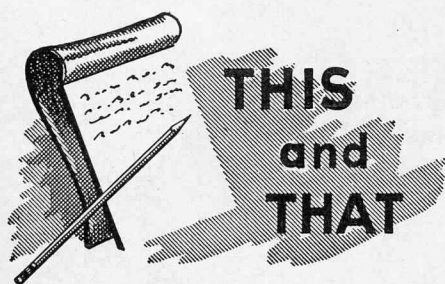


OREGON STATE

GAME COMMISSION BULLETIN

JUNE, 1956





Western Oregon received a spring release of 3,798 adult pheasant breeders held over for this purpose at the E. E. Wilson game management area. Also a surplus of 315 pheasant breeders was released early from the Ontario game farm. As soon as enough eggs had been gathered for production purposes, the remaining breeders at both farms were to be turned loose in time to lay an additional clutch of eggs in the field.

* * *

Oregon streams and lakes will be stocked with nearly 3,000,000 legal size trout this angling season, including rainbows, cutthroats, eastern brook and lake trout. There will also be releases of steelhead trout, silver and chinook salmon from 6 to 8 inches in length. Total liberations for this year of fry, fingerlings and legal are estimated to run close to 13,000,000 fish.

* * *

1955 fish food figures give an idea how much a fish can eat. To raise the 588,420 pounds of fish (12,507,944 fish of all species) released last year, it took 2,455,252 pounds of fish food. It all averaged out to 4.09 pounds of food to one pound of fish, though there was a variation at the individual hatcheries. Another 90,000 pounds of food were consumed by brood fish held at the hatcheries.

* * *

Wanted! Back copies of the Game Commission Bulletin by persons wanting to complete their sets for binding. If you have any of the following issues to spare, please send them to the Portland office of the Game Commission:

November	1947
June	1949
November	1949
April	1952

* * *

To increase the distribution of valley quail in areas where low populations exist, 300 quail were trapped and transplanted this winter.

* * *

Recent approval for purchase by the Migratory Bird Conservation Commission of a 1,911-acre tract in the Malheur lake bed to add to the Malheur National Wildlife Refuge will put the Fish and Wildlife Service within 2,000 acres of complete control of the big 48,000-acre lake bed. This is a division of the 169,000-acre Malheur refuge.

MAY MEETING OF THE GAME COMMISSION

At its meeting on May 11 the Game Commission took the following actions:

Rogue Valley Management Area: Authorized execution of agreements with several powder companies concerning rental of storage space.

Depoe Bay boat hoist: Tabled project for construction of a boat hoist pending further investigation.

Access: Development authorized of following sites: Kohn Tract, Siuslaw River (\$2,600); Schroeder Park, Rogue River (\$1,500); and Upper Ferry Park, Rogue River (\$1,500).

Capital Outlay: Low bid of Walter M. Young for \$23,923 accepted for construction of residence and machine shed on Wenaha Game Management Area. Also accepted was low bid of Schneider Concrete Company in the amount of \$6,672 for construction of pipeline and pond renovation at the Wallowa hatchery.

Lake of the Woods: Denied request of Lake of the Woods Recreational Association to postpone opening date of angling season 10 to 15 days.

Next Meeting: Set for Friday, June 15.

Oregon State Game Commission Bulletin

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OREGON STATE GAME COMMISSION

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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.

Please report promptly any change of address. Send in both the old and new address with notice of change.

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

TENMILE SALMON POPULATION STUDIES

For several years Game Commission personnel have been taking an inventory of the spawning salmon of the Tenmile Lakes tributaries and of tributaries of the adjacent Eel Lake. In no other place in Oregon are such large numbers of salmon per mile of stream recorded. Verification of the numbers of salmon present was made by biologists of the Fish Commission during the past season.

Of particular interest is the presence of thousands of adult salmon year after year, in spite of the great number of salmon nests which are dug up by successive waves of spawning fish. Eggs buried during early runs may be seen in large numbers exposed on the bottom of the streams and resulting from the digging activities of the later-running females as they make their nests in the gravel. Here, at least, the exposure of eggs in connection with a large population of spawning adults has not resulted in a small run of fish in succeeding years.

There is evidence that the runs of fish in past years were much greater than they are now. The decline has been due, no doubt, to the predatory effect of and competition with the introduced catfish and yellow perch in the lake.

HUNTING REGULATION HEARING

A hearing in regard to the 1956 hunting regulations will be held by the Oregon State Game Commission at its Portland office at 10 a.m. Friday, July 13. Anyone interested in regulations governing the hunting of game birds, game animals and furbearing animals is welcome to attend.

After the hearing the Commission will publish tentative regulations and will take final action when the hearing is reconvened on July 27.

