

OREGON STATE
GAME COMMISSION

BULLETIN

MAY-JUNE 1964

OREGON STATE GAME COMMISSION BULLETIN

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The Cover
Trapped elk marked for later identification as part of a study of the distribution of elk on the Wenaha game range in Wal-lowa County. Photo by John McKean.

**BULLETIN
HUNTER SAFETY
TRAINING PROGRAM**

Instructors Approved

Month of February	23
Month of March	22
Total to Date	3,135

Students Trained

Month of February	357
Month of March	671
Total to Date	65,320

Firearms Accidents Reported 1964

Fatal	0
Nonfatal	5

**BIG GAME REGULATION
HEARING ON MAY 22**

The Oregon State Game Commission's public hearing on big game regulations is scheduled for 10 a.m., May 22, at the Commission headquarters, 1634 S.W. Alder Street, Portland.

Tentative regulations for the hunting of big game animals—deer, elk, antelope, as well as bear in designated areas—will be formulated on this date.

Following a two weeks' recess, the hearing will be reconvened at 10 a.m., June 5, for adoption of the final regulations covering seasons, bag limits, and methods of taking big game.

SALMON AND STEELHEAD ANGLERS SPEND \$18 MILLION

Salmon and steelhead anglers spent approximately \$18 million annually pursuing their sport, according to a recently completed study by the Department of Agricultural Economics at Oregon State University. Planned in 1959 and initiated in 1961, the research was contracted to the University by the Game Commission.

A survey of salmon and steelhead anglers licensed in 1962 showed they spent more than \$9 million annually on durable items such as boats, clothing, and camping equipment. Over \$8 million went for current expenditures such as transportation, boat rentals, food, and lodging. These totals do not include the \$500,000 spent for licenses and tags.

Anyone may peruse a copy of the report, over 60 typed pages long, at the office of the Game Commission in Portland, and at the Agricultural Economics Department at Oregon State University. The full title of the report is "An Economic Evaluation of the Oregon Salmon and Steelhead Sport Fishery" by William G. Brown, Ajmer Singh, and Emery N. Castle. Later in the year the University plans to print the report.

HOW TO REPORT CATCH ON SALMON PUNCH CARDS

To provide more accurate information as to location of salmon and steelhead caught, anglers are requested to note new instructions for entering their catch on the punch cards. These are listed in the 1964 angling synopsis but will not be on the punch cards until next year.

Columbia River anglers fishing above Bonneville Dam should identify their catch as "Upper Columbia." "Lower Columbia" indicates fish caught from Bonneville downstream to Buoy 12 at the jaws of the river. Fish taken west or seaward of Buoy 12 are to be classified as "Ocean-caught."

Any salmon or steelhead caught inside the seaward ends of the jetty in any other coastal stream should be recorded on the card by the name of the river or bay. "Ocean-caught" should be used to indicate fish taken westward or outside of the seaward ends of the jetties.

Washington Department of Fisheries is requesting Washington anglers to mark their cards in a similar manner. Pinpointing the salmon and steelhead catch by area will enable more concise management of the resource.

The annual meeting of the Western Association of State Game and Fish Commissioners will be held July 6, 7 and 8 in San Francisco.

