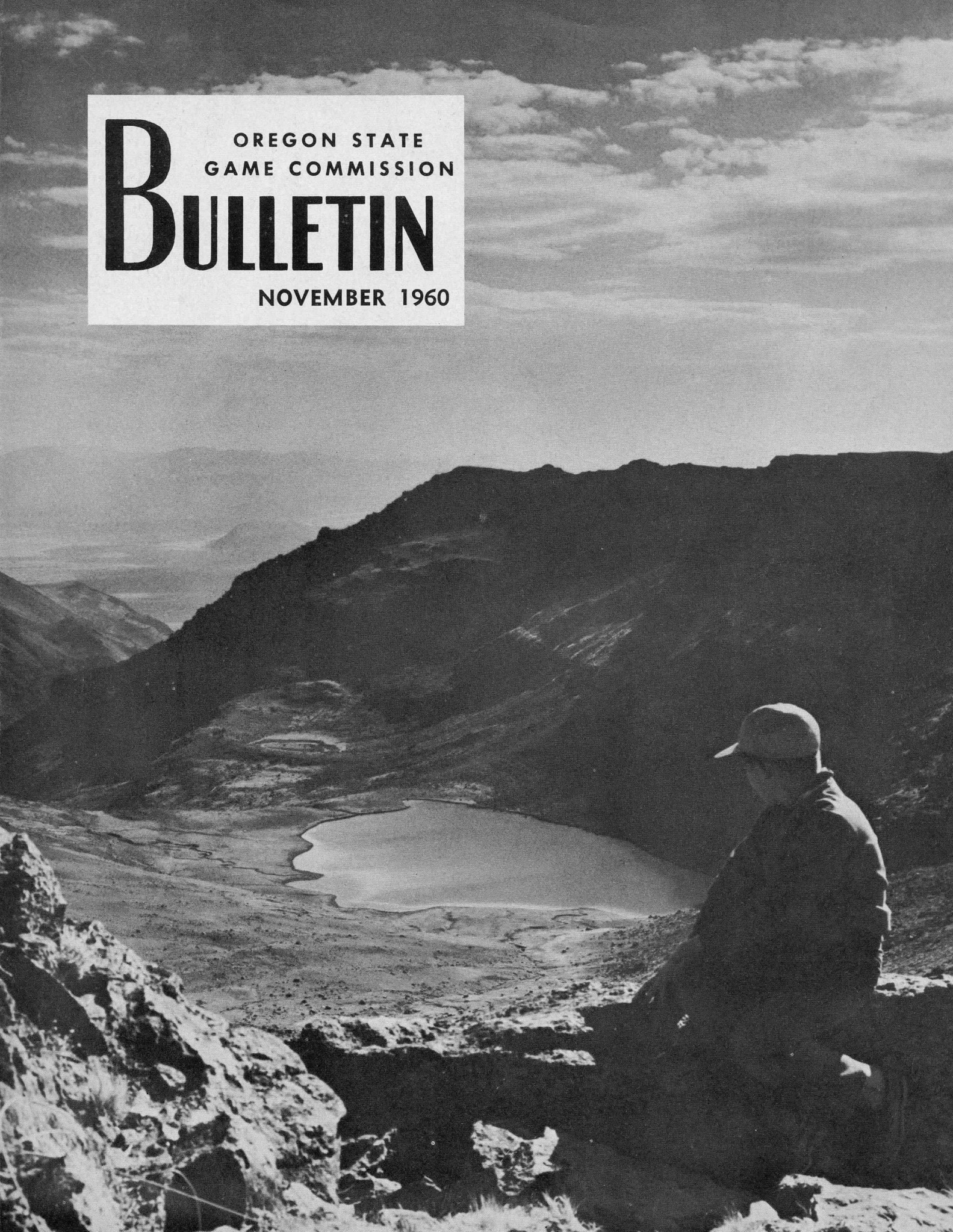


OREGON STATE
GAME COMMISSION

BULLETIN

NOVEMBER 1960



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NOVEMBER, 1960
Number 11, Volume 15

Published Monthly by the
OREGON STATE GAME COMMISSION
1634 S.W. Alder Street—P. O. Box 4136
Portland 8, Oregon
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Entered as second-class matter September 30, 1947, at the post office at Portland, Oregon, under the act of August 24, 1912.