BIG GAME BOOKLETS AVAILABLE

A new 33-page booklet entitled "Oregon's Elk" is available for distribution. The booklet covers the history, distribution, food habits, and management of Oregon's elk herds.

Also available is the revised informational booklet entitled "Oregon's Big Game Resources" which covers all big game species of the state.

COVER

Newly hatched wood ducks at the bottom of a wood nest box. During the past few years several hundred nest boxes have been constructed and installed in strategic places in western Oregon by the game department. Several sportsmen's and youth groups have also participated in the activity. Checks made on the use of these artificial nests reveal that the boxes are proving acceptable to the wood ducks (as well as some other species) and helping overcome one of their handicaps, shortage of proper nesting places.—(Photo by Ron Shay)



By R. U. MACE, Chief Biologist, Big Game

THE 1955 deer harvest exceeded that of previous years, following a trend established in 1952 when regulations were liberalized. In 1953 and 1954 Oregon's deer kill topped that of all other states. While comparative figures are not available for the 1955 season, indications are that Oregon's rank remains unchanged. Although less numerous than deer, elk represent an important hunting resource. Last year's kill was the highest of any season on record with the exception of 1949.

Several factors are responsible for the current success of Oregon big game hunters. Liberal deer seasons have resulted in utilizing more efficiently the available crop. With more of the surplus harvested each fall, the remaining animals winter in better shape and produce more vigorous young. A series of favorable winters on the eastern Oregon ranges cannot be overlooked. While most winter ranges are stocked to or about capacity and forage conditions remain critical, mild weather has permitted excellent survival of deer. Consequently, winter losses have been light and hunters have benefited.

For the first time in several years weather during the eastern Oregon elk season favored hunters. Early storms brought snow and forced many herds to lower elevations. Those hardy hunters who did not object to cold weather found the elk available and hunting conditions excellent. Weather during the season as well as through the winter is an important factor affecting hunter success.

Deer Seasons:

The 1955 general buck season ran from October 1st through October 14th with an extension through October 21st in

the southwestern Oregon counties. Hunters with unused tags were permitted to take a deer of either sex in the Willamette Valley and most of eastern Oregon from October 15th through the 21st. The hunter's choice provision did not become effective in central Oregon until the 18th. General season hunting for both sexes was permitted in Willamette Valley agricultural areas during several November and December week ends. An individual could hunt deer in some part of the state for 26 days if he so desired. In addition, nine controlled hunts were authorized to harvest deer on specific problem areas.

An explanation of the different deer regulations is in order. Opening the season with a buck regulation is designed to provide recreation to all who are interested without jeopardizing the resource. Since hunting pressure is heavy at the season's start, it is necessary to have the entire state open in order to prevent undue concentration. Legalizing any deer at the start of the season would result in overshooting some of the more popular areas and reduce recreational values. The deer season would be virtually for one week end with emphasis on meat alone rather than recreation. Present regulations absorb the opening day enthusiasm and encourage the best possible distribution of hunters for safety purposes. After the initial shock, unsuccessful hunters are permitted a choice of either sex on those ranges where surpluses exist. Since pressure is reduced after many of the hunters have filled their tags or lost enthusiasm, critical areas can be protected by complete closure or a delayed opening. Such manipulation for hunter safety and protection of the resource would be impossible with a

season permitting the harvest of both sexes from the start. It is recognized that conditions vary between states and those with light hunting pressure or extremely dense cover can manage deer on the basis of a straight either-sex season. Such conditions do not apply in Oregon, however.

In harvesting deer adjacent to western Oregon agricultural lands, brush has been a problem. Extended seasons on November and December week ends encouraged hunting in the Willamette Valley damage control areas. At that time leaves were shed and hunters had a better opportunity to see deer.

Controlled hunts continue to be necessary on certain problem ranges. Light hunting pressure or inaccessibility of the animals during the general season prohibits an adequate kill. Authorizing a controlled hunt when the deer are on the problem range achieves results. Such hunts represent the most intensive type of management presently being conducted in Oregon.

Following an explanation of the various types of deer seasons employed in 1955, let's examine the results. Tables 1 and 2 summarize the general season and controlled hunt kill, respectively. In addition, 252 deer were taken on the eight archery areas, providing a grand total for all seasons of 134,086. The general season kill amounted to 131,091, an increase over the 112,486 bagged in 1954. Of the 230,585 deer tags sold, 222,007 hunters participated, averaging 59 per cent success. Mule deer comprised 66 per cent of the total as compared to 69 per cent in 1954. While the total kill of bucks matched that of 1954, the antlerless kill increased substantially. In 1954, antler-

(Continued on Page 6)



Scene at boat dock and parking area gives an indication of number present.

A representative catch of Kamloop rainbows, all over 12 inches long.