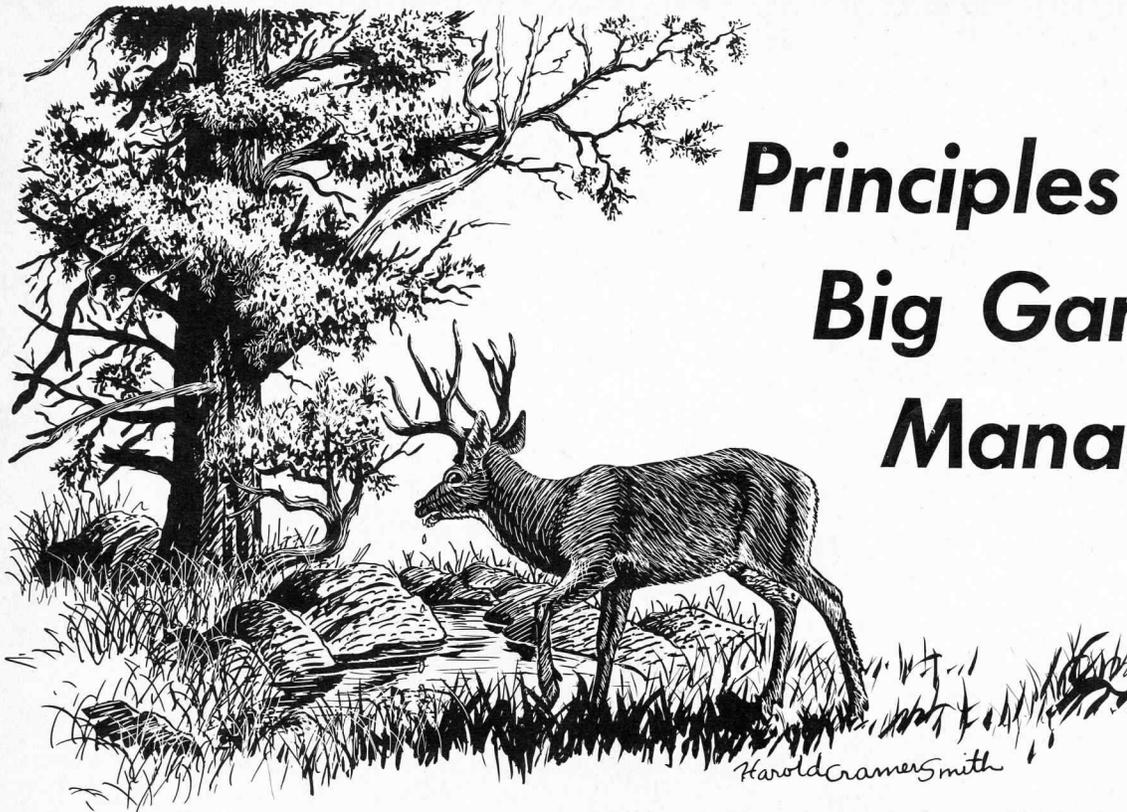


Members of the Oregon Bass and Pan-fish Club are helping to obtain fish for stocking of the recently constructed warm-water fish rearing ponds at St. Paul. A live-box has been placed at Horse-shoe Lake where members of the Club can deposit largemouth bass caught in the Willamette. Game Commission has also trapped bluegill for release in some of the ponds.

An extensive program of log jam removal is under way in the Siuslaw River drainage. First attention this spring was concentrated on more than 40 tributary streams in the upper portions of the watershed. This summer work is scheduled on tributary streams of Lake Creek below Triangle Lake. The present program is a continuation of stream clearance started on the Siuslaw several years ago.

Returning home as a grown-up fish, a native Umpqua River steelhead bore a fish tag indicating it had travelled far and wide during its sojourn in the sea. The seven-pound female fish, 25 inches long, was caught last February by W. A. Hudelsen at the confluence of Cow Creek. The Canadian Fisheries Research Board's Biological Station reported that the fish had been tagged ten months earlier at a point in the ocean approximately 720 miles to the west and north of the mouth of the Umpqua River. At that time the fish measured 21½ inches in length.

Tagged rainbow have been released in Fall River above the Game Commission's hatchery. Fly fishermen are asked to report tagged fish caught, giving information as to the exact location, to the Commission's office in Bend or in Portland. Habitat improvement has been carried on in the upper part of the stream to hold the fish there. Reports by fishermen will help determine whether this effort is successful. The study is a cooperative project with the Forest Service.



Principles of Big Game Management

John W. McKean
Chief of Operations, Game Division

GAME MANAGEMENT IS THE ART of making land produce sustained annual crops of wildlife for recreational use.

The principles of management are substantially the same as those applied to timber, livestock, agricultural crops, and other renewable resources with the exceptions that wildlife production is rarely the primary use of land, and management decisions are influenced by the judgment of the 1,800,000 stockholders who are the citizens of Oregon.

The foundation of Oregon's game management program is prescribed in the laws that have been enacted by the people through the legislature. These laws delegate responsibility to a Game Commission composed of five citizens appointed by the Governor, provide that revenues accruing from the sale of hunting and fishing privileges shall finance a protection and management program, and define in some detail the manner in which funds may be spent and resources managed.

