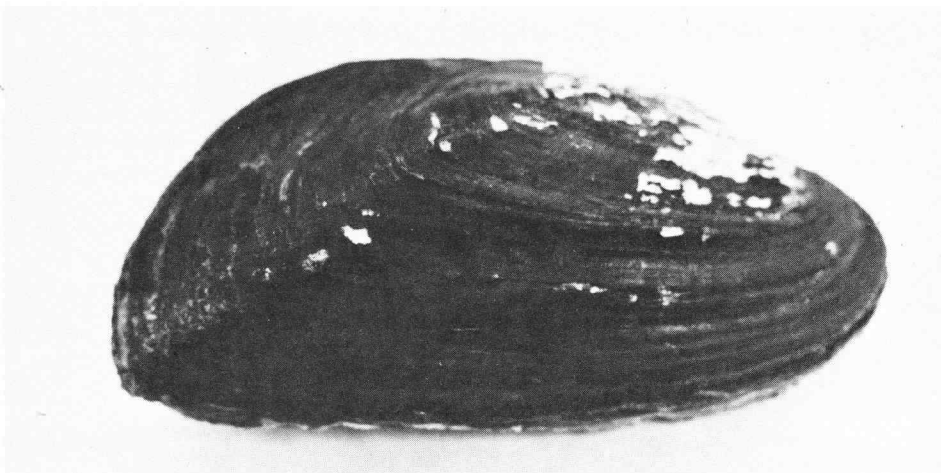


*Anodonta*

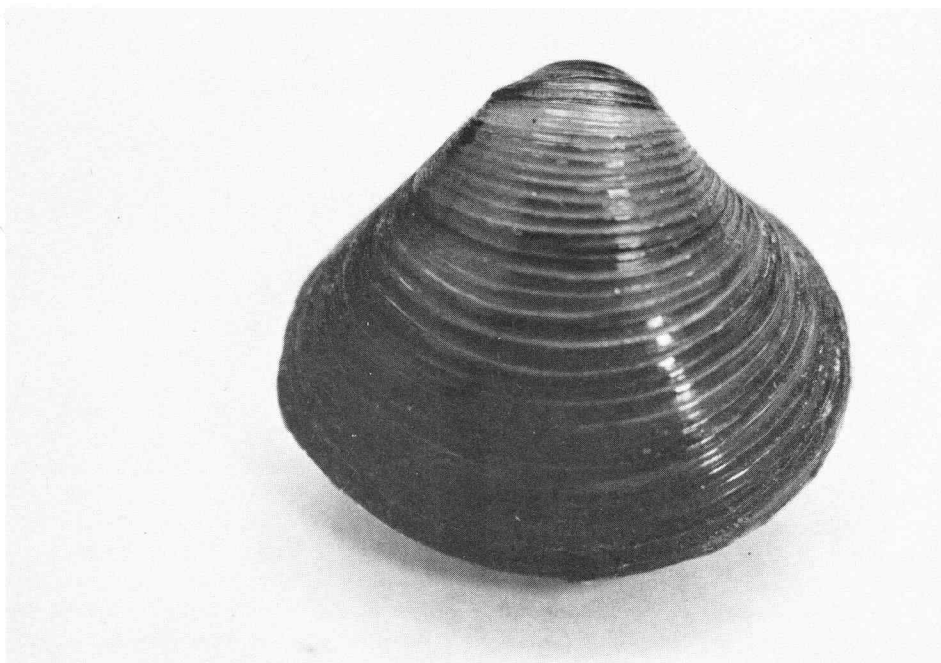
*Anodonta*, represented by eight or more species and subspecies, is most frequently found in lakes or slow moving streams. It has been reported from many coastal and valley lakes and in one instance from upper Siuslaw Bay. The periostracum of *Anodonta* is olive colored and the color inside of the shell resembles that of a pearl.

*Gonidea*, is represented by two recognized species in Oregon. It is found occasionally in fast moving streams, but more frequently in sluggish waters and ponds. The periostracum resembles that of *Margaritifera* and the interior shell is similar in appearance to *Margaritifera* with a violet coloration. The major difference in appearance of the two is the promi-





*Gonidea*



*Corbicula*

ment posterior beak found in *Gonidea*.