OPENING DAY AT DIAMOND LAKE

THE WIND blew, and my how the fish grew . . . that describes the opening of Diamond Lake to fishing for the first time since the rehabilitation two years ago.

Once one of the most popular fishing lakes in the state, Diamond Lake became the subject of investigation by the Game Commission in 1946. In the course of years there was a gradual decline in the number and size of fish because of competition from roach. Finally it became necessary to plant legal size fish which was quite costly and produced only mediocre fish. The decision was finally reached that the only cure would be to kill all fish life by use of rotenone. This was done in the summer of 1954 as a cooperative project under the federal Dingell-Johnson program, at an approximate cost of \$140,000.

Following chemical treatment of the lake, a pure strain of rainbow trout were obtained from Canada in the form of eyed eggs. These were hatched at a Game Commission hatchery and planted in the lake in 1955. The lake was closed to angling that year and opened on May 26, 1956.

On the opening morning fish were biting almost anything offered them and some anglers had their limits by six in the morning. Not everyone, however, for Ken Cochrun, fisheries agent, at 10 a.m. counted a total of 393 boats on the lake with an average of 3 anglers a boat. Casting from shore were approximately 400 more anglers. A conservative estimate by Cochrun gave the total catch as better than 8,000 the first day and several thousand the second day, when the angling tapered off rather abruptly.

The average length of the fish caught ran slightly over 12 inches with the larger ones going to 16 inches. Many thought there were two kinds of fish in the lake since the males, maturing in their second year, were brightly colored while the females remained silver in appearance. All fish were in good condition for eating.

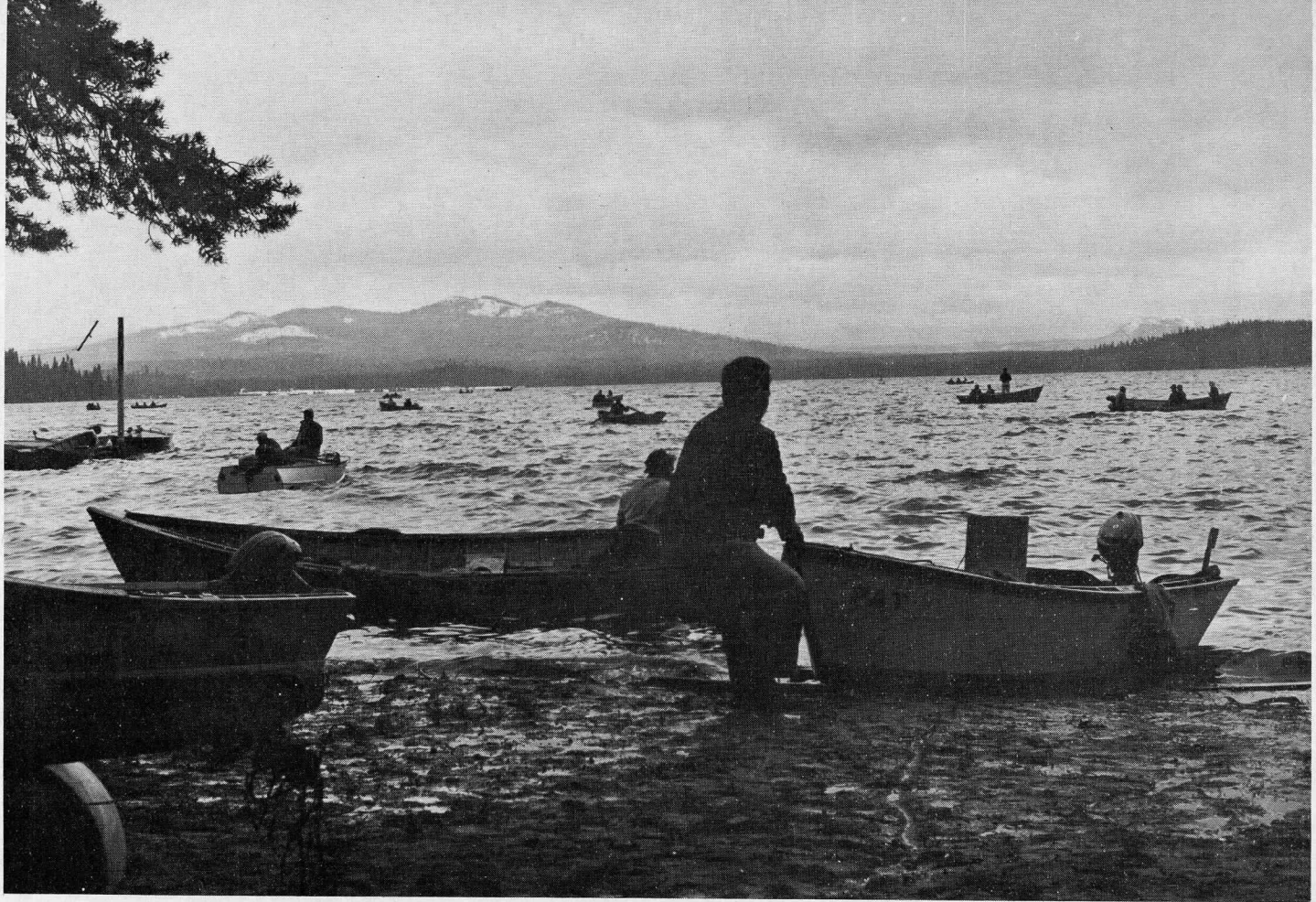
The rate of growth of the fish has been almost phenomenal with the increased food supply in the lake. At the start of the investigation in 1946, fishery agents found approximately 300 pounds of food per acre. As the roach population

(Continued on Page 8)

Fires along the shoreline helped keep bank anglers warm.

These happy Roseburg anglers are Lee and Pat Wimberley, Dudley and Alice Walton.

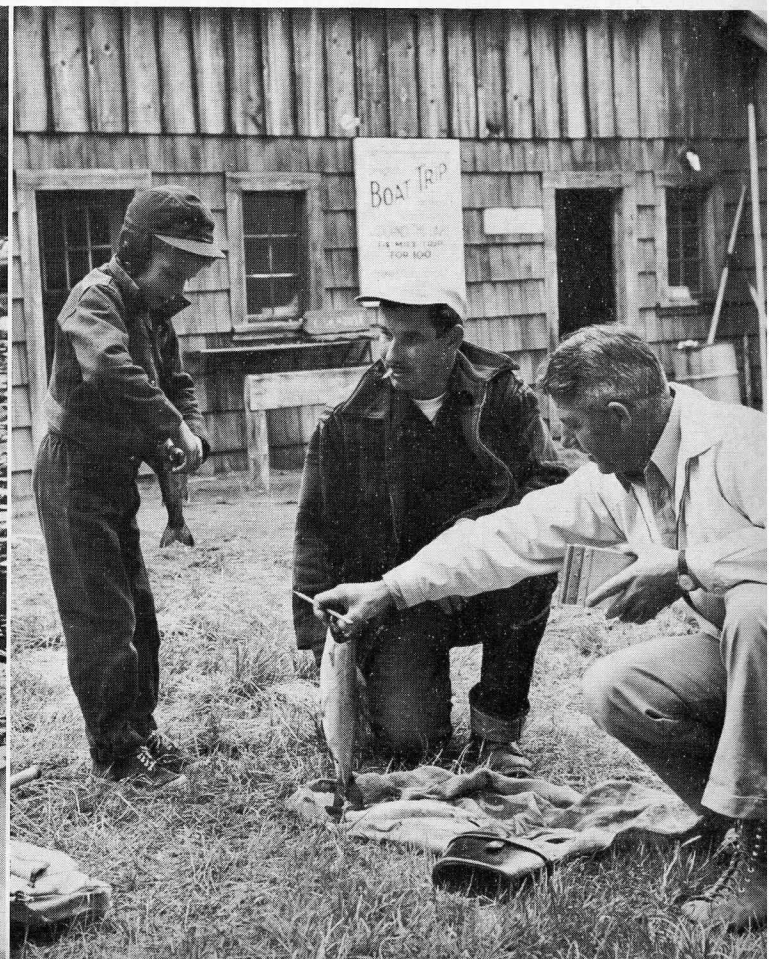
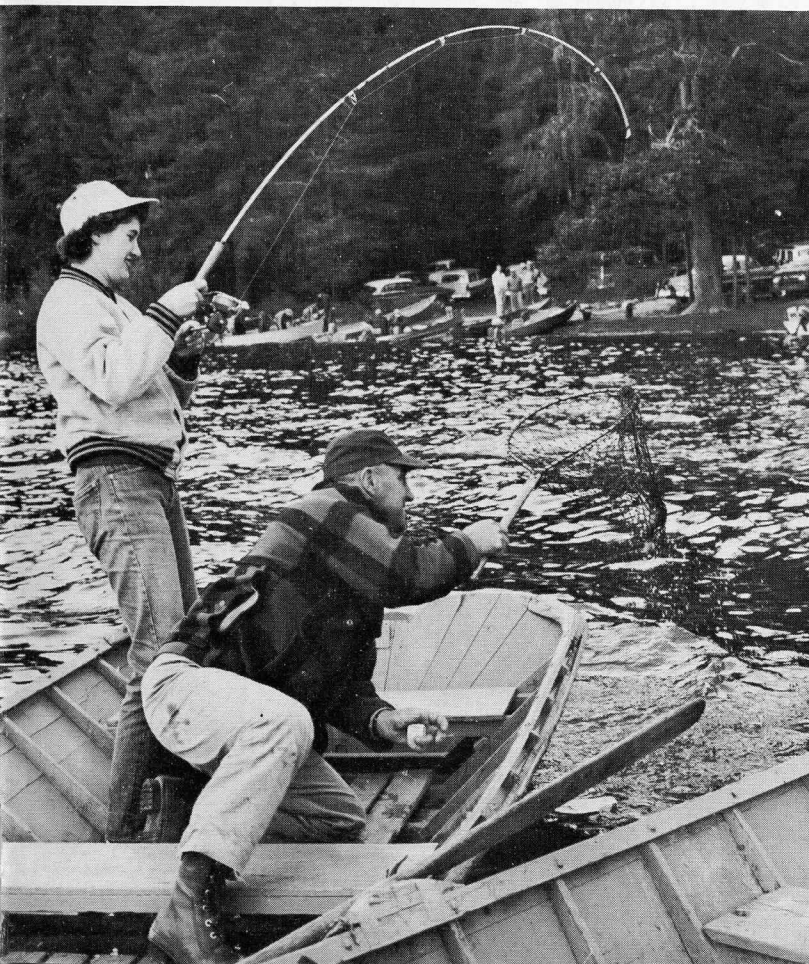