The principal management tool provided by Oregon law is the broad authority to regulate the human use of wildlife. This delegation of authority is clearly defined in ORS 496.170. "The game commission shall, through the game director, make adequate investigation regarding the supply of game fish, game animals,

fur-bearing animals, game birds and non-game birds of this state and thereupon shall, by appropriate rules and regulations"

Other laws provide an opportunity for public preferences to be expressed and partially define the manner in which game may be taken, privileges distributed, and resources developed.

Collectively, Oregon's game laws reflect the judgment of an informed populace. They assure every citizen an equal opportunity to enjoy the resources and grant the flexibility of authority required to meet constantly changing conditions.

The factors that dictate the design of a game management program fall into two major categories: "Biological" and "Social." The biological factors are the habits and requirements of the animals and their environment. The social factors are the habits and preferences of people. The biological principles deserve dominant consideration in determining the numbers and kinds of animals that should be taken and the constructive practices that can be employed to increase the distribution and production of wildlife. Human preferences should dictate when and how the available surpluses should be taken and the management that is compatible with other uses of land.

The objective of Oregon's big game

management program is to maintain the maximum, compatible number of animals on all available ranges and provide recreational opportunities for the people through judicious utilization of the available production.

It is difficult for any person to quarrel with this objective, but there are opportunities for differences of interpretation of the terms **maximum, compatible, and production.**

(Continued on Page 4)

Modern track bed brush used to erase tracks of deer being counted on the Interstate migration route.



TO OUR READERS

This issue of the Bulletin is devoted entirely to big game with particular emphasis on the principles of deer management. The deep interest and love for Oregon's splendid deer resource displayed by many thousands of Oregonians contrasted with the practical matters associated with its maintenance and use has for many years posed perplexing and interesting problems of management. It is essential that certain fundamental biological and ecological facts be recognized. Correlating often highly conflicting viewpoints and convictions with a myriad of facts is the task the Commission must carry out in managing this resource.

We are proud of the status of your deer resource, both as to annual yield to the hunter and as to its abundance and distribution. Certainly there are local exceptions to what is generally a

satisfactory picture. Where these occur, the function of management is to correct them. This is a resource that requires use as well as protection. It cannot be stockpiled indefinitely nor can it stand over-exploitation. Either extreme can result in its decimation.

McKean's article, "Principles of Big Game Management," is a recitation of basic essentials involved in the management of such a resource. The author is one of the best informed and experienced game managers of this era and has had more than a quarter of a century of experience in this field. We sincerely hope that this issue will aid you in recognizing some of the many important factors involved in the management of the big game resources of this State.

P. W. SCHNEIDER,
Director.

Principles of Big Game Management

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The purpose of this story is to describe some of the principles that determine maximum big game populations, their compatibility with other resources or land uses, and the production that may be taken annually. Before a person can fully understand these terms, he must have a knowledge of the habits and requirements of the animals.

HABITS AND REQUIREMENTS OF THE ANIMALS

Each species represents generations of adaptation to a given environment.

Man manages the species by manipulating the environment but has had little success in changing the habits or requirements of wild animals.

Breeding Habits:

All big game animals are polygamous. Elk and antelope breed in September and October, and deer in November and December.

The gestation period is seven months for deer and eight to eight and one-half months for antelope and elk. The young are usually born in May and June.

Female deer normally conceive at an age of 16 to 18 months. They usually bear single fawns when two years old and twins thereafter.

Female elk breed when 27 or 28

months old, and bear their first calf when three years old.

The potential rate of production per 100 females of breeding age is about 175 for deer, 200 for antelope, and 100 for elk.

Both breeding age and rate of conception are influenced by the food supply and animal condition. Studies indicate that female deer have conceived at an age of six to seven months under optimum conditions, and the rate of conception can vary from 100 to 175 fawns per 100 does. Utah game managers found that as high as 60 per cent of the yearling female elk in a small herd on good range produced calves.

Food Habits:

Each species of animal has different food preferences, and the same species will exhibit different preferences in different environments. Food habits change seasonally. Availability, palatability, and nutrient content are the major factors influencing preferences.

The average daily forage requirement for deer is about 3 pounds. For elk it is 10 to 12 pounds, and antelope 2.5 to 3 pounds, air-dry.