*Corbicula*, is an introduced species and is known to occur in the John Day, Columbia, Siuslaw, Smith and Coquille rivers. It undoubtedly occurs in other waters as well. Frequently it is found ranging down into brackish waters. *Corbicula* is ovoid in

**OREGON WILDLIFE**

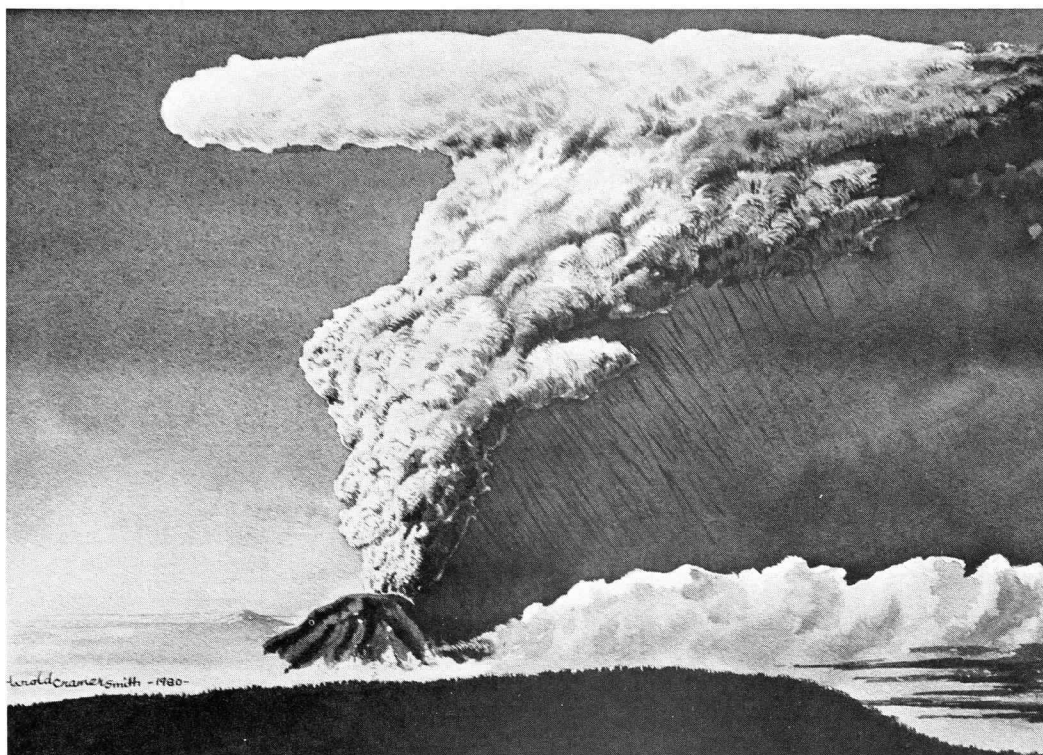
shape in contrast to the elongate shape of the other three genera of freshwater mussels. The periostracum usually occurs in varying shades of dark olive, however, some *Corbicula* are found with a black periostracum. The shell bears obvious concentric ridges and the inside of the shell is a dull white.

The most frequently asked ques-

tion about freshwater mussels is, "Are they edible?" Indian middens containing shells of native freshwater mussels indicate that they may have been used for food. A friend of mine in Idaho claims that *Margaritifera* is quite good when steamed in the same manner as our saltwater littlenecks (*Protothaca staminea*). Personally, I find the odor of *Margaritifera* and *Anodonta* unpleasant and have never tried eating either. However, another friend who has tried them, said they had the consistency of an old rubber tire and a flavor to match. Consequently, the best I can say is that they won't hurt you and maybe I am (Ugh!) missing something. On the other hand, *Corbicula*, the introduced species, is considered to be an excellent food clam in the Orient. Again, I cannot personally attest to this fact.

Freshwater mussels in the midwest have some economic value. At one time the shells were used in the manufacture of buttons, however, they were replaced by plastics and other materials. More recently the shells have been used to punch out "Cores" for surgical implantation in pearl oysters in Japan. When the core is placed in the oyster, the oyster starts laying down nacre on the core and in time a cultured pearl is formed. Shells of Oregon species that we sent to core manufacturers proved to be too thin for use in the pearl industry. The most significant economic value of the west coast species known to date has been a negative one. As mentioned earlier, the larvae of our native freshwater mussels are parasitic on fish and have caused fish mortalities in trout hatcheries in California. Serious infections of wild fish in the Siletz River were reported by Duane Karna in his Masters dissertation at Oregon State University in 1973. Some researchers believe that freshwater mussels have value as living filters that reduce the bacterial load in our streams and reportedly *Corbicula* is an important item in the Columbia River sturgeons' diet. *Corbicula* is used in California for fish bait.