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At the present time the Bulletin is circulated free of charge to anyone forwarding a written request.

the cover

Overlooking Wildhorse Lake at southern end of the Steens Mountain area. Always popular with deer hunters, Steens Mountain attracted more than the usual number of hunters this season, partly because of improved access in certain sections.
(Photo by Ron Shay)

BULLETIN HUNTER SAFETY TRAINING PROGRAM

Instructors Approved

Month of September 46
Total to Date 1,225

Students Trained

Month of September 231
Total to Date 5,291

Firearms Accidents Reported 1960

Fatal 5
Nonfatal 17

October Meeting of The Game Commission

The Oregon State Game Commission at its meeting on October 12 considered the following matters:

CAPITAL OUTLAY. Approved call for bids for installation of heating system in hatchery building at Rock Creek; purchase of four automatic pellet feeders for Wallowa Hatchery; construction of garage and woodshed for Fall River Hatchery; and wash room and septic tank for Hermiston Game Farm. As no bids were received for drilling of well at Rock Creek, staff was authorized to negotiate a contract.

SCREENING TESTS. Reviewed program for screening tests to determine the extent of injuries and mortalities to downstream migrating salmonids passing through hydro-turbine plants in the Willamette Basin. Commission decided to request additional Columbia River Fishery Development Program funds to conduct further tests at Willamette Falls and Stayton.

BEAVER LAW. Favored a suggested change in the beaver tagging law in order to make possible better management techniques.

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LOSSES OF FISH HIGH AT OREGON CITY TURBINES

Three turbine tests made early this year by the basins investigation section of the Game Commission at installations at Oregon City falls showed losses from around 12 per cent at one turbine to as high as 30 per cent at another among downstream salmon and steelhead migrants.

At Publisher's Paper Company hydroelectric plant, losses at the Number 2 turbine tested last February amounted to just over 12 per cent on steelhead and 12.6 per cent on salmon. Crown Zellerbach turbine Number 20 showed a mortality of 30.4 per cent for steelhead and 28.4 per cent for salmon. At the Company's Number 21 turbine steelhead losses were 21 per cent and salmon, 18.8 per cent.

High water conditions interfered with the test undertaken at Portland General Electric Company's Sullivan Plant, and also prevented two other turbine tests on the original schedule. It is planned to complete these tests, which are conducted as part of a study financed by the federal government under the Columbia River Development Program. Additional funds are being requested to continue the work.

Report Banded Birds



Banding waterfowl is an annual project of the Oregon game department and other Pacific Flyway states in cooperation with the U. S. Fish and Wildlife Service. Hunters reporting banded waterfowl to the Game Commission are helping to obtain information needed for future management of the resource. If you kill a banded duck or goose, send in the number of the band, date and location of kill and species of bird.



By C. J. Campbell, Chief of Operations, Fishery Division

THIS MIGHT WELL be entitled "The Plan That Was Not Forgotten."

As do other fields of endeavor fishery management produces many ideas. Some are good and some are bad. Some are immediately forgotten and some last only long enough for a good look. Others are found worthy and are developed and put into operation. This article concerns one of the latter.

In the October 1958 issue of this Bulletin, the concept of producing salmon and steelhead in ponds was outlined by Dr. H. J. Rayner. The progress of development of this concept is the subject of this report.

The Oregon Game Commission presently includes in its fishery development program the acquisition or construction of two different types of ponds. Those of the first type are designated as public fishing lakes and are meant, as the name implies, to provide places for people to fish. In general, they are planned for areas where fishing waters are scarce but the demand for fishing is present or rapidly increasing. They will not only provide an excellent method of providing fish for the angler economically but also actually increase the amount of available fish habitat and fishing opportunity.