All big game animals show a preference for grasses and forbs in the spring when they are green and tender, but as the ground plants mature and dry, the animals turn to leafy shrubs and trees for more succulent vegetation.

Elk show a greater preference for grass than deer or antelope. They are better equipped to paw through snow to reach ground vegetation in winter.

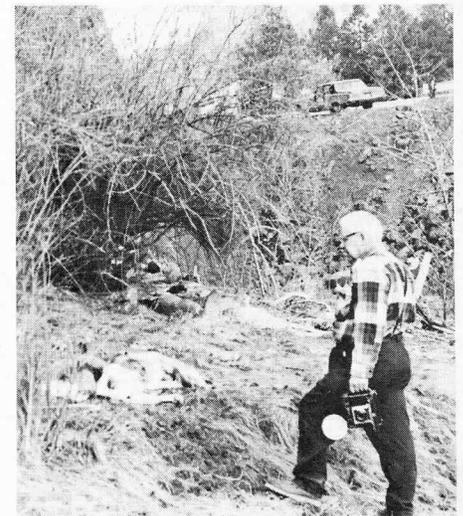
Deer and antelope are primarily dependent upon shrubs for winter survival

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Winter deer loss in the Pine Creek area of Baker County.



Cecil Edwards, executive secretary of the Legislative Interim Committee on Wildlife, inspects deer losses in eastern Oregon this spring.



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Principles of Big Game Management

(Continued from Page 4)

because they are the only plants available during periods of snow cover.

Longevity:

The average maximum life of big game animals is difficult to measure. Deer have lived for 20 years in captivity, and elk have been known to live longer. It is believed that few deer or antelope live more than 8 years in the wild, and the normal span of a wild elk is probably 10 to 12 years.

Seasonal Movements:

Seasonal changes in their environment force the animals to migrate between summer and winter ranges. This movement varies from a slight change of elevation to over 100 miles, depending upon the terrain and amount of snowfall.

Deer appear to follow a definite pattern, with individual animals returning to the same portion of a winter range each year and returning to a home territory in the mountains in summer.

Elk are more erratic in their movements. They are inclined to use the areas which best meet their requirements.

Mortality Factors:

The causes of mortality are many and difficult to evaluate. Predation, starvation, diseases, parasites, accidents, and hunting are direct causes of mortality; however, indirectly, food and animal condition have a substantial influence upon mortality rates.

WHAT IS A MAXIMUM, COMPATIBLE BIG GAME POPULATION?

A maximum population is the greatest number of animals a given area will maintain throughout the year. The ability of land to maintain animals is referred to as "carrying capacity."

Carrying capacity is determined by the quantity, quality, and distribution of food, cover, and water available to the animals at all seasons. It is affected by such variables as weather. It is constantly changing and can decline progressively if abused.

The carrying capacity of land for big game is most limited during the winter months because:

1. Snow denies the animals access to from 50 to 90 per cent of the total range.
2. The low elevations and south slopes used in winter receive the least moisture and produce the least forage.
3. The plants are dormant and contain less nutrients during the winter.

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Seasonal variations of carrying capacity are illustrated by measurements of the quantities of black-tailed deer forage on a portion of the Tillamook burn. It was found that 900 pounds of air-dry deer forage per acre were available to the animals in midsummer. If this supply of food was available for the entire year, it would require only 1.2 acres to maintain a deer for one year. The maximum density would be about 530 deer per square mile. In reality, the leaves fall off the trees and shrubs in the fall, and by winter the total forage available to the animals drops to about 80 pounds per acre. When snow covers the trailing blackberry, grasses, and weeds, the volume drops to about 20 pounds per acre.

With no snowfall, it would require about six acres to maintain one deer through the winter. Combine with this the fact that blacktails concentrate on lower elevations and south slopes during winter (about half the area), and it becomes apparent that the carrying capacity of the range has dropped from 530 deer per square mile during summer to about 106 deer per square mile of winter range, or

53 deer per square mile for the entire range.

The long-term changes of carrying capacity for blacktails are equally spectacular. Every hunter knows that deer are scarce in large stands of timber and more apt to be found in the vicinity of burns, logging operations, or farms. The secret here is that the sun provides the energy required for plant life, and any overstory that shades the ground affects both the quantity and quality of deer forage. Figure I illustrates the trends of carrying capacity in a Douglas fir forest through its successional stages.