Freshwater mussel, clam or Naiade, who cares? No matter what you call them, they form a part of Oregon's interesting and valuable natural resources.□



## MOUNT ST. HELENS ERUPTIONS TOOK AWFUL TOLL, BUT SCIENTISTS SEE SOME 'POSITIVE' EFFECTS

In the area around Washington's Mount St. Helens, the future looks bleak. As a result of the volcano's devastating eruptions, more than 70 people died or disappeared, 240 miles of woodland were obliterated, 26 lakes were destroyed, nearly 11 million fish and 1.5 million other animals were wiped out.

The losses, estimated at more than \$1 billion, are hard to exaggerate and the short-term prognosis seems grim.

But according to *National Wildlife* magazine, some scientists foresee "some positive long-range effects" of the blasts after nature has worked to restore the area. Among them:

- Volcanic ash will eventually enrich the soil and some new plant species will probably appear.

- Changes in wildlife habitat should enhance the populations of many creatures. For example, the mountain bluebird, which is attracted

to snagged trees, is expected to flourish.

- Scientists will have, as one of them put it, "a rare opportunity to see how the earth regenerates itself ... In some places, everything must start all over again."

And finally, not listed by the scientists, but noted by Washington State business leaders, the area will become a tourist attraction. The U.S. Forest Service reported more than 4,000 daily visitors to the Mount St. Helens area in August.

Meanwhile, scientists are looking for signs that the area around Mount St. Helens is beginning to heal. According to the report in the current issue of *National Wildlife* on the volcano's effects, some insect populations — vital links in the food chain — are already showing signs of recovery. And U.S. Forest Service biologist Bill Ruediger told the *National Wild-*

life Federation's bimonthly publication that he believed deer and elk will return to the region rather quickly, "particularly around the edges of the blast zone where there is adequate cover."

While Washington officials mourn the devastation of the 145-mile Toutle River, one of the few remaining undammed rivers in the Northwest, they feel sure that the river's flow will return to normal and its huge population of salmon and trout will return. Biologists have discovered that some salmon have already navigated through the high levels of silt in the Cowlitz River — another waterway that was severely damaged.

One factor which makes scientists optimistic about the damaged region's recovery is history. "In geologic terms," explains *National Wildlife*, "Mount St. Helens is a relatively young volcano, just one in a string

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of 15 major ones in the Cascade Range that runs from British Columbia to northern California." During the past 200 years, eight of these mountains have erupted; the most recent was California's Mt. Lassen, which blew more than 170 times between 1914 and 1921.

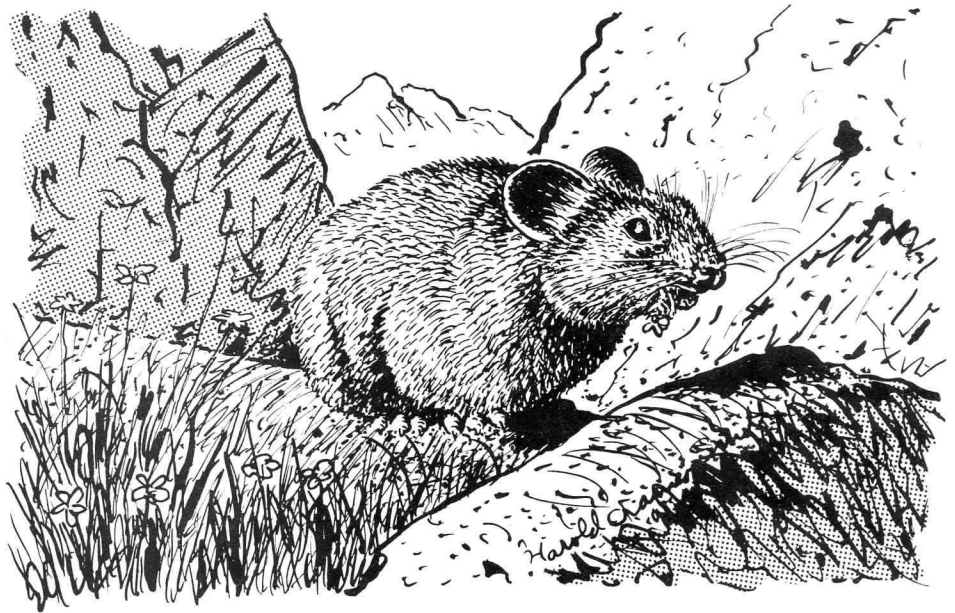
Periodically, these mountain peaks have poured vast rivers of mud into surrounding areas. One such mudflow descended Mt. Rainier about 600 years ago, smothering the Puyallup River. When the first white explorers arrived in western Washington 400 years later, the Puyallup was stocked with chinook, steelhead, cutthroat, and coho and its banks were crowded with big timber.

So the Puyallup did recover. "And the same thing will happen around Mount St. Helens," Washington Department of Game official Jon Gilstrom assured *National Wildlife*. Until then, scientists will be watching carefully. "We're going to learn how to plan ahead for such blasts, how to cope with the ash, what to do with plugged-up waterways," a federal geologist told the NWF magazine.

Obviously, there is no way to prevent volcanic eruptions. As Gilstrom concludes in the *National Wildlife* report, "What happened at Mount St. Helens has happened a thousand times before in the Pacific Northwest and will surely happen again. Nature has a way of taking care of herself."□

## CONSERVATION FELLOWSHIPS AVAILABLE

The National Wildlife Federation recently announced the availability of fellowships to encourage research likely to produce data that will be beneficial to the Federation and its conservation education program. Studies involving a variety of environmental subjects will be considered by the committee. All applications must be in by December 31, 1980 to be considered. For information and further details, write to the National Wildlife Federation, 1412 Sixteenth St., N.W., Washington, D.C. 20036.□  
**OREGON WILDLIFE**



## PIKA

Looking like little hamsters dashing about over alpine rock piles, pikas are an unlikely animal found in a very unfriendly place. Hikers and climbers in the high Cascades can often hear them before seeing them. These colony dwelling animals are very vocal. Depending on the mountain range, their sound may vary between a sharp bark or a lamb-like bleating.

Pikas are small with gray-brown fur. They weigh in at about four ounces full grown and reach about eight inches in length. While they may look like a rodent, they are actually a member of the order *Lagomorpha* which also includes rabbits and hares.

Pikas live in the cracks and crevices of mountain rock piles. Colonies of pikas are often found well above the timberline. The species living in Oregon is known by the scientific name *Ochotona princeps*. The same species is found throughout the mountain regions of the western United States and in western Canada. A subspecies of the *princeps* is also found in Alaska and the Yukon.

There are 14 known species of pikas found worldwide, but only *princeps* lives in North America. The others are all native to Asia.

Although pikas may spend nine months of the year buried by snow in their rocky homes, they do not hibernate. Nor do they build up body fat to help them through the winter.

Like their rabbit relatives, pikas eat strictly vegetation. Since they are trapped by snow for long periods with no access to food, they store their winter supply in rocky passages. One pika may pick and sun dry more than six bushels of vegetation during the summer and store it for winter feed. This need to put away large amounts of feed explains why a pika is seldom sighted without a mouthful of greenery.

While pikas may gather in large colonies, they seldom share actual living spaces. Each pika is responsible for its own food piles. Territories are well established and food is vigorously defended.

Pikas begin breeding shortly after breaking free of the covering snowpack. The gestation period is short. Some pikas may bear two litters of two to four young in one season. Pika young are born naked and blind, but they mature quickly. Within eight weeks the young have reached adult size and are out gathering their own winter food supply.

Little is known about the pika's life under the snow, but winter visitors to the den areas report that the muffled barks of the buried pikas can still be heard beneath the snow.□

Jim Gladson

# THIS AND THAT

*Compiled by Ken Durbin*

## America's Hunters Show Concern

Hunters can look to the 1980's with pride and confidence that this decade will continue to offer opportunities for enjoying their traditional outdoor pursuits. And, they have themselves to thank for this.

Despite the bad face that a slob fringe has given the sport of hunting, the great preponderance of ethical hunters has given more than lip service in their concern for the creatures they hunt. Here is the record:

- Through a self-imposed tax on guns, ammunition, and archery gear they have paid more than \$850 million for wildlife management during the past 40 years, and will add \$60 million each year.

- The federal duck stamps they buy each year raise \$11 million for ongoing studies and improved habitat.

- State hunting licenses and permits provide over \$329 million annually for conservation and constantly improved game management.

- Hunters and fishermen contribute about \$25 billion to the nation's economy through goods and services.

- Through Ducks Unlimited sportsmen have raised over \$70 million to buy over two million acres for nesting areas.

\*

## Wildlife Import/Export Licenses Required

Federal law enforcement officials expect to find it easier to curb the massive illegal trade in wildlife with the help of new regulations that require all commercial wildlife importers and exporters to be licensed by the Interior Department's U.S. Fish and Wildlife Service. Applications for the \$50 license must be filed by December 31, 1980.

The licensing requirement puts into effect a provision of the Endangered Species Act that makes it unlawful "for any person to engage in business as an importer or exporter of fish and wildlife ... without first having obtained permission from the Secretary (of the Interior)." This provision applies to all fish and wildlife, not just those that are officially listed as endangered or threatened.

## Ask . . . and Ye May Receive

The National Shooting Sports Foundation suggests there is a simple way to increase the amount of available hunting land. Simply ask the landowner's permission, even though his property may be posted.

A recent survey found more than one-third of landowners who post their lands willing to allow sportsmen to hunt if they simply asked permission. Only 10 percent of the landowners who posted their lands said they would not open them to hunting under any circumstances.

The same survey said one of the most frequently cited reasons for posting was the hunter's failure to ask permission before going on private property.

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## A Real Hawg

The term "hawg" in fishing parlance has come to mean a really big one. But here's a story of a different sort of record fish hawg from Colorado. It seems Division of Wildlife officers on the Conejos River nabbed a fisherman from New Mexico in July who had exceeded the bag limit.

"By the time the officers tossed out their abacuses and took out their electronic calculators," wrote Russ Bromby in COLORADO OUTDOORS, "they figured the man had 226 fish over the limit. And that was after they liberally allowed him 154 fish he claimed were legally caught by him and members of his party."

After pleading guilty to the charges, the fisherman was fined \$2,285 by a County Judge and sent directly to jail until he could raise the money. Division officers said it was the largest fine for a fishing violation ever levied against one individual in Colorado.

\*

## Oldest Pheasant

The fossilized remains of a bird which must be the oldest known pheasant in the world (twenty million years) has been discovered at Lintjou, Shantung province in China.

We are obliged to our Honorary Legal Advisor, Mr. R.S. Clarke, for bringing this item from the French Publication 'Maison de la Chasse' to our attention. The species of pheasant has not so far been identified.

*The Game Conservancy*

## Organic Farming Can Work

Organic farms, adopting a production system which avoids using chemical fertilizers and pesticides, can be productive, effective and well-managed. This is a conclusion reached by a U.S. Department of Agriculture study team. In a recent report, the team said it was impressed by the ability of organic farmers to control weeds in crops such as corn, soybeans and cereals without the use (or with only minimal use) of herbicides. In addition, they have been relatively successful in curbing insect pests. The report also points out that, contrary to popular belief, organic farmers have not regressed to agriculture as practiced in the 1930's; they use recommended crop varieties, modern farm equipment, certified seed, sound methods of organic-waste management, and approved soil- and water-conservation practices.

*Wildlife Digest*

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## Sportsmen Educate Judges

The Inland Empire Big Game Council, a Spokane, Washington sportsmen's group, is buying subscriptions to WASHINGTON WILDLIFE for all judges, county commissioners and prosecuting attorneys in the Spokane region, the Wildlife Management Institute reports. The Council contends that information in the magazine published by the Game Department may teach the judiciary the value of wildlife and result in stiffer fines and penalties for those who violate wildlife laws. (In Oregon all judges receive OREGON WILDLIFE magazine and have for some time - Ed. Note)

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## New Rifled Slug

Remington has a new 12-gauge rifled slug with a hollow point configuration that increases its mushrooming capability by 20 percent over conventional slug designs. It should make an ideal load for deer hunters who prefer to use shotguns.

The new slug weighs one ounce. It has a muzzle velocity of 1,560 feet per second and delivers 927 foot-pounds of energy at 100 yards, an increase of 144 foot-pounds over the previous 7/8-ounce 12-gauge load.