The second category of ponds or impoundments is that discussed in the 1958 article and its primary purpose is to rear

large numbers of anadromous fish—salmon and steelhead—to the downstream migrant stage. It is anticipated that this method of rearing fish will be economical as there will be no artificial feeding and there should be little or no necessity for disease control. Also, and equally important, the resulting migrants should be healthy fish accustomed to making their own way in the world.

AFTER DETERMINING THE advisability of a program of pond rearing, the next step was to obtain funds for the purpose. Money is a necessary adjunct to all plans these days whether it be for the provision of a new family automobile or the development of a better method of raising fish. So when the next budget for the Game Commission had been hammered out, and had been approved by the 1959 legislature it contained a sum dedicated to this purpose. While the sum was not as large as had been hoped for, it was still adequate with which to start work. Because certain anadromous fish populations in the Rogue, Umpqua, and Coos River watersheds are at low ebb, the Game Commission adopted a policy that the funds originally made available for the rearing pond program be used in these areas.

As part of the preparation for commencing this new program, a survey was made of similar activities in other areas and by other agencies. The fishery man-

agement agencies of the state of Washington, particularly the Washington Department of Fisheries, had programs of this nature in operation. Visits were made to a number of their installations and methods, progress, and results discussed at length with the technicians involved. It became apparent that problems would arise. It also became apparent that while considerable had been learned about the construction of impoundments and stocking rates, actually very little had been learned about the returning of adult fish. This vital point still remains as a large, unfortunate gap in our knowledge on the subject.

TO ACTIVATE THE PROGRAM the best suitable sites had to be found. As Oregon sportsmen are primarily interested in the long run fish that may be taken with hook and line all the way from salt water to upper watersheds, steelhead trout, chinook salmon, and in some instances silver salmon, were the logical species to consider. In order to duplicate nature as closely as possible, these fish must be reared in the upper part of the watersheds. Such sites should be of adequate size to rear sufficient fish to provide a measurable return. An intense search for suitable sites was started and is still going on. Approximately fifty potential sites have been quite thoroughly checked on the ground

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Medco Pond (Dailey Reservoir) has been leased from the Medford Corporation at a nominal fee for development as a rearing pond. Located in the upper part of the Little Butte Creek drainage, it will be used to rear summer-run steelhead trout from the Rogue River.

Pond Rearing

(Continued from Page 3)

and at least as many more have had cursory examinations and been discarded for various reasons.

The upper part of the watershed on such streams as the Rogue and Umpqua is steep and sites that would provide adequate acreage of water are few and far between. In lower parts of the watershed where larger impoundment areas may be present, the land is frequently under cultivation and is of such high value that its acquisition for the purpose is not economically feasible. Also any such potential site must have a sufficient supply of water to fill and maintain the impoundment.

THE TYPE AND LOCATION of the site also has an important bearing on cost of construction. The construction of dams providing the impoundments must follow rigid regulations. Good engineering, safety, and requirements of the State Engineer demand this of such structures. The availability of acceptable materials and the type of construction have a direct bearing on the cost. Some otherwise satisfactory sites are ruled out on the basis of cost alone, at least until such time as the program is proven, and the rate of return on the investment can be more accurately calculated.

A fortunate set of circumstances led to the acquisition of the first of the

potential rearing ponds. The Medford Corporation owned a pond of approximately 76 acres in the upper part of the Little Butte Creek drainage, tributary to the Rogue River, which it had been using for log storage. Since the corporation was no longer going to use it for this purpose, it agreed to lease it to the Game Commission for the purpose of rearing anadromous fish for a nominal fee. This ready-made pond was acquired and needs only certain modifications to adopt it for the new purpose. These modifications which include the provision of facilities for controlling the water level and handling fish are now under way. The necessary alterations should all be completed and the pond ready for refilling prior to next spring's run-off. Summer-run steelhead trout from the



Rogue River, a strain that has been difficult to handle successfully in hatchery operations, are being held to provide the initial stock for this impoundment in the spring of 1961.