Boat fishermen flock to Diamond Lake for big opening.

Lady anglers kept up with the men in catching fish, and this one is ready to land a big one.

Game Commission field agent Ken Cochrun checks catches of Lew Thomas and son Peter.



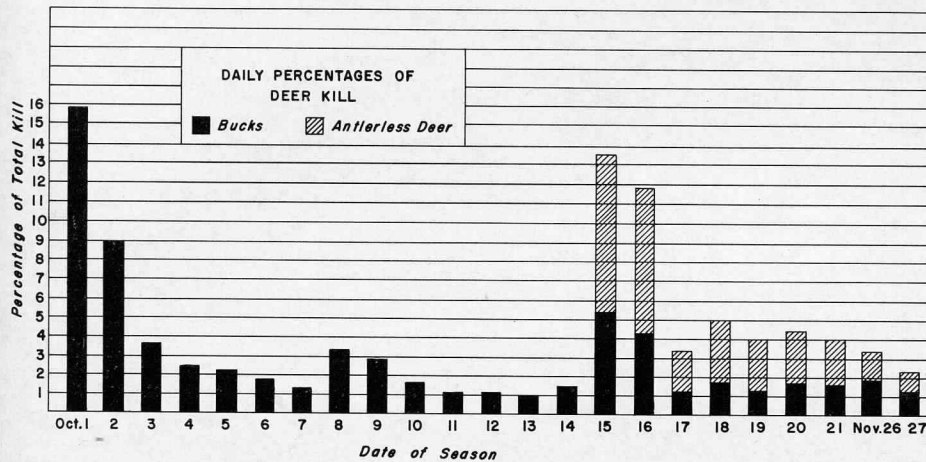


Figure 1

1955 big game harvest

(Continued from Page 3)

less deer made up 27 per cent of the total kill compared to 37 per cent in 1955. Improved success during the hunter's choice season accounted for much of the increase.

Reference to Figure 1 reveals the daily percentages of the total kill taken throughout the season. It is interesting to note the effects of present regulations on distributing hunting pressure. In 1948 when bucks only were hunted, 41 per cent of the total kill was taken the first three days with only 27 per cent bagged the last week. The 1955 figures show 28 per cent harvested the first three days with 46 per cent taken the last week. Under present regulations, hunting pressure and recreational use are being distributed more evenly throughout the season. Such effects are desirable from the standpoint of both deer and hunters.

Elk Seasons:

The general elk season in coastal counties opened on October 29th and closed November 13th with hunting permitted in the remainder of the state through November 23rd. Hunting was restricted to three-point bulls or better in western Oregon while any bull could be taken in the northeastern section of the state. Both sexes continued to be legal in southeastern Oregon.

For the first time, management unit hunting on northeastern Oregon ranges was authorized. Successful permit holders were granted the privilege of taking an elk of either sex from November 11th through the 23rd on the nine units which were outlined. In addition, six controlled hunts were held to harvest elk on specific problem ranges. Use of the general season tag was required for all unit and controlled hunts, limiting the individual hunter to a single animal.

In analyzing the regulations, problems peculiar to elk management need to be

considered. Elk are large in size and difficult to control. Basically, they are incompatible with agriculture and must be

managed as wilderness game. At certain seasons, particularly during the winter and spring, concentrations at lower elevations result in conflicts. Since the animals are hardy and less subject to winter loss than deer, population increases irrespective of range conditions can be expected. The harvest of both sexes becomes necessary at intervals to control total numbers and limit conflicts.

While northeastern Oregon ranges are most productive, the harvest of antlerless elk requires some control. A liberal season in 1949 emphasized the difficulty of attempting to accommodate all hunters who were interested. Although heavy pressure on bulls can be supported, unlimited either-sex hunting in 1949 resulted in an uneven harvest. The most accessible ranges were overshot while those difficult to reach were lightly hunted. The 1955 regulations were designed to overcome this difficulty. Per-

(Continued on Page 7)

Table 1—1955 GENERAL DEER SEASON

County	Number of Hunters	Kill			Per Cent of Hunters Successful	County Area in Sq. Miles	Deer Harvested Per Sq. Mile
		Bucks	Antlerless	Total			
Baker	7,854	3,469	2,212	5,681	72.3	3,084	1.8
Benton	4,235	1,463	1,152	2,615	61.7	647	4.0
Clackamas	3,585	1,024	651	1,675	46.7	1,890	0.9
Clatsop	2,490	663		663	26.6	820	0.8
Columbia	3,625	914	887	1,801	49.7	646	2.8
Coos	4,205	1,406		1,406	33.4	1,611	0.9
Crook	13,623	4,615	3,745	8,360	61.4	2,980	2.8
Curry	1,277	550		550	43.1	1,622	0.3
Deschutes	16,910	5,149	4,587	9,736	57.6	3,041	3.2
Douglas	7,890	3,147		3,147	39.9	5,062	0.6
Gilliam	912	408	236	644	70.6	1,211	0.5
Grant	14,749	6,997	3,642	10,639	72.1	4,532	2.3
Harney	9,639	5,086	1,977	7,063	73.3	10,132	0.7
Hood River	2,040	477	294	771	37.8	529	1.5
Jackson	6,262	2,337		2,337	37.3	2,817	0.8
Jefferson	3,674	1,399	1,095	2,494	67.9	1,794	1.4
Josephine	1,816	557		557	30.7	1,625	0.3
Klamath	19,327	7,069	4,352	11,421	59.1	5,973	1.9
Lake	16,035	5,263	4,682	9,945	62.0	8,270	1.2
Lane	14,465	5,263	3,549	8,812	60.9	4,594	1.9
Lincoln	1,719	697	186	883	51.4	1,006	0.9
Linn	5,884	2,464	1,313	3,777	64.2	2,294	1.6
Malheur	5,157	2,469	1,225	3,694	71.6	9,870	0.4
Marion	3,521	946	772	1,718	48.8	1,173	1.5
Morrow	3,621	1,463	1,062	2,525	69.7	2,059	1.2
Multnomah	323	72	64	136	42.1	424	0.3
Polk	3,754	1,286	658	1,944	51.8	739	2.6
Sherman	504	237		237	47.0	830	0.3
Tillamook	7,417	2,247	1,428	3,675	49.5	1,115	3.3
Umatilla	7,191	2,345	1,749	4,094	56.9	3,231	1.3
Union	6,203	2,057	1,601	3,658	59.0	2,032	1.8
Wallowa	5,377	2,733	1,352	4,085	76.0	3,178	1.3
Wasco	4,918	1,429	1,312	2,741	55.7	2,387	1.1
Washington	2,447	602	559	1,161	47.4	716	1.6
Wheeler	6,853	3,054	2,053	5,107	74.5	1,707	3.0
Yamhill	2,505	779	560	1,339	53.5	709	1.9
Tag Holders							
Not Hunting	8,578						
TOTALS and Averages	230,585	82,136	48,955	131,091	59.0	96,350	1.4

Table 2—1955 CONTROLLED DEER SEASONS

Area	Dates	Number of Tags Issued	Kill			Per cent of Tag Holders Successful
			Bucks	Antlerless	Total	
Alfalfa	12/3-12/31	300		176	176	58.7
Hart Mountain	9/24-9/27	200	129	45	174	87.0
John Day River	9/3-9/7	1,000	176	375	551	55.1
Lookout Mt.	12/10-12/14	400		155	155	38.8
Newbridge	12/3-12/31	300		190	190	63.3
Northside	12/10-12/14	1,500		947	947	63.1
Pleasant Ridge	12/10-12/14	200	58	92	150	75.0
Rogue River	9/24-9/27	1,000	59	61	120	12.0
Wallowa Mt.	9/3-9/7	600	78	202	280	46.7
TOTALS and AVERAGES		5,500	500	2,243	2,743	49.9

1955 big game harvest

(Continued from Page 6)

mits were authorized by areas in order to distribute hunters on the basis of need. Delaying use of the permits until the second week end was planned to encourage more uniform hunter distribution throughout the season. Observations made during the unit hunts revealed satisfactory results. Hunter take and distribution was controlled and maximum recreation was provided those who participated.

Some of the more inaccessible herds and those involved in agricultural damage require the use of controlled hunts. By setting a season when the animals involved are on the area concerned, intensive control can be applied. The same objectives are sought as in the case of deer management.

The Roosevelt elk in western Oregon are limited in range and it is possible to remove all males from a herd if any bull is legal. To assure future breeding stock, the immature spikes are protected during the general season. A longer season was authorized in the Cascades to permit hunting after fall storms moved some of the elk from inaccessible areas.

Southeastern Oregon continues to remain primarily a deer range. The importance of shrubs for deer survival during the winter and the problem of competition by elk necessitate liberal elk seasons. Both sexes are harvested to limit competition and encourage deer production.

Tables 3 and 4 summarize the general elk season and results of controlled hunts. A total of 4,578 animals was bagged during the general season with an additional 1,505 taken on the 15 controlled and unit hunt areas. One archer reported bagging an elk, making a total of all seasons of 6,084. A majority of the animals were taken in northeastern Oregon with Union, Umatilla, and Wallowa counties the high producers. Rocky Mountain elk in eastern Oregon comprised 83 per cent of the total general season kill. Antlerless animals represent-

ed 12 per cent of the general season total and 85 per cent of those taken during controlled and unit hunts.

Figure 2 illustrates the percentage of kill taken by dates throughout the general season. Including unit hunt results would raise the percentage figures after November 11th when such permits became valid. Success on the opening week end was high but hunting continued at a fairly uniform level during the remainder of the season.

Conclusions:

The 1955 big game harvest was exceptional with the deer kill exceeding that of previous years by a substantial margin and the elk kill topped only in

1949. Several factors are responsible for this success. Liberal regulations are resulting in a more efficient use of the deer crop. A heavy harvest in the fall apparently reduces the pressure on winter ranges and encourages better survival through the critical winter months. Mild wintering conditions have favored mule deer populations in recent years. With respect to elk, early storms last fall improved hunting conditions and resulted in a higher kill.

Present regulations appear to be effective in the management of deer. By opening with a buck season it is possible to absorb the initial hunting pressure without damage to the resource. A delayed hunter's choice regulation finds many tags filled and interest diminished. Under reduced pressure it is possible to protect vulnerable areas by complete closures or staggered opening dates. Such protection often is necessary in a state where nearly all of the deer range is accessible by road. In distributing pressure more uniformly throughout the season, the hunter's choice regulation is effective in maintaining high recreational values.

Unit hunting of elk appears to be an efficient means of cropping surplus antlerless animals. The take is controlled on the basis of need by areas. Delaying use of permits until mid-season results in a more uniform distribution of hunting pressure. Since unlimited either-sex

(Continued on Page 8)

Table 3—1955 GENERAL ELK SEASON

County	Number of Hunters	Kill			Total	Per Cent of Hunters Successful
		Bulls	Cows	Calves		
Clatsop	3,168	348			348	11.0
Columbia	153	10			10	6.5
Coos	1,618	233			233	14.4
Deschutes	26	3			3	11.5
Douglas	505	69			69	13.7
Lane	450	60			60	13.3
Lincoln	96	24			24	25.0
Marion	32	9			9	28.1
Tillamook	127	11			11	8.7
Wasco	30	4			4	13.3
Western Oregon Subtotals	6,205	771			771	12.4
Baker	2,127	170	188	59	417	19.6
Crook	291	17	20	3	40	13.7
Grant	3,444	384	155	61	600	17.4
Harney	400	14	33	7	54	13.5
Jefferson	28	2	1	1	4	14.3
Malheur	322	18	20	3	41	12.7
Morrow	1,198	198			198	16.5
Umatilla	5,210	955			955	18.3
Union	4,297	660			660	15.4
Wallowa	3,937	795			795	20.2
Wheeler	250	24	14	5	43	17.2
Eastern Oregon Subtotals	21,504	3,237	431	139	3,807	17.7
Tag Holders Not Hunting	1,600					
TOTALS and AVERAGES	29,309	4,008	431	139	4,578	16.5

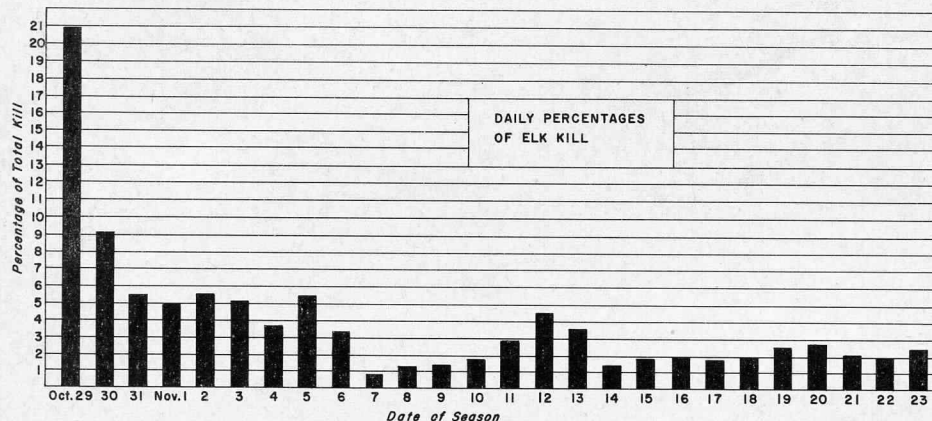


Figure 2

1955 big game harvest

(Continued from Page 7)

harvest cannot be supported on the more productive ranges, the control of hunters will continue to be necessary.

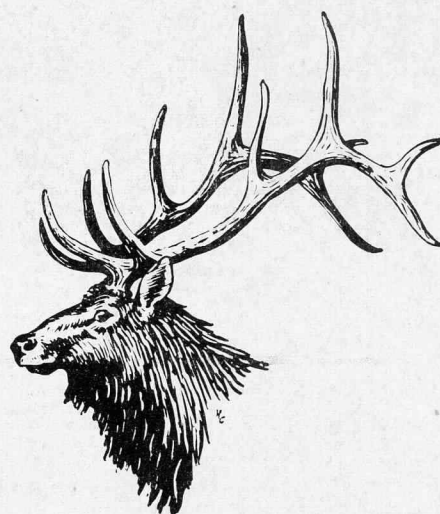
A basis for judgment is available in analyzing the effects of current regulations. For several years the Commission has had a comprehensive inventory program in operation. Each year approximately 5,000 miles of permanent sample routes are covered on the important deer and elk ranges. Observations are made to determine the number of animals per mile of travel. Since the identical routes are traveled in a similar manner each

year, it is possible to compare results and determine the trend in numbers.

Last winter 32,909 mule deer were counted on 2,498 sample miles covering 56 separate herd ranges. The average of 13.2 deer per mile is above the over-all ten year index of 12.0 per mile, indicating a continued high population. In sampling black-tailed deer during the summer of 1955, an average of 3.6 animals per mile was recorded as compared to the long term figure of 2.4. On the basis of the trend index and continued damage complaints, it is apparent that blacktail populations remain high.

Table 4—1955 CONTROLLED ELK SEASONS

Area	Dates	Number of Permits Issued	Kill				Per cent of Permit Holders Successful
			Bulls	Cows	Calves	Total	
Chesnimnus	11/11-11/23	250	7	106	26	139	55.6
Clatsop	12/17-12/18	400	23	85	21	129	32.3
Cottonwood Cr.	12/17-12/22	300	19	111	33	163	54.3
Desolation	11/11-11/23	200	2	69	15	86	43.0
Elgin	10/29-11/2	200	2	47	15	64	32.0
Heppner	11/11-11/23	100	1	42	19	62	62.0
Mill Creek	11/19-11/21	200	14	24	16	54	27.0
Minam	11/11-11/23	100	9	19	12	40	40.0
Sled Springs	8/20-8/25	200	19	43	23	85	42.5
Starkey	11/11-11/23	300	8	135	31	174	58.0
Tillamook Burn	11/19-11/20	300	73			73	24.3
Ukiah	11/11-11/23	450	11	144	41	196	43.6
Umatilla	11/11-11/23	100	3	23	5	31	31.0
Walla Walla	11/11-11/23	400	18	80	37	135	33.8
Wenaha	11/11-11/23	200	11	46	17	74	37.0
TOTALS and AVERAGES		3,700	220	974	311	1,505	40.7



Elk samples reveal satisfactory densities with an average index of 5.8 per mile in northeastern Oregon and 3.5 per mile along the coast. Both figures represent an upward trend on the basis of long term comparisons.

The heavy harvest in recent years, particularly by deer hunters, apparently has had little effect on productivity of the herds. It is felt that winter losses are most important in influencing future hunting possibilities. By stepping up the fall harvest, disastrous results of overpopulations can be minimized. Management designed to increase hunter success and improve range conditions is essential. Such objectives continue to guide the Game Commission in planning for the future of Oregon's big game herds.

Opening Day at Diamond Lake

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grew, this amount declined to slightly over 2 pounds per acre. In the year following chemical treatment, food had increased to somewhat over 90 pounds per acre and it is believed that the amount of food will continue to increase to somewhere near its former level.

Plans are to continue planting fry and in 1957 it is expected that the lake will produce sufficient eggs for restocking purposes.

It is still up to the sportsmen to cooperate in maintaining the fishing in the lake. The use of live bait could make history repeat itself.

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