*Oregon's*

# WILDLIFE WINDOW

Each month in this space we offer suggestions for exploring one issue or concept about wildlife. We attempt to spread the suggested activities among a variety of disciplines or subject areas such as art, writing, science, math, governmental studies, or biology. One area we have not covered is home economics.

Preparation of wild game or fish for the table is an art to be learned and refined as much as the preparation of any food. Simply learning to do a good job of cooking wild flesh is only part of the education process. Understanding *why* certain steps are necessary completes the learning process and helps in applying certain principles to other wild meats we may not have learned specifically about.

A number of publications are available on preparing wild meats. Bookstores offer commercial publications with good color photos of tempting dishes. Leaflets and recipes are available free from commercial fish or shellfish processing industries. Some fishermen's associations or similar organizations also offer free information on preparation of various seafoods. The state extension service provides a number of informational sheets or pamphlets covering everything from boning out your deer (also useful with other big game) to freezing salmon and canning tuna. Leaflets on preparing homemade jerky in your oven and tips on cooking venison can also be obtained free from the Wildlife Window.

Wild animals eat different things than domestic ones. That is the basic reason for using different tactics in

preparing them for the table. It may also account for a different flavor. Most venison is leaner than even the leanest beef. What comparisons might you make in food habitats to explain why this occurs? If pen-fed like cattle, would deer develop the fat-marbled meat like beef or pork? How could you find out if there is a genetic difference that makes the flesh and subsequent cooking techniques different?

Consider the whole field of energy flow and compare the food it takes to produce a pound of beef or a pound of elk meat. Is there a genetic difference that causes a different metabolism and growth rate per unit of food? What might this have to do with the animal's eating quality?

Besides preparation, is there a difference in calories per gram of flesh between various wild meats? Which would you expect to yield the most food energy in calories? Which wild foods are the best for those on a diet? Certain wild fish and animal foods provide more of some elements humans need in their diets too. Can you prepare a menu of wild meats that would be more healthful than domestic ones?

Economics relate to the costs of acquiring each calorie of food energy too. How could you find the cost per pound of acquiring various wild fish and animal foods, their calorie content and the price per calorie comparison between wild and domestically grown meat?□

## THIS MONTH'S WINDOW

### FOOD VALUES

**Using cookbooks or other resources, find and graph the calories per gram of various wild and domestic meats.**

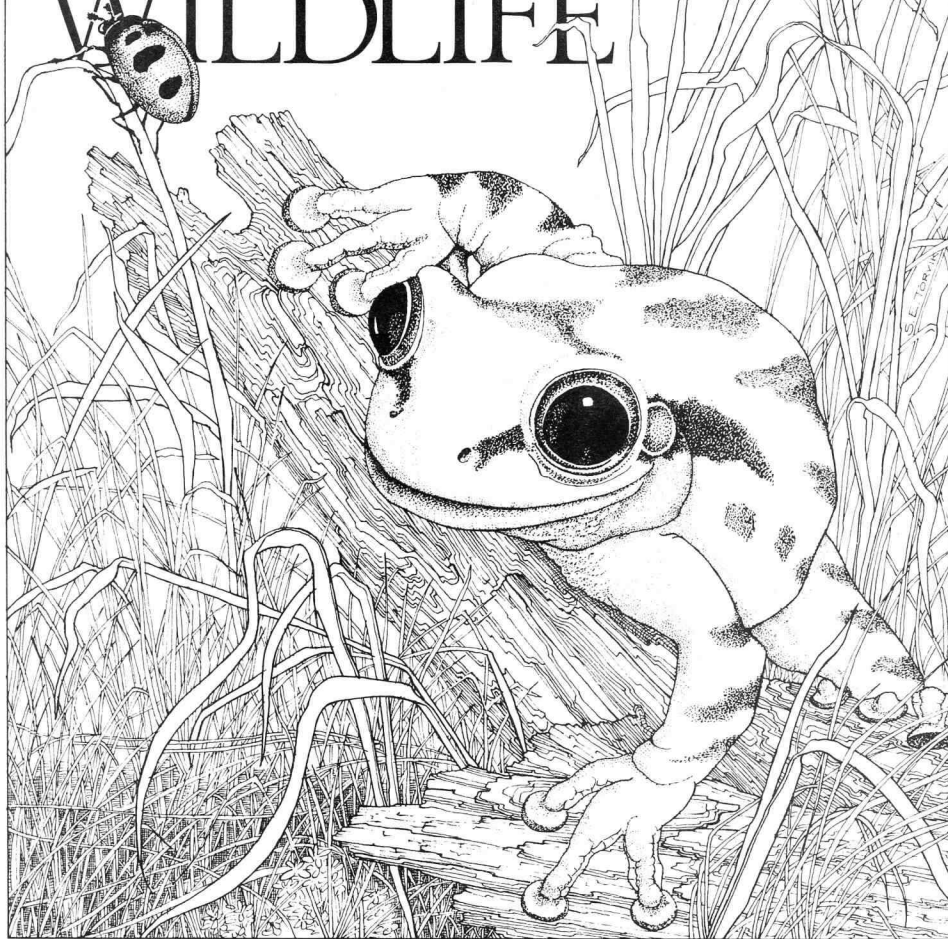
**Find the cost per gram of each of the meats you have chosen.**