The site for the second pond is located in the Umpqua River drainage not far from the town of Glide, in the area known as Whistler's Bend. The proprietor agreed to lease it to the Game Commission for a period of fifteen years for the purpose of raising anadromous fish. The lease permits him to retain certain rights and interests in the pond that will not interfere with its primary purpose of fish rearing. This impoundment will provide about 33 acres of water. Since there is some doubt about the ability of this watershed to produce sufficient water at all times, a large pump will be provided to bring water from the Umpqua River when necessary. The construction of this dam and impoundment has been contracted and by the time this article is in print should be essentially completed. Umpqua River summer steelhead are being held to provide the initial stock for this pond in 1961.

AN ADDITIONAL SITE IN the Rogue River drainage was found to involve water that by statute can be used only for municipal purposes. Negotiations are being carried out that should lead to an amendment of the statute and an agreement with the city to permit construction of this pond probably in 1961. This would provide another 40 to 50 acres of rearing impoundment. We anticipate the rearing of Rogue River spring chinook salmon in this water.

A fourth site is in the Little North Fork watershed, tributary to the North Umpqua River. This site of approximately 60 acres lies entirely on national forest land and the Forest Service is cooperating in its development. It was hoped that this site could also be developed during the current construction season but time necessary for development of plans and for the delineation and consummation of a timber sale on the area to be impounded made this impossible. A general agreement with the Forest Service concerning the construction has been reached and it is anticipated that the final plans will be approved by the state and by the federal government during the coming winter. This would then permit the letting of bids and actual construction during 1961. We anticipate the rearing of Umpqua River spring chinook in this impoundment.

As previously mentioned, a number of other sites have been examined and more are being sought. Others will be developed as rapidly as money, time, and

(Continued on Page 5)

Pond Rearing

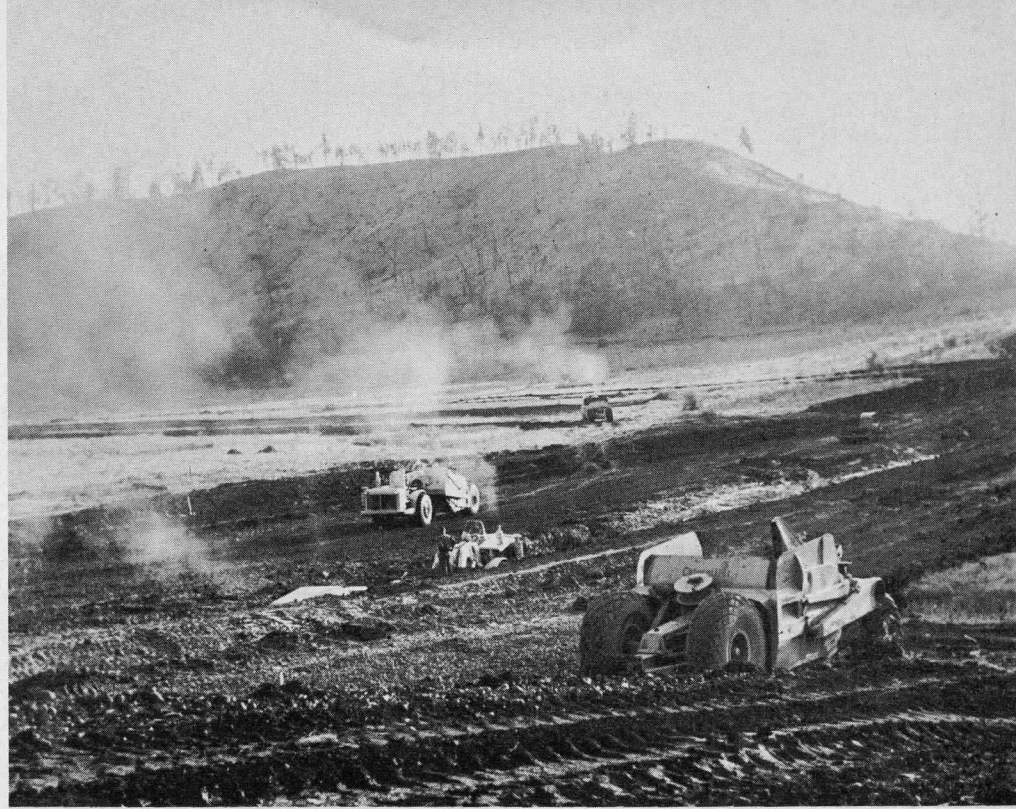
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degree of success warrant. Those currently under construction, or soon to be built, should prove adequate to provide an index to the success we may expect. They are not numerous enough or extensive enough to by themselves provide large runs of returning adults no matter how successful they are. They must be regarded, at least in their earlier years, as largely experimental.