In the case of mule deer the variation between summer and winter carrying capacity is even more conspicuous because snow and low temperatures force the animals to migrate greater distances and concentrate on smaller portions of their range during the winter. They normally have access to about one-fifth to one-tenth of the area that is available during the summer, and low moisture supplies combined with competing uses

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Little Blitzen gorge is typical of the summer mule deer range in the Steens Mountains.



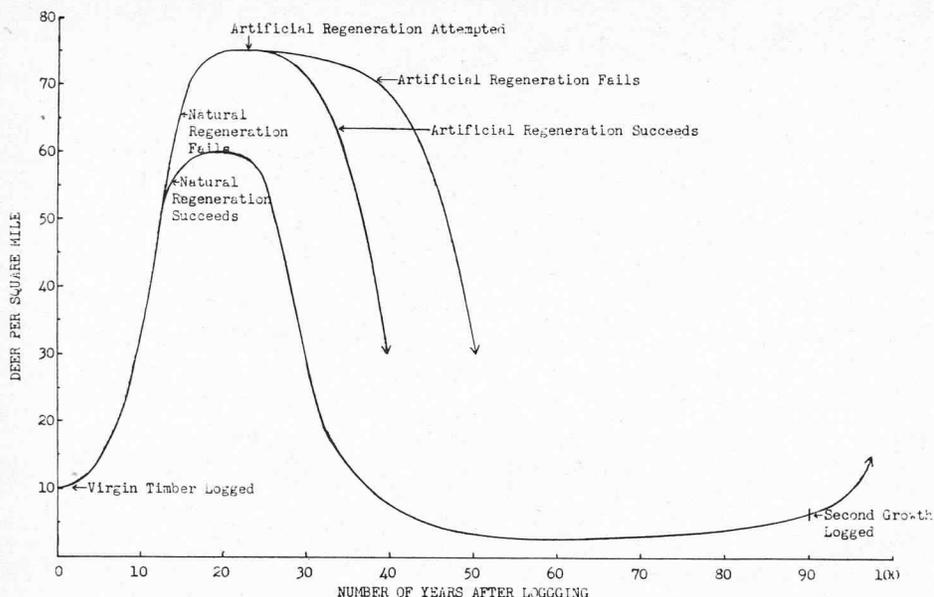


Figure 1. Trends of carrying capacity in a Douglas fir forest. (Washington State Game Department)

Principles of Big Game Management

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severely limit deer forage on the winter ranges.

The timing and quantity of rainfall is the major variable affecting winter range carrying capacity in much of eastern Oregon. It may vary from 6 to 20 inches, and forage production can vary in proportion. For this reason winter carrying capacity can be three or four times greater on some winters than others.

Figure II illustrates the relationship of annual precipitation to forage production on the winter range of the Interstate deer herd.

It will be observed that low rainfall in 1959, 1960, 1961, and 1962 resulted in low forage production. This reduced the carrying capacity, resulted in poor fawn crops, and a loss of deer in the spring of 1962.

This condition prevailed for nearly all the herds that winter on desert-type ranges, including most of Klamath, Lake, Deschutes, Harney, and Malheur Counties.

The other major factor affecting the carrying capacity of deer and elk winter ranges in eastern Oregon is the depth and tenacity of snow cover. In the winter of 1962-63 the snowfall was light and of short duration. The animals had access to ground forage through most of the winter, and the carrying capacity was high.

This winter many of the ranges were blanketed with heavy crusted snow during January and February. The animals were entirely dependent upon the shrubs

and trees above the snow. On many ranges the supply of such forage was inadequate, with the result that all of the animals on those ranges were in poor condition and many did not survive.

These are the factors that determine maximum populations; however, compatibility is another factor that must be considered in management. Webster defines compatible as "capable of coexisting in harmony." In harmony with what?

1. In harmony with primary land uses as defined by landowners.
2. In harmony with the objective of providing a sustained yield of big game and big game hunting.

To illustrate compatibility with other land uses, let's return to the hypothetical blacktail population in the Tillamook

burn. It was determined that the total forage supply on the winter range could carry about 106 deer per square mile through the winter provided they ate all of the food available, including Douglas fir trees.