**What is the relationship between cost per gram and grams per calorie?**

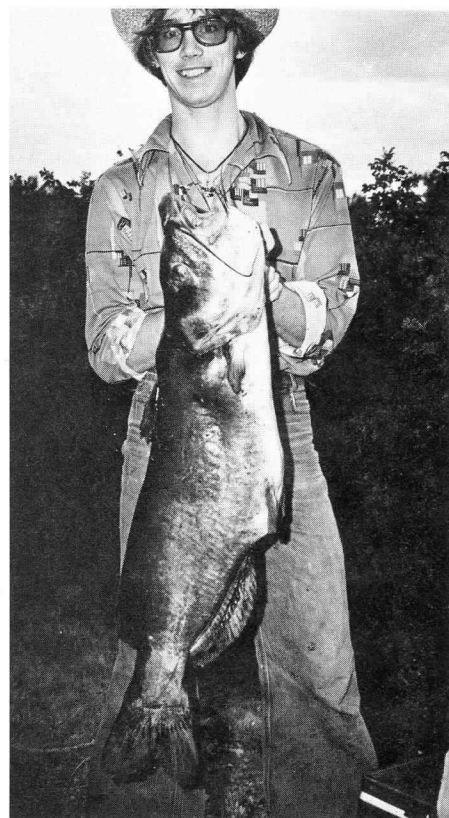
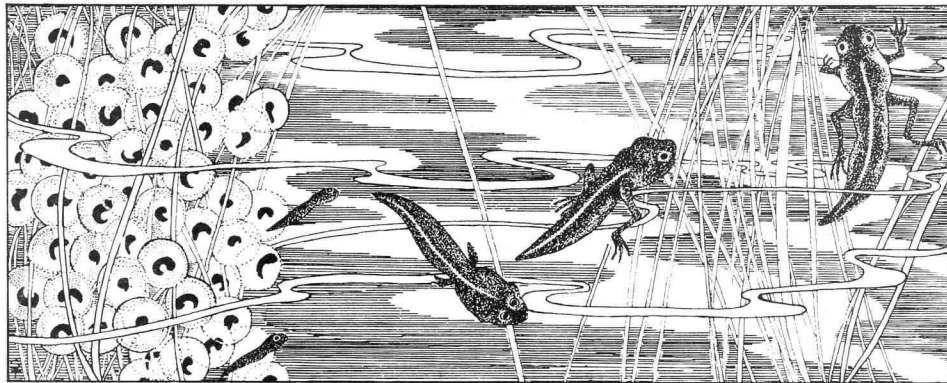
**Are fish and wildlife a valuable food resource? Are they more or less expensive than domestically raised meats?**



# SUPPORT WATCHABLE WILDLIFE



PACIFIC TREE FROG



Boone Haddock and catch. Photo courtesy of Virgil Rupp.

## NEW RECORD

The state record channel catfish was topped recently by a healthy seven pounds, four ounces. Boone Haddock of Pendleton took the 36½-pound creature from McKay Reservoir the evening of September 17, besting a record of 29¼ pounds from Devils Lake in western Oregon which has stood since 1971.

Haddock took the fish on six pound line, a number six hook and an innard bait. The fight lasted 30 minutes or more and the fish was finally landed at 11:30 p.m.

The Oregon record fish was probably one of 38 channel catfish released in the reservoir in 1969 by then-district biologist Dave Heckeroth soon after the reservoir was treated with rotenone to kill rough fish. The fish came from Oxbow Reservoir on the Snake River and ranged in size from eight to 24 inches. □



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