

A black and white photograph showing a massive flock of birds, likely shorebirds, in flight. The birds are seen from above, filling the sky and the ground. They are in various stages of flight, with wings spread, creating a dense pattern of dark shapes against a lighter background. The birds are concentrated in the lower half of the image, where they appear to be landing or taking off from a field, and are more sparsely distributed in the upper half of the sky.

# **OREGON WILDLIFE**

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## The Cover

Waterfowl on Sauvie Island. Wildlife populations depend on adequate supplies of food, water, and shelter. Habitat must be protected. See feature article.

## HUNTER EDUCATION PROGRAM

### INSTRUCTORS APPROVED

Month of October ..... 27  
Total to Date ..... 3,539

### STUDENTS TRAINED

Month of October ..... 3,691  
Total to Date ..... 217,128

### FIREARMS HUNTING CASUALTIES REPORTED IN 1974

Fatal ..... 2  
Nonfatal ..... 19

# The Pinch Period

Glorious autumn days, trees laden with fruit, amber waves of grain falling before the combine—a vision of plenty for man and beast.

As the bountiful autumn wears on to winter, we humans put up the storm windows, try to accumulate some firewood to keep off the chill, and, if we're outdoor inclined, eagerly look forward to when the land will be whitened with snow. Harvest time has passed and traditionally the storeroom is filled to provide for the dark, cold winter months. The harvest of the fall has provided.

Such is not the case in the wildlife world. In the northern portions of the northern hemisphere the pinch period is at hand. Some species manage to avoid too much discomfort by burrowing in the ground, encased in a heavy layer of fat accumulated during the last days of fall. Their body metabolism slows and, if all goes well, they won't wake until spring when food supplies are becoming available again.

However, large animals such as deer and some of the various birds don't have a method of "turning off the world". Certain migratory birds move to more moderate climes but residents such as quail and pheasants have to depend on a local supply of food, water, and shelter to get them through until spring. This is the time of year nature does her harvesting.

Television programs tend to show the good times for wildlife. This is probably understandable because at such times it is more pleasant to film such shows and audiences wouldn't watch very long if the programs showed masses of starving creatures.

The natural plan is based on turnover of wildlife populations. Some bird populations, for example, decrease by as much as 80 percent every year between spring nesting season and the start of the following nesting season. This occurs whether they are hunted or not. Predation is responsible for varying degrees of loss but in our country, with resident birds, much of the loss comes during the winter pinch period. With game birds, hunters may take a portion of the 80 percent that will be lost anyway, but in songbirds the entire loss is a natural thing. Only that number of creatures will survive that can be carried through by the available food, water, and shelter.

Winter is a good time of the year to better understand the cycles of nature. Even if you do no more than look out the window of your house or car, you can appreciate the problems of wildlife if you compare the appearance of the land with your memories of the view just a month or so ago. The seeds from the flowers are gone, the shelter of the leaves may be thinned, and during a cold spell unfrozen water may be scarce.

You can help carry a few birds through with a bird feeder but the winter will eliminate many thousands that you don't see. It is not normally a catastrophe, but part of a cycle that will be renewed come spring. With big game, the situation can reach catastrophic proportions if winter ranges are overloaded — a point seldom shown by the purveyors of the fantasy of continuous health and happiness in nature.

Winter is the pinch period outdoors. It can be a time for enrichment of one's understanding of nature. Understanding may not be pleasant but it can bring forth a deeper appreciation of the needs of this valuable resource. RES

## Dates To Be Set

On January 10, 1975 at 10 a.m., a public hearing will be held in the Oregon Wildlife Commission conference room to consider the opening dates for the 1975 hunting seasons for

deer, elk, antelope, pheasants, quail, partridge, and the early archery seasons. Interested persons may present their ideas in writing or orally at the hearing.