It so happens that the people of Oregon have authorized the expenditure of millions of dollars to reforest this 400,000-acre burn, and initial experience indicated that heavy deer use of planted fir seedlings was jeopardizing that program.

In 1958 the Game Commission and Oregon Board of Forestry initiated a cooperative study to determine the density of deer that would be compatible with reforestation and potential methods of protecting the young trees.

In 1959 a population of 43 deer (81 per square mile) was maintained in a 340-acre enclosure, and 11 five-acre plantations of Douglas fir were planted in the pen in February. The deer browsed 45 per cent of the seedlings during a two-month exposure period.

The following year the population was reduced to 15 deer, or 28 deer per square mile, and only 5 per cent of the conifers were browsed. In 1963, 33 deer, or 62 deer per square mile, browsed 22 per cent of the conifers in the enclosure.

These findings suggest that a compatible population density is something less than the maximum that could be maintained under favorable wintering conditions because:

1. Timber production is essential to the economy of the state.
2. Timberland owners have a right to protect their investments.
3. Reforestation and future logging will provide deer for future generations of people.

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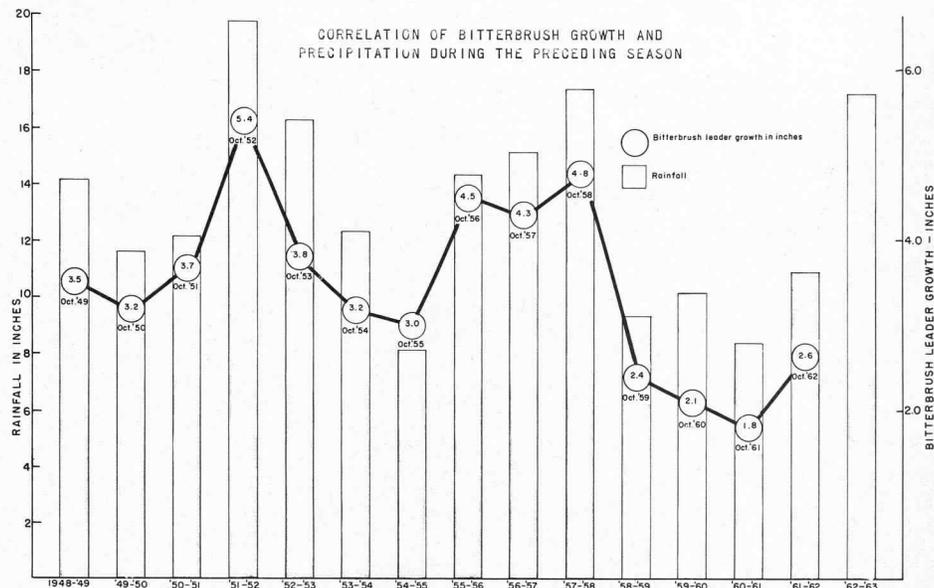


Figure 2

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In this instance, a decision to maintain the winter population at 60 deer per square mile, in lieu of 80 to 100, does not necessarily mean that there will be fewer deer for human use. For it can be expected that the animals will be more productive and less subject to losses by malnutrition, diseases, parasites, and predation.

Farmlands present a similar problem. The well fertilized pastures and crops in the valleys of the state are very attractive and have a high carrying capacity for deer and elk, but Oregon law provides that any landowner may be authorized to kill animals that are causing damage to his crops. For this reason, the animals must be maintained at less than maximum numbers.

In eastern Oregon a large percentage of the mule deer winter on private lands. On the Northside winter range in Grant County, measurements have indicated that the deer consume over 40 per cent of the first month's growth of grasses on the privately owned winter range. This use has a direct effect upon the forage supply for domestic livestock, and here again the matter of compatibility must be considered.

Compatibility with future deer production should be of even greater concern to the people that are interested in deer and deer hunting. This problem is conspicuous on nearly all eastern Oregon winter ranges, where repeated heavy deer use of palatable shrubs, combined with man's efforts to convert shrub ranges to grass, is gradually reducing the winter carrying capacity for deer.

Recognizing the extreme variations of both carrying capacity and human preferences, it is obvious that management must be based upon averages or normals. In other words, the animal populations do not need to be held at such a low level that there would not be winter losses or damage to other resources under extreme conditions, but such occurrences should not be so frequent that they destroy future carrying capacity or seriously conflict with other resources or land uses.

WHAT PART OF THE ANNUAL PRODUCTION CAN BE TAKEN?

The annual increase is the initial population, plus the year's production, minus mortality.

If a population is at the carrying capacity of its environment, the losses

must equal production, and they will even if none are taken by hunters.

Let's apply this to the black-tailed deer in the Tillamook burn. A compatible winter population of 60 deer per square mile spreads out over the summer range at an average density of 30 deer per square mile. The 30 deer include 5 bucks, 15 breeding does, and 10 yearlings. The 15 does drop 22 fawns and the potential fall population is 10 bucks, 25 does, and 22 fawns. If one-eighth of the adult animals and one-third of the fawns are to be lost by predation, accidents, and poaching, the net increase would be 11 animals. This would be the surplus that should be taken by hunters if the population is to be maintained at a level of 30 deer per square mile of summer range and 60 deer per square mile of winter range.

In the fall of 1955 hunters actually took an average of 40 deer per square mile from a small area in the Tillamook burn. The following winter was severe and heavy losses occurred throughout the burn. The following year deer densities within the heavily hunted area were approximately the same as on unhunted portions of the burn. This indicates a much higher survival of the reduced population and the severity of nature's removal which is seldom conspicuous to the observer.

Current measurements suggest that the average density of deer in the Tillamook burn is more than the hypothetical 30 per square mile, yet the average yield of deer to hunters is about 3 per square mile in lieu of the 11 that might be reasonably expected.

WHAT IS MANAGEMENT?

Game management is the blending of biological and social factors into a harmonious program that will maintain big game populations in a productive condition, be compatible with other resources and uses of land, and provide maximum recreational opportunities for the people.

The principal requirements of a suc-



Tracks left in deep snow by deer migrating south of highway in the Sagehen hill area west of Burns.

cessful big game management program are:

1. A continuing search for knowledge of the requirements of the wildlife resources and their environments.
2. Authority to adjust game populations to the compatible carrying capacity of the available ranges.
3. Authority and finances to increase the carrying capacity of the land through development of food, cover, and water, and protection of both the animals and other resources they may affect.
4. An appreciative public that will respect the laws of nature, the rights of property owners, and the recreational potentials of the wildlife resources.

Oregon has all of these essentials. They have made Oregon a leader in big game production, and maintained landowner tolerance of both game animals and recreational hunting at a high level.

TEN YEARS OF DEER MANAGEMENT

State	Buck kill 1953-62	Antlerless kill 1953-62	Total kill 1953-62	Percent of total kill		Buck kill Year		Average buck kill 1953-62
				Buck kill	Antlerless kill	1953	1962	
Arizona.....	192,227	80,094	272,321	71	29	14,381	20,035	19,223
California.....	673,068	*79,571	752,639	89	*11	58,992	54,909	67,307
Colorado.....	526,890	479,858	1,006,748	53	47	39,829	66,758	52,689
Idaho.....	†389,923	†265,227	655,150	60	†40	26,400	38,787	38,992
Nevada.....	175,115	125,778	†303,566	58	†42	14,359	18,405	17,512
Oregon.....	882,473	437,151	1,319,624	67	33	67,710	92,903	88,247
Utah.....	729,906	450,429	1,180,335	62	38	65,189	75,464	72,991
Washington.....	480,711	227,928	708,639	68	32	42,104	49,000	48,071
Maine.....	†211,894	†170,573	382,467	55	†45	21,569	20,336	21,189
Pennsylvania....	419,283	308,175	727,458	58	42	37,384	42,266	41,928

* Includes some adult males in special hunts.

† All males are in buck column and all females are in antlerless column.

‡ Includes 2,673 deer that were not classified.

Some "Whys" of Deer Management

THERE ARE CERTAIN MANAGEMENT questions that seem to repeatedly crop up in correspondence, meetings, or wherever deer are discussed. The following are some of the more frequent.