WHILE THERE ARE MANY questions still unanswered and while the possibility exists that this new concept will not prove the valuable aid to anadromous fish production that we expect, there is still another side to the picture. If any or all of these impoundments built and controlled by the Game Commission should prove unsatisfactory for this purpose, they would become valuable fishing lakes. They are generally located in areas where lakes are scarce and demand for fishing is heavy. This in effect provides a second string to the bow.

Further extension of the rearing pond concept, and one being utilized to a considerable extent in Washington, is the development of control structures in tidal lagoons. The rise and fall of the tides provides circulation of flows in these lagoons through an arrangement of tide gates and valves. Fish trapping and handling facilities may be embodied in the water control structures.

The continuous circulation of new salt or brackish water brings a steady supply of food and nutrient materials. They appear to be several times richer and more productive than the best fresh water im-



Construction shown underway for the impoundment at Whistler's Bend (Allenby Pond) in the Umpqua River drainage, not far from the town of Glide. Impoundment will provide about 33 acres of water for rearing of Umpqua River summer steelhead.

poundments. Because of this rich, constantly renewed supply of nutrients the number of fish that can be reared per unit area in such an environment is spectacular.

SUCH AREAS IN TIDEWATER are primarily suited to short-run species. However, they are adaptable at least to some degree to silver and fall chinook salmon, and several sites are under active consideration for the experimental development of such a lagoon.

In order that we may know exactly what we are doing at all times with this new program, the measurement of the production and of the return to the fishery of these rearing impoundments will be a specific responsibility of our research division. Plans are being laid by this division to enumerate and mark for future identification the fish reared in and liberated from these ponds and to assess return of adult fish. The needs for this part of the program are being considered in the physical design of the facilities provided. In this way we will obtain accurate data during all phases of the project which will be used for our own guidance in the program and which will be made available for the consideration and guidance of other workers in the field.

In summary, progress in the last two years includes two impoundments actively under construction, and two more in advanced planning stages. This progress is based on careful planning and is aimed at getting the most information, as well as fish production, possible with the money and means at hand. As the program proves its worth the experience gained will enable progress to be more rapid where and when it is warranted. We anticipate that it will mark a milestone in our efforts to maintain anadromous fish in many of our river systems.

So the plan described in 1958 was not reported and forgotten. It is very much alive and active.

McMullen Pond, under construction by Josephine County, is to provide a fishery for warm water game species. Game Commission is cooperating in the project in an advisory capacity.





A good retriever prevents loss of crippled birds while waterfowl hunting.

NOVEMBER HUNTING SEASONS

Cock Pheasant

Closes Nov. 20

Valley, Mountain & Bobwhite Quail

Closes Nov. 20

Chukar & Hungarian Partridge

Closes Nov. 20

Waterfowl

Open entire month

Snipe

Closes Nov. 27

Elk

Coast areas close Nov. 9

Eastern Oregon closes Nov. 27

Extended Deer Season

Nov. 12, 13, 19 & 20 in specified parts of Hood River and Wasco counties; of Rogue River, Umpqua River and Willamette Valleys.

Nov. 19 & 20, parts of McKenzie Unit.

NOTICE OF ANGLING REGULATION HEARING

The Game Commission will hold its annual hearing on angling regulations on Friday, January 13, 1961. The hearing will convene at 10 a.m. and will take place at the Commission's headquarters, 1634 S.W. Alder Street, Portland.

Game fish seasons, bag limits and methods of taking will be considered by the Commission at that time.

It is not lawful to retain in possession any live migratory game birds taken by hunting. Any wounded migratory game bird reduced to possession by the hunter must immediately be killed and shall become a part of his daily bag.

Crossbows are illegal for hunting migratory game birds but longbows may be used.

NATIONAL HUNTING LICENSE SALES REPORTED

Hunters in 50 states spent a total of \$57,811,191 for state hunting licenses, stamps, tags and permits during 1959, the Department of Interior reports. This exceeds 1958 expenditures by more than 4 million dollars.

For 46 states the total of paid individual license holders was 11,924,033, a slight decline of 2.2 per cent in these states over 1958. Figures for Colorado, Michigan, Minnesota and Wisconsin were not included in this total.

Paid hunting license holders in Oregon amounted to 288,315. Highest on the list of 46 reporting were Pennsylvania with 987,044 licensed individuals; New York, 700,010; Ohio, 687,344; California, 608,111.

Oregon's total for hunting licenses, tags and permits sold was 567,278.

CHANNEL CATFISH RECEIVED

Devils Lake in Lincoln County was stocked late this summer with 36,000 channel catfish fingerlings received from the state of California. The young fish survived in fine shape a 17-hour trip by tanker from the Central Valley Hatchery at Elk Grove. By next year some of the fish should be large enough for anglers to keep as part of their bag. A small number of the fish made the trip in plastic bags under oxygen as an experiment. Some loss occurred but this method of transportation shows promise.

Other attempts to provide channel cats for Devils Lake include live trapping from the Snake River. Some success was experienced but this would have been a slow method for building up a supply for the lake.

Juvenile Hunt Popular

The juvenile open season for pheasants and quail at the E. E. Wilson Management Area last month gave many youngsters an opportunity to learn to hunt without competition from their elders. Shooting for these species was permitted on October 8, 9, 15, 22, 29 and November 5.

Waterfowl hunting will be permitted for juveniles on the following dates: December 3, 4, 10, 17, 24, 31 and Jan-

uary 7. Bag limits are: 4 ducks, 3 geese and 25 coots.

Only persons 14 to 17 years of age may apply for permits to hunt during the juvenile seasons. Waterfowl hunting permits are limited to 10 for any one day and will be issued in the order applications are received at the Portland or Corvallis offices of the Oregon State Game Commission. An adult licensed hunter shall accompany not to exceed two juveniles and shall not bear firearms.



Juvenile pheasant hunters checking out at the E. E. Wilson Game Management Area in Benton County. Don Kirkpatrick, management area superintendent, demonstrates mandible test for determining bird's age.

Deer Outsmart Hunters

Deer did a real good job of frustrating many a hunter when the season opened last month. Dry conditions either made the bucks hold real tight or else spooked them out well beyond range.

Members of one group of hunters probably still are unaware of the run-around they received from deer the opening morning in the Lookout Mountain area of eastern Oregon. Milt Guymon, Game Commission information representative, describes the following scene observed by himself and his companion:

"We had the opportunity of watching five hunters, three on horseback, working the brush and rimrocks on the benches above us. From our vantage point on a rock outcropping, the entire country above was exposed to view, and with the action taking place it was much like a front-row seat at a 3-ring circus. Until the hunters worked back to the divide above, none of the action was more than 500 yards distance.

"For almost an hour and a half we watched and were amazed at the ease with which buck deer outsmarted their adversaries. Three of the hunters had good shooting but failed to connect on fast-running bucks. On four occasions hunters were within 50 feet or less of bucks but from all appearances failed to realize deer were even within shooting distance. Buck deer moved out ahead, behind, or just keged up and refused to move despite the brush-beating tactics used by the hunters. We watched most of the action with naked eye, using binoculars for close-ups when the chase was warm or to check on the size of the bucks observed.

"On one occasion a horseman rode up to a snowbrush thicket not over 50 feet across in any direction. He dismounted, shouted several times, and heaved rocks into the brush. Satisfied there was no deer within the patch, the hunter mounted and graded around the sagebrush slope. If he had looked back, this hunter would have had some close-range shoot-

ing at a fine four-point buck that left the patch to sneak off in the opposite direction.

"Two nice buck deer bedded down in a small thicket of snowbrush and wild cherry. Later, two hunters on foot worked this patch, one remaining on the outside while the other beat through the thicket. Both bucks were still there when the hunters left the area and disappeared around the hillside.

"Shortly after their disappearance, a beautiful four-point and a husky three-point came jogging around the slope heading in the opposite direction, traveling just below the trail the hunters had used. The two bucks angled down the slope, cut several shallow draws, and passed within 30 yards of our vantage point.

As the hunters worked the patches above, more deer moved out and away. A four-point and a three-point gradually worked their way through the hunters, moved down the slope, and entered a thicket across the draw from our rock outcropping, a distance of about 70 yards. Several does and towheads also moved in, and later three bucks, a large four-point, a lesser four-point, and forked-horn entered the same brush-patch jungle. Another fine buck and several does and towheads moved back into the same snowbrush patch that the horseman had thrown rocks into about 30 minutes earlier.

"During our stay on the outcropping, 12 bucks, several with racks that would grace well the mantel of any fireplace, were observed playing the game of hide-and-seek with the five hunters. Only three of these bucks were shot at and from our observations it appeared that only two more had actually been seen or heard by the hunters. The other seven bucks played the cat and mouse game to perfection and had slipped through the hunters' ranks or remained still to let the hunters pass."



Of interest during fish population studies conducted at several of the Cascade lakes and reservoirs this summer was the recovery of a lake trout in Little Lava Lake. The fish had been released in Big Cultus Lake in June, 1958, then had to migrate to Crane Prairie Reservoir and up the Deschutes River, a distance of approximately 13 miles. The trout weighed 5½ pounds and had been feeding on fingerling roach.

New water developments for deer in the Deschutes National Forest include three stock tank installations. Each unit includes a 700 gallon tank and cover, a drainage apron and pipeline to a concrete drinking trough equipped with a float valve water control.

Participating in a Scout Conservation Field Day at the Sauvie Island Management Area recently were 38 Girl Scouts and 42 Explorer Scouts. Activities carried on under supervision of game department personnel were repairing and constructing foot bridges, painting the interior of a checking station, posting the east side of Sturgeon Lake refuge and banding waterfowl.

No botulism losses have been detected at Summer Lake for the first time in five years. Manipulation of water levels during critical periods is believed to have suppressed the annual outbreak.

During the Hart Mountain archery hunt from September 10 to 18 a total of 10 deer were killed by 275 archers for a hunter success of 3.5 per cent. Rifle hunters, allowed to hunt on September 24 and 25, scored very well, 252 hunters taking 216 deer, a success ratio of 87 per cent.

Hunters taking part in the Malheur Refuge archery season, September 3, 4, and 5, checked out 20 deer. For the 295 hunters, this was a success ratio of 7 per cent, which was below the past average of about 20 per cent.

October Meeting of the Game Commission

(Continued from Page 2)

ELK. Heard delegation from Nehalem area ask for more liberal elk season to alleviate damage to pasture lands. It was decided that a hearing would be held on November 16 to consider amending the present boundaries of the Clatsop Agricultural Area special season for elk of either sex on December 17 and 18.

YAQUINA ACCESS. Development of a launching site on Yaquina Bay near Yaquina or adjacent to Coquille Point was urged by delegation from Newport

and Albany. Commission suggested that the group determine whether Lincoln County would be interested in developing the project on a cooperative basis.

NEXT MEETING. Wednesday, November 16.

A known return to anglers of 34 per cent was realized on a group of tagged rainbows liberated in the Clackamas River, and a 29 per cent return from rainbows released in the fly fishing area of the Metolius.



THE OREGON angler during recent years has been witnessing and experiencing a literal, physical destruction of important segments of his use of Oregon's sports fish resources. A relatively new factor which, if it continues to grow in magnitude and disregard of existing values in our public waters, will effectively and unnecessarily destroy the opportunity to continue the use of a substantial part of Oregon's important sports fisheries.

This factor is generally referred to as "recreational boating." It involves the use of boats for unorganized high speed boating and water skiing which with its noise, water and stream or lake shore disturbance and related activity frequently makes angling difficult, dangerous or impossible. We are rapidly losing a qualitative element in our outdoor recreational resources by what at times appears to be an arrogant disregard for long-established values on some of our most beautiful, peaceful and productive bodies of water. There appears to be an insistence by those who must indulge in high speed boating or water skiing to seek out even our most popular angling streams or peaceful mountain lakes to cavort at high speeds and in general raise havoc with angling opportunities which have so long been associated with these waters. The more conspicuous exceptions to this situation on easily accessible bodies of water are those which have been protected by restrictions imposed by specific actions of the legislature in past years.

The Oregon Game Commission is the

recipient of increasing complaints from anglers who are appealing for assistance in connection with this problem. This Commission cannot regulate the use of boats except as to the method of angling and is therefore helpless to do much more than appeal to the ethics and good will of those who pursue boating in a manner and in locations referred to above. Subsequent to the establishment of the new State Marine Board such communications have been referred, when appropriate, to this new body. Although a relatively new and small organization, it is alert to and moving in the direction of working out possible solutions to this serious problem.

This problem is not necessarily new but has grown in magnitude, particularly during the '50s. It likewise is not confined to Oregon but is national in scope. It has become so serious in some states that responsible conservation agencies consider it an important factor in bringing about a decline in the number of anglers licensed, thereby reducing funds available to maintain badly needed fish management programs financed solely from license revenues. In state after state, measures of various kinds are being taken to bring about some control of this massive problem. Inconceivable as it appears in many situations, considerations for control by what at best are minimum regulations are frequently met with vigorous objections. The problem must be solved if preservation of outdoor values, or at least a part of the existing values, is to be accomplished.

Those who keenly enjoy high speed

boating or water skiing may take exception to the assertion that this activity is destroying sports fisheries. The fact remains that this destruction, by making use of the fisheries difficult or impossible, is taking place and solutions will have to be found. The classification of streams and lakes, zoning of bodies of water, uses by time either in hours, days of the week or times of year, are all methods currently being employed to achieve some degree of control of the problem in various parts of the country.

In a recent issue of the Sports Fishing Institute Bulletin the following observations pertinent to this subject were made: "We have concluded from these observations that an average minimum area of 50 acres is probably required per water skier and tow boat . . . In contrast, many more anglers fishing from boats can be accommodated safely in any given area. This conflict, when it results in driving away large numbers of anglers, has serious implications. In some areas, large segments of the recreational economy may be adversely affected. Anglers come and stay and spend money. Water skiers come for an afternoon and generally seem to spend very little and are comparatively few in number as well. The result can be a big loss of local income."

These quotes from a thoughtful organization having a close affinity with water-based recreation are predicated upon a national look at the problem. We would do well in Oregon to begin thinking in terms of qualitative as well as quantitative recreational use of our abundant but not limitless water areas. The future complexion of Oregon's outdoor recreational opportunities must include the assurance of permanent angling opportunities without the dangers, frustrations and interruptions brought about by reckless or high speed boating in important angling waters. There are places for both but not in all waters.

—P. W. Schneider

Fur catch figures compiled for the United States by the Fish and Wildlife Service (1959-60 season) reveal that the estimated catches for some of the more popular furbearers were as follows: muskrats, 4,939,782; raccoon, 880,612; mink, 372,515; beaver, 153,022; foxes, 82,400; and opossum, 80,284. Louisiana's take of 461,311 nutria also brings that species up high on the list.

Oregon State Game Commission Bulletin

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