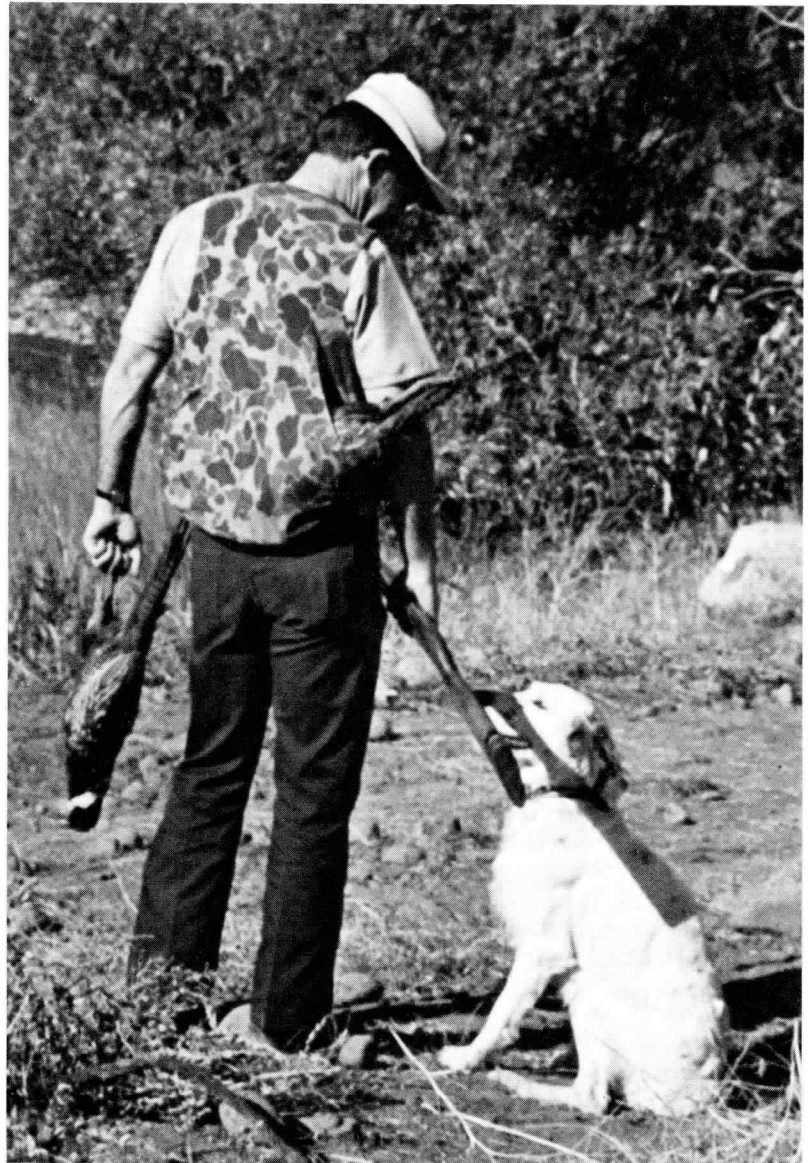
# Wildlife For The Future

by R. C. Holloway  
Chief, Information & Education Division

Over the past several months this writer has contributed a series of "guest editorials" to Oregon Wildlife dealing with the proposal to increase Wildlife Commission revenue. Earlier this year the Commission reluctantly concluded that it could not meet its obligations to the resource and to the people that it serves without a substantial increase in revenue. The dramatic increase in the cost of doing business combined with greater and more diverse responsibilities are the two major factors leading to this conclusion.

Historically, management of the wildlife resource has been financed primarily by angling and hunting license and tag fees. Added to this source has been a share of the proceeds from federal excise taxes on angling and hunting equipment. *No money for wildlife management has been appropriated from the state's general fund.* The last general increase in license or tag fees was granted by the 1967 Legislature. There have been additional changes in fees and in the licensing structure since that time. Some have had a positive impact on revenue; others have had the opposite effect.

In the past year a number of potential sources of additional revenue were investigated. Issuance of wildlife stamps that could be purchased on a volunteer basis was considered. It was determined that the cost of promoting such a program would nullify the relatively small amount of revenue that might be generated. Special user fees on Commission-owned land to be paid by other than licensed hunters or anglers were considered. This is being done on the Sauvie Island Wildlife Area near Portland now. Again, administrative costs combined with



Historically, management of the wildlife resource has been financed primarily by angling and hunting license fees. No money has been appropriated from the state's general fund.



relatively minor income potential rule this approach out as a source of dependable and substantial income. Special taxes and issuance of recreation bonds were other potentials. All of these are fraught with uncertainties.

The Commission decided, in view of the immediate financial crisis with which it is faced, to request an increase in license and tag fees and an appropriation from the general fund, the latter to finance a modest nongame wildlife management program. In this case, those who enjoy wildlife for purposes other than hunting or angling would be contributing at least a small share of the needed revenue.

One might logically ask at this point if the Commission has examined its present operations to determine if further operating efficiencies can be made or if certain programs can be reduced or even eliminated. The answer is yes. Savings can and have been made through the adoption of more efficient procedures and programs have been cut back. The Commission, the Executive Department, and, most assuredly, the Legislature will continue to examine programs to look for every possible savings. But in spite of this, the fact remains that activities considered absolutely essential to maintaining a healthy wildlife resource and satisfying wildlife recreation opportunities for the people of this state must be curtailed or cannot be implemented unless additional revenue is forthcoming.

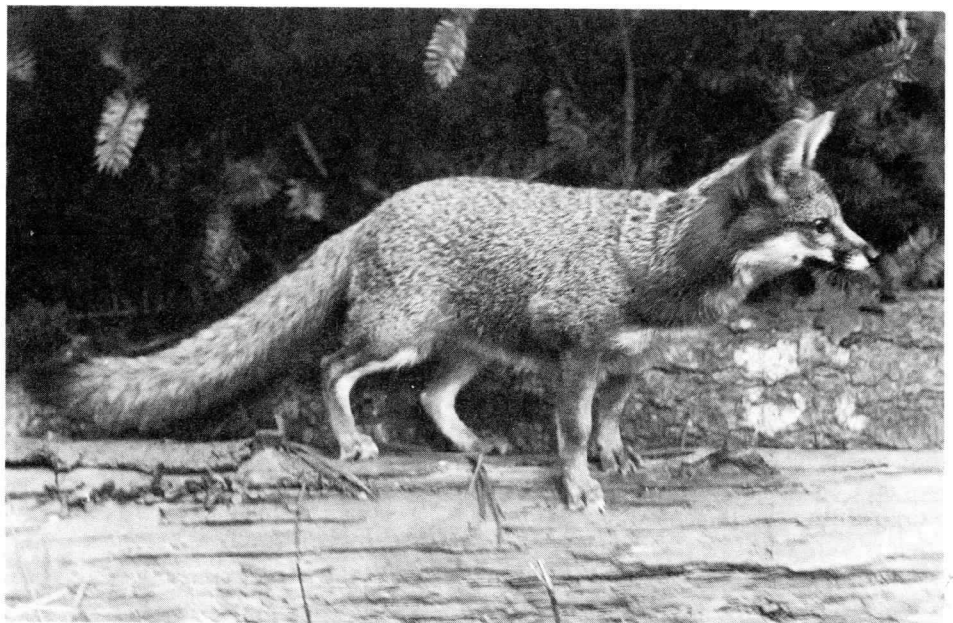
I would like to review briefly those management needs which are of critical concern. First and foremost, of course, is the need to retain adequate and productive environment for wildlife. Unless this goal can be achieved, nothing else matters. No amount of artificial propagation can replace what mother nature is equipped to do. This means continued and expanded habitat improvement activities. It means the acquisition or lease of lands for wildlife production and it means intensive surveillance of developments that have the potential of reducing or damaging wildlife habitat.

Also high on the priority list is implementation of a nongame wildlife management program. The Commission was given this additional respon-



**One of the most critical needs is that to retain adequate and productive environment for wildlife. Unless this goal can be achieved, nothing else matters.**

**High on the priority list is implementation of a nongame management program. The Commission was given this additional responsibility with no provision for additional funds. A request for some general fund money will be made.**



sibility by the 1971 Legislature without any provision for funds to fulfill the responsibility. This is at least one area in which it is logical to expect the general public to participate financially. The licensed angler or hunter should not have to foot the entire bill for nongame wildlife programs even though he or she is normally interested in the welfare of all wildlife. Also included in this category would be those species of wildlife that are considered to be endangered or threatened. More intensive monitoring of the status of such species and programs designed to improve their status are needed.

A healthy and diversified wildlife resource can be utilized in different ways. Surpluses can be harvested by hunting, angling, or trapping. Many people are satisfied simply by knowing that wildlife is there. Others use wildlife as a source of enjoyment through viewing, photography, or study. It is a responsibility of the Commission to make wildlife available to all segments of the public. Frequently the key to this is development of public access. Although much of Oregon is in public ownership and generally available for public use, many of the potentially more productive recreational opportunities are found on privately owned lands or along streams bordered by private ownerships. It has been determined, for example, that almost 500

miles of additional streamside access should be obtained in western Oregon to accommodate the growing number of anglers and to more efficiently utilize the resource. Complementing this is the need to develop boat access sites on somewhat more than 900 miles of western Oregon streams. These needs are not something to be met far off in the future; they are needs that should be met now or in the immediate future. On a somewhat lesser scale, there are similar needs on many eastern Oregon waters.

It is conceivable that through leasing agreements large acreages of privately owned land could be made available for hunting or angling. None of these things can be accomplished on other than a modest and wholly inadequate scale within the financial restraints presently imposed on the Commission. A substantial portion of any additional revenue would be expended for these purposes.

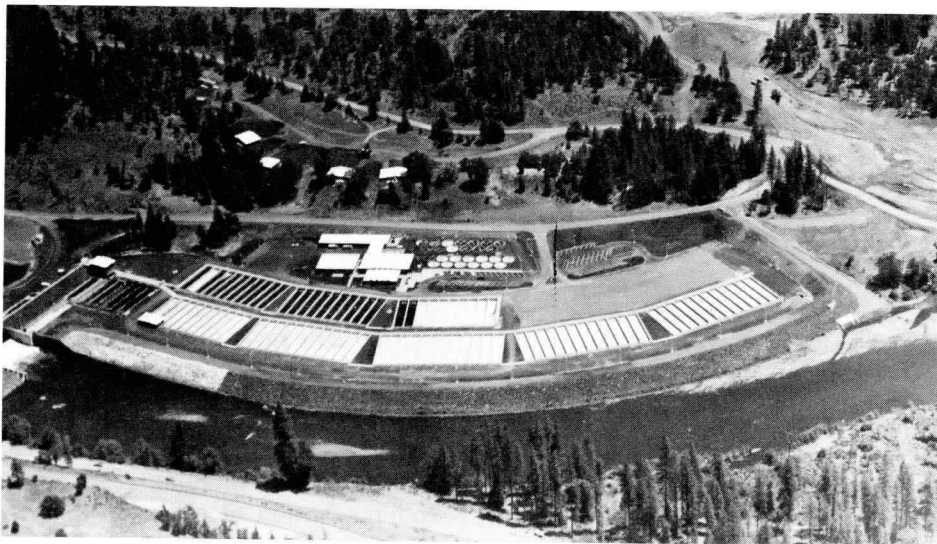
Another area of critical concern is wildlife law enforcement. An increase in law enforcement could very well be the key to opening up more privately owned lands for wildlife recreation purposes. The present wildlife law enforcement staff of the Oregon State Police is spread too thinly. According to the Wildlife Management Institute, only four other states in the nation have a higher ratio of anglers and hunters to enforcement officers than Oregon. They are doing an ex-

cellent job within the limitations of available manpower. The wildlife enforcement officer, because of his knowledge and availability, is expected to enforce laws other than those applying to wildlife, such as boating, pollution, and general environmental laws. Nongame wildlife enforcement activities demand more of his time. He plays a key role in livestock theft investigations. The cost of wildlife law enforcement is charged against the Wildlife Fund. The present revenue base cannot accommodate an increase in enforcement personnel without crippling other management activities.

Replacement of some of the Commission's fish production facilities and renovation of others are of immediate concern. Many of the fish hatcheries date back to the early 1920s and even earlier. At a few stations the supply of water is not as adequate as it once was or the supply is insufficient to permit expansion. Environmental changes and other developments have had a negative impact on production at some stations. The two fish hatcheries most in need of replacement are the Rock Creek and Bandon stations in southwestern Oregon. Production would be transferred to a single new facility in the same area. Here again, accomplishment of this objective hinges on an increase in revenue.



**Frequently the key to making wildlife available to the public is access. Streamside land is often in private ownership and the purchase of easements, leases, or key tracts of land is needed to allow the public access to fish and wildlife.**



**New water quality laws are making it necessary to modify hatcheries so treatment of effluents can be accomplished. Federal funds will be available for work at three hatcheries operated by the Wildlife Commission but state funds will be needed at the remainder. Updating of facilities at hatcheries built in the 1920s is also needed.**

Another significant need, common to all fish hatcheries, is to install waste treatment facilities to accommodate water quality standards set by the Department of Environmental Quality. Hatchery effluent water must be channeled through a settling pond or handled in some other manner to remove much of the waste material from hatchery ponds that might otherwise enter a stream channel. There are deadlines that must be met and it is essential that money be available to get the job done. This will be a substantial added expenditure over and beyond normal operating and capital expenses involved in hatchery operations.

Also of significant importance is the need to complete acquisition or control of lands within the boundaries of existing wildlife management areas. The Commission now operates 18 such areas embracing 169,000 acres. Yet to be acquired or subject to control in this total are 41,000 acres. It is estimated that acquisition costs at current prices would total close to six million dollars. The Commission would pay taxes on such lands just as it does on similar lands it now owns. It is considered essential that control of most of these remaining lands be

obtained to realize maximum wildlife production and recreational benefits. It must be emphasized that this would not be a new additional land acquisition program. It represents only the completion of a planned program that has been in progress for many years. One of the reasons that completion has been delayed is lack of funds. When and if land does become available within an existing area, the Commission should be in a position to take advantage of the opportunity.

These are among the major needs that the Commission would plan to accommodate over a period of years if the Legislature authorizes an increase in fees or in some other way provides additional revenue. If the inflationary trend continues, even the fee increase proposals that have been made will do little more than permit a continuation of management activities at current levels.

The Commission has been assisted by an Advisory Committee representing a variety of interests and by the Joint Legislative Interim Committee on Environmental, Agricultural and Natural Resources in developing a bill to increase certain license and tag fees. A bill will be introduced. It

would increase the total annual income from licenses and tags by about 35 percent. This compares with a decrease in the purchasing power of the dollar of more than 40 percent since the last general fee increase in 1967. Under the proposal free angling and hunting licenses would continue to be issued to qualified senior citizens. Resident anglers would pay a total of \$11 in fees to fish for game fish, including salmon and steelhead. They now pay a total of \$7 in fees. Resident hunters would pay a total of \$23 in license and tag fees to hunt deer and elk and other wildlife. They now pay a total of \$17. Modest increases would occur in fees for special licenses issued to pioneers and disabled veterans. Substantial increases would occur in most nonresident fees. The daily angling license fee would remain the same.

The Commission has also requested that \$600,000 be appropriated from the general fund to accommodate a modest nongame wildlife management program. A similar request in 1973 was turned down.

In addition, there will be a measure in the Legislature to authorize the issuance of recreation bonds by the state to provide funds for development of parks and other outdoor recreation projects. As written, some of the revenue from the bonds would be available to the Wildlife Commission. If passed by the Legislature, it would go to the people for a vote. A constitutional amendment would be necessary.

The eventual fate of any one or all of these proposals remains to be seen. The Commission believes strongly that an increase in license and tag fees is absolutely essential. It sincerely believes that an appropriation from the general fund is a logical way in which wildlife management activities of broad general interest should be financed. The public will have ample opportunity to participate in whatever decisions are reached through the hearings process when the Legislature is in session.

Whatever the decision, the Commission will continue to strive to the best of its ability to manage the wildlife resource in such a way as to provide the greatest number of benefits to the greatest number of people while assuring the future of the resource. □



# Steel Shot

## A Status Report

By Ken Durbin

The Wildlife Commission's Sauvie Island Wildlife Area is the first and only state-controlled hunting area in Oregon so far to require the use of shot shells containing steel pellets for hunting waterfowl. Although these shells have been required on a number of federal shooting areas for the past several seasons, their use is relatively new and localized.

In all areas where the steel loads are required, the objective is to stop the buildup of lead shot pellets in waterfowl hunting areas. Ducks and geese pick up these pellets either incidentally while foraging the lake bottoms for food or purposely as grit needed in the digestion process. The lead is gradually worn away in the gizzards of these birds and enters the bloodstream to produce sickness or death from lead poisoning.

Oregon's 1974 waterfowl season is now more than a month old. In that first month 1,980 hunters shot at Sauvie Island, taking 2,951 ducks and geese for an average of 1.49 birds per man. Total hunter participation and waterfowl harvest are down from last year but area manager Frank Newton thinks this is partly due to low water levels in many of the popular shooting units, and warm "bluebird" weather which provided less than ideal conditions for waterfowl hunting.

We asked Newton what the reactions of hunters have been during the first month of using steel shot at Sauvie Island.

One of his first comments was that hunters had been skeptical about the new shells at first but most accepted them after use in the field. Generally, the hunters who used to get lots of birds using lead shot are still getting lots of birds. The hunters who brought in few ducks before now have a brand-new alibi which, Newton says, some of them are using liberally.

The secret of consistent success on ducks at Sauvie Island, as in most other areas, is to use decoys, learn to use a call effectively, and let the ducks get closer than 40 yards before shooting. The hunters who can do this are bagging as many ducks as they

did before using steel shot, Newton said. Some even feel the new loads are more effective at the closer ranges than lead.

So far no one has pointed out any damage to shotgun barrels which have been used with the steel loads. Many hunters called the Commission before the season opened to ask about this. They feared the hard pellets would score the insides of their gun barrels or that continued use would ruin the chokes on their guns. Heavy plastic liners in the shells have apparently prevented any scratching of shotgun bores but it is probably too soon to tell what the long-term effects on shotgun chokes will be.

As to effectiveness, hunters say the steel loads seem to do the job if they are used within reasonable ranges. Although the harvest of ducks is lower so far than it was last year, the take of geese is up by nearly 50 percent. Hunters who have taken these hardy birds say the steel loads were very effective on them.

Commission personnel at checking stations are taking gizzards and one wing from a random sample of mallards and pintails so the effects of using steel shot can be monitored.

The gizzard monitoring has not been going on long enough yet to draw any conclusions about this season. The material removed from these gizzards and also the wings taken from sample birds will be sent to Patuxent Wildlife Research Center in Laurel, Maryland to be analyzed for lead levels. It is possible and even likely that several years of study will be needed before any trends can be positively documented.

Nevertheless, five days after the season opened, steel shot began showing up in duck gizzards and it has been found regularly since then. Although lead pellets from previous seasons remain available to the waterfowl at Sauvie Island and probably will for many years, studies conducted elsewhere point out that many birds are poisoned by ingesting lead shot that was expended during the *current* season. □

# Environmental Events

Oregon State Water Resources Board modified its Snake River Program, abandoning its previous endorsement of additional hydroelectric projects in Hells Canyon. The decision came after the Board had held several public hearings throughout the state over the past several months. The Wildlife Commission strongly supported the Board's action.

The Governor's Water Policy Coordinating Committee adopted a resolution in support of a special legislative interim committee to review and update water law and water resource management policies. The resolution will be considered at the upcoming legislative session.

The Corps of Engineers' Rogue River Water Temperature and Turbidity Study associated with its Lost Creek and Elk Creek dams was reviewed by the Wildlife Commission staff. The Corps' study is being conducted primarily because of fisheries management considerations. The study should provide valuable information for predicting and evaluating the effects of impoundments on downstream temperatures and turbidities.

The Federal Highway Administration was advised of potential environmental damage and recreational use interference associated with the proposed Galice Creek Road in the Rogue River watershed. The principal concerns expressed by the Wildlife Commission are 1) materials entering stream during construction; 2) major soil movement in unstable areas; 3) erosion of newly disturbed soils causing stream siltation; and 4) elimination of fish habitat through placement of culverts and channel changes.

The City of Portland's request to obtain a state permit allowing for fill of 135 acres of Smith Lake was opposed by the Wildlife Commission staff. The purpose was to allow long-range sanitary land fill operations in the St. Johns area. □

# GULLS

by Jim Gladson

The gull has been memorialized by the Mormons of Utah as the protector of their croplands and popularized as the philosophical hero of a recent book and motion picture. The gull has also been cast as a fierce predator and killer in another movie by Alfred Hitchcock.

In fiction and in fact, the gull is seen in many different lights. Some may see it as the graceful rider of the ocean winds while others see the bird as a brawling scavenger of garbage dumps. Just about any impression that one may form of the gull is probably correct at one time or another. While its activities may be recognized as diverse, few people realize the diversity of individual species within the gull family. A gull is not just a gull.

There are 47 different species of gulls throughout the world, with 13 of these types found in Oregon. The Oregon gulls may be either full-time residents or migrating visitors. Five species nest here.

While gulls may look much the same to a casual observer, closer inspection will reveal a number of characteristics that distinguish the various species. Such references as size of the bird, color of the legs, color of the back, and markings on the wing tips and bill will help narrow down possibilities for identification.

These observations are easier on adult birds, however. The presence of immature birds is a source of much confusion to some gull watchers. These young birds, usually brown or gray-brown depending on the species, are often mistaken for a distinct species. They are not. Like other birds, such as the bald eagle, the gull takes from one to four years to attain the familiar white and shades of gray coloration found on most adult birds.

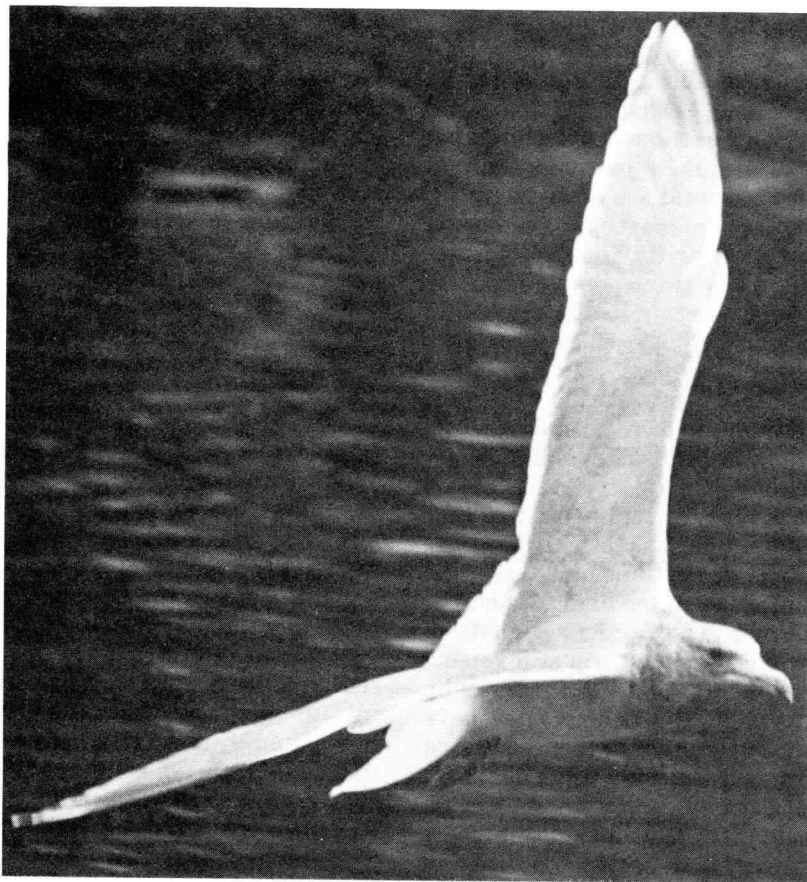
While it is possible to pick out the species of an immature bird through the same routine of coloration and markings, the differences are often so slight that even experts do not attempt identifications unless necessary.



Often thought to be a separate species, this young gull is probably just entering its first winter. It will be at least one more year before this bird acquires the familiar lighter adult plumage. The young of most species are dark colored.

Another good way to narrow down identifications is to know what geographical areas a species frequents and when it might be there. For example, the Ring-billed, Franklin, and California gulls nest in the Klamath and Malheur Basins of southeastern Oregon and make the general term "seagull" inaccurate. The Western

and Glaucous-winged gulls prefer coastal nesting sites. It follows that gulls sighted in either of these areas during the spring and summer nesting season are likely to be one of these resident species. The other eight species of gulls found in the state are usually present only during the nonbreeding months.



A good look at the outstretched wings of a gull will also help in identification. Light color of the back and the lack of contrasty black and white wing tips mark this bird as a Glaucous-winged gull. Flesh-colored legs and red spot on the bill are other identification points.





Size is one way to identify gulls. Here the contrast is obvious between the small Mew gull in the foreground and the larger gull. The rear bird is probably a California gull.

Among gull species that usually can be seen in the fall, winter, and early spring, along with the resident types, are the Mew, Bonaparte's, Thayer's, Herring, Sabine's, and the Black-legged Kittiwake. Although called a Kittiwake, this bird is a member of the bird family including gulls.

Terns are also part of this family. Six different species of tern have been seen in Oregon. The bird is readily distinguished from the gull by its slender build and its feeding habits which include head-first dives into bay and ocean waters for its meals. The gull prefers to keep its head dry and often sits on the water while feeding or resting. The tern seldom swims and confines its waterwork to sleek dives and quick takeoffs.

The coast is the best area for viewing a variety of gulls during the winter. Most of the species known to the state will congregate there. Some species may be seen both on the coast and inland. Favorite inland spots are usually any open, grassy area where worms and insects would be available such as parks, golf courses, schoolgrounds, and farm fields. The largest concentrations of gulls outside of the coast are usually found in refuse dumps.

Many dumps have limited access for nonusers but, if open, dumps or

landfills provide a good spot for the dedicated gull watcher to brush up on identifications.

Admittedly, the belief that gulls are all alike is well founded. The distinctions between many species are very slight and positive identification can be a frustrating task. However, for people interested in giving bird watching a try, gull observation is a good place to start. Few birds are more accessible over such a wide area,

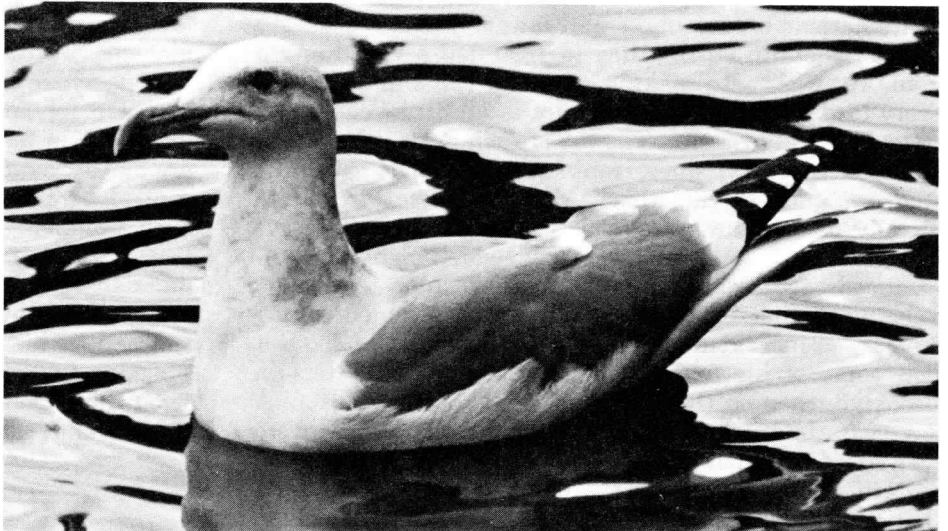
and none are more willing to forget their natural shyness when a handout might be available.

Several books with guides to gull identification are on the market. Many have illustrations of each bird and at least one provides a chart for quick reference in the field.

Whether sitting calmly on a piling, scavenging in garbage, or winging its way over an urban neighborhood, the gull is worth a second look. □



Whether in flight or on the ground, the contrasty black and white wing tips of many gull species are quite visible. Most gulls with the black wing tips, like the California gulls above and below, have white patches, called mirrors, on the tips and within the black of the primary feathers. The red or red and black dot on the yellow bill and the greenish legs also indicate a California gull.



# Of Starlings And Such

In recent months there have been a number of stories in publications from the eastern United States telling of the possible menace of the monk parakeet. This is an introduced bird that has apparently escaped from pet owners and appears to have established itself in the wild. Since it feeds largely on fruit, there is considerable concern expressed by agriculturists.

The New York Department of Conservation tried to eliminate the birds, but one story has it that while they were out trying to stop the spread and establishment of these exotics, a lady resident of the state was busy buying additional birds from pet shops and releasing them because she thought they were nice to have.

There have been a few sightings of these birds in Oregon but at this time it does not appear they have become established. With the importance of fruit crops to Oregon's economy, we can certainly hope they won't adapt to our area.

One bird that has arrived is the starling. Recently, Russ McKee told the history of this bird in Michigan Natural Resources magazine. We pass it along as a reminder of what can happen when wild creatures are indiscriminately released in areas outside their native range.

One spring day in 1890, a wealthy drug manufacturer named Eugene Scheiffelin climbed down out of an expensive carriage in Central Park, New York City and, followed by two footmen carrying four largish slatted cages, walked out into the center of a broad grassy opening. There he stopped, the cages were placed on the grass, and one by one the tops were opened. What issued forth soon provided a classic example of how thoroughly nature hates a vacuum. Others, however, might take a less objective view, claiming his act the most magnificent case of bone-headedness ever to strike North American wildlife. What Eugene Scheiffelin released that day was 60 European starlings, the first "successful" introduction of that bird on these shores. His little band of feather merchants, in fact, became the grandmommies and grandpoppies of all the millions and millions of starlings that now wheel and whirl in our fall skies, that cluster in our cities and spread white carpets on our parks and lawns.

But Scheiffelin on that day in 1890 had a vision and a plan. He wished to make resident in the United States every bird named by Shakespeare in all his 37 comedies, tragedies, and histories. The list of such birds is long, and includes the lark, dove, robin, falcon, eagle, starling, sparrow, and several others. Many of these birds were already part of our American scene, but the starling at least was not. (Also the sparrow, which Scheiffelin introduced, too — but that's another story). Anyway, Scheiffelin's first introduction of starlings seemed to disappear, so in 1891 he released a second band of 40. But now some of his first releases turned up as nesters in Brooklyn, then on the New Jersey side of the Hudson. A few years later, descendants of these first releases were seen in Connecticut and Massachusetts, and soon after in eastern Pennsylvania. By the beginning of World War I they were moving steadily westward across America along

a broad front, and doubts began to spread concerning the wisdom of Scheiffelin's act. The federal government, in fact, soon passed laws banning further importations and releases of wild creatures on these shores, largely as a result of Scheiffelin's highly effective work. The lead edge of the starling tide arrived in Michigan in the mid-1920's and by the early 1940's had reached the West Coast. They are now found all across America, including resident colonies in every one of the contiguous United States, plus parts of north Mexico and southern Canada.

But what we've seen thus far may be only the beginning. Starlings are very sturdy little critters. Imagine yourself on their size and level, then watch one as it struts about your yard or local park. Note the stocky build and aggressive manner, the long but very strongly built beak, the constant energy and movement. Note that they march about in platoon-sized units. Note that not much about the starling has been wastefully spent on bright plumage or liquid song — somewhat like a Mark IV tank — and watch what happens when other lone songbirds happen near. Usually, they are trounced, that's what happens. Starlings also steal nesting spots from wrens, woodpeckers, and other "box and hollow" nesters, and have driven away many of our more unusual birds. One observer reported watching a pair of woodpeckers chewing out a nest in a tree. The process took several days and the starlings, he said, waited nearby until the nest was completed. Then when the woodpeckers flew off to get some lunch, they moved in. On their return, a big fight ensued. But there were plenty of starlings and only two woodpeckers. Eventually the woodpeckers gave up, went off to a nearby tree, and built another nest. Then the same battle took place a second time. The bird production at that location that summer was four litters of little starlings — they generally nest twice each year — and no woodpeckers. All the starlings of course were discouragingly healthy while the woodpeckers simply left the scene. True or not, the story illustrates the aggressive habits of these colony birds, and suggests that we may now still be seeing only the beak of the starling iceberg (to corrupt a lousy phrase). That's because starlings have no major biological controls in North America, unlike their native Europe where over the centuries they have been forced to compete for space with other toughies. In a few U.S. locations, in fact, starlings are already so numerous they are on the verge of driving out human residents. In south central Virginia, for example, where starlings gather in such numbers that residents of some communities are loathe to leave their homes because of the noise, stench, and danger of falling missiles. Various attempts at population controls have failed, although one resident found a solution for his frustration by dragging out a shotgun and plugging five of the critters. "Huh," snorted a neighbor, "you think that's going to stop them?" "Well," came the laconic answer, "it stopped those five." □

# This and that

compiled by Ken Durbin

## ECOGRAMS

Indians who want eagle feathers for religious purposes now can get them from a U.S. Fish and Wildlife Service distribution center in Pocatello, Idaho; the feathers come from dead eagles, recovered by game agents . . . For an inland sea declared "dead", Lake Erie yields a lot of fish; the 1973 commercial catch — mostly perch, smelt, and bass — was 48 million pounds, 9 million pounds more than in 1972 . . . A western sporting goods house, Sheplers in Wichita, Kansas, has unilaterally declared that the green turtle is "so overabundant as to make hunting a necessity" and is offering sea turtle boots at \$129.95 a pair . . . A naturalist for the International Council for Bird Preservation has succeeded in capturing a pair of Mauritius Island kestrels and hopes to breed them in captivity; no more than four of the kestrels remain in the wild, making it one of the rarest birds in the world, if not the rarest.

AUDUBON Econotes

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## DRUGS IN A CLAMSHELL

Though they seem inconsequential in size, mussels and crustaceans are an indispensable part of the living world. Besides fitting into the food chain, these creatures have recently been recognized as being able to produce poisons, antibiotics, tranquilizers, antispasmodics, and antiseptic chemicals in their systems. Scientists believe these unique abilities can be used as models for the development of synthetic drugs.

U.S. Fish and Wildlife  
Service news release

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## HABITAT IS KEY TO ENDANGERED SPECIES

The Symposium on Threatened and Endangered Species of North America, held in Washington this summer, drew large numbers of conservationists. A theme constantly reiterated throughout the conference was the need for an "ecosystem approach" to wildlife preservation. As Jon Roush of the Nature Conservancy expressed it: "Don't save alligators. Save swamps." The total dependence of animals upon their habitat and the necessity of preserving that habitat was emphasized by Dr. Wayne King. "Despite the book, the song, and the movie," Dr. King pointed out, "animals are not born free. Rather, they are captives of their environment, and totally dependent upon it. When man moves, he takes his environment with him — animals can't. The primary cause of endangerment is and will continue to be habitat destruction."

Defenders of  
Wildlife International

## NO HEART PROBLEMS

Anyone who is on a salt-free diet and has worried about the salt in saltwater fishes can stop worrying about that problem. Saltwater fishes have no more salt in their flesh than freshwater fishes or land animals. Though they live in a highly saline environment, their bodies maintain a constant internal balance of salts and fluids through various osmotic processes. The same is true for animals in a freshwater or terrestrial environment.

Texas Parks and Wildlife

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## BIRDS AND BUGS

In any reckoning of animal values, songbirds score high for their tireless warfare on insects. But game birds deserve a little credit, too, says Remington Arms' Research Bureau.

Most game species feed largely on vegetation matter in adult life. But during the first few months of existence, their diet is almost exclusively insects.

Up to the age of 10 to 12 weeks, the young of quail, pheasants, and grouse spend most of their waking hours in pursuit of bugs. It could be more than accidental that some of the densest pheasant populations occur in areas offering bonanza supplies of grasshoppers, Mormon crickets, or some other equally available insect.

Ducks also start life as insectivores and continue to feed heavily, if not exclusively, on insects and related materials until they are half grown. Rapid growth requires a high level of protein which animal tissues provide. It is doubtful that our common game birds could survive and multiply in the absence of insects.

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## CALCULATING FISH WEIGHTS

Here's a formula for calculating the weight of a fish if you know the length and girth measurements. It was published in the New York State Department of Environmental Conservation's official publication, "The Conservationist". It may or may not work on all species. We tried it on several fish and it worked out fairly close. Try it yourself on the fish you catch.

First, measure the length and girth of the fish in inches. Then square the girth and multiply this figure by the length. Divide this grand total by 800 and you will have the approximate weight of your fish in pounds.

For example, you have a 25-inch fish with a girth of 20 inches. The girth squared is 400, times the length, 25 inches, gives a total of 10,000. Divide this by 800 and you have the weight of the fish — 12.5 pounds.

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# Angling Regulations For 1975

Following a public hearing in Portland on November 2 the Oregon Wildlife Commission set angling regulations for the coming year.

The seasons will be similar to those for 1974 with the major exception of a later opening date for streams in northeastern Oregon.

The opening date for lakes and streams throughout the state is April 26, *except* coastal streams, portions of the Rogue and Umpqua Rivers, streams in northeast Oregon, and a few lakes.

In these excepted areas the opening date will be May 24. Lakes that will open on this later date include East and Paulina in Zone 5, Clear Lake in Zone 2, and Penland Lake in Zone 7.

The later opening date for streams in northeast Oregon was selected to protect steelhead and salmon smolts and adult steelhead and because better stream conditions later in the spring would insure higher survival and a better return to the angler of planted trout.

The Commission banned the use of metal core fly lines in waters designated for fly fishing only and redefined an artificial fly to eliminate the use of fly rod lures, such as molded plastic lures, in these waters.

The most controversial regulation discussed was the ban, imposed last year, against the use of motors in trolling on Davis Lake, a fly only area. The Commission accepted the staff recommendation that this regulation be continued in 1975.

*Because of the length and detail involved in angling regulations, it is impossible to list them all here, but the major changes from 1974 regulations are listed by zone below.*

The new regulations synopsis is expected to be available about mid-December from license agents throughout the state.

## TROUT REGULATIONS

### Zone 1

Allow year-round angling on Cullaby Lake, Bradley Lake, Empire Lake, Powers Pond, Sunset Lake, and Vernonia Lake.

### Zone 2

Allow year-round angling on Blue Star Pond, Creswell Ponds, and Delta Pond.

Close a small portion of Mill Creek (Yamhill system), adjacent to a Wildlife Commission research project, to angling.

### Zone 3

On Lemolo Lake, bag limit will be 3 trout per day 12 inches or over.

### Zone 5

Close a portion of Odell Creek until May 24 to protect spawning fish.

### Zone 7

May 24 opening for Penland Lake.

Open streams on May 24.

### Zone 9

Open streams on May 24, *except* Burnt River will open on April 26 from Unity Dam to mouth.

Close part of Meadow Creek to angling as part of Forest Service grazing study.

## STEELHEAD-SALMON REGULATIONS

### Zone 1

Change deadline on South Fork Coquille River to open 1.5 miles of new stream for steelhead angling.

Allow steelhead angling in Floras Lake outlet which would open an additional  $\frac{3}{4}$  mile of stream angling.

Remove deadlines on Neskowin Creek and the Little Nestucca River.

### Zone 2

Open Gales Creek to steelhead angling (newly established run).

Open Marys River and North Fork Yamhill River for steelhead angling.

Close Molalla above mouth of the Middle Fork (Table Rock Fork) to steelhead angling to protect spawning fish.

Open Willamette River (Coast Fork) to salmon angling *except* from July 15 through October 31.

Open Luckiamute River for steelhead angling.

Open Willamina Creek (South Yamhill system) for winter steelhead angling (newly established run).

### Zone 4

Open Rogue River from Savage Rapids to Gold Ray Dam to salmon angling year around.

On the Rogue River, between Gold Ray Dam and the powerline crossing at Cole Rivers Hatchery, extend single-hook regulation through August 31. Open to fly angling only from September 1 (two weeks later than last year) and continue through the end of December (two months later than last year).

### Zone 7

Walla Walla River closed to steelhead angling through end of August (extension of emergency closure currently in effect).

### Zone 9

Closure on steelhead angling in Snake River and tributaries through August (extension of emergency closure currently in effect).

## MISCELLANEOUS GAME FISH

Angling prohibited on Sauvie Island Management Area between 10 p.m. and 6 a.m. to conform with other use regulations on the area.