1. If winter food limits deer numbers, why not plant some food instead of shooting the does?

This is probably the most embarrassing question a game or range manager can be asked, because nearly all states and federal land agencies have been searching for practical methods of improving shrubs on mule deer winter ranges, and few reliable methods have been developed because:

- a. Past abuses have eroded soils, or destroyed the soil's ability to absorb and retain moisture.
- b. Competition of other plants claims the available moisture.
- c. Rodents, insects, deer, or domestic animals consume the seeds or seedlings before they can get established.

An aggressive research effort is in progress and there is confidence that the cultural methods for constructive deer winter range improvement will be available soon.

In the case of elk, practical methods of restoring grasses are known and are being applied where opportunities arise.

When the knowledge and funds are available for restoration of deer winter ranges, it is probable that drastic reductions of deer numbers will be required on the treated ranges. This is necessary in improving grasslands for cows and will be equally applicable in developing shrubs for deer.

2. Why not kick all the cows and sheep off the public land so there will be more winter food for the deer?

This problem probes deeply into both social and ecological problems. Present knowledge suggests that the domestic cow is the best friend the mule deer ever had. Heavy cow use of the low ranges adjacent to the ranches converted many grass ranges to shrubs and created the winter food supplies that made large deer herds possible. Progressive range management practices currently applied by livestockmen are improving the grasses. The grasses are competing with shrubs for the limited moisture, and on many ranges the shrubs appear to be losing the battle.

It should also be recognized that the national forest boundaries usually stop at the edge of the timber, and the deer winter below that elevation, mostly on privately owned land. If the cows and sheep are not allowed in the forests, a much heavier grazing load will fall on the private lands that are the winter range of the deer.

An even greater factor is the effect of such an action upon the tolerance of the person who owns and pays taxes upon the lands that winter the deer. His reaction is "If my cows can't make a reasonable use of the forage on the public's land, the public and their deer can keep off my land."

There is reason to believe that cows and deer complement each other on ranges that provide a variety of plants. Their differing food habits tend to balance the inter-plant competition for the available moisture. This condition is being aggressively studied on the Silver Lake range.

3. Why not feed the deer?

The desire to feed starving animals is a very logical human reaction. In practice, however, it often increases the mortality rate.

Ruminants depend upon bacterial action to digest their food. Specific organisms work on certain foods so that the flora of their stomachs must change as

their food habits change. The distribution of hay or concentrates to wild animals on natural ranges constitutes an abrupt change of diet which is often lethal to animals in poor condition.

Deer that live in the vicinity of ranches and have access to alfalfa and other domestic forage throughout the year will benefit from a feeding program; however, their survival usually compounds the agricultural damage problem on subsequent years.

On some ranges cutting of decadent juniper trees and thinning of pine reproduction has been employed to increase the supply of natural foods.

4. It's all right to shoot the old barren does, but why the poor little fawns?

Many studies of the productivity of deer refute the common belief that old does are not producing. It is rare that a doe of breeding age does not conceive; however, fawn mortality can be extremely high if the does are not in condition to provide the required milk.

By October the fawns usually have their winter coat and can be easily confused with a yearling or adult doe if observed singly or at a distance. Protection of fawns would undoubtedly result in a substantial waste of animals.

5. If a doe is shot in October, how will her fawn survive and find the winter range?

Although the fawns are usually on a vegetation diet in July, they will continue to suckle as long as milk is available, and will usually stay with the doe through the winter.

Observations on the winter ranges suggest that orphaned fawns join other family groups, because many does are

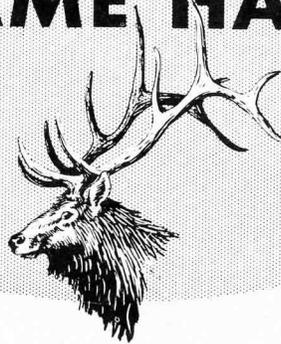
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This winter scene in the Interstate deer range shows deep snow covering all feed except browse species. Note semi-dead bitterbrush, rabbit brush (left foreground), juniper, and yellow pine.





1963 BIG GAME HARVEST



By Dave Luman, Chief Biologist, Big Game

THE 1963 BIG GAME SEASONS provided Oregon hunters approximately 1,774,000 man-days of outdoor recreation and 132,000 big game animals. The reported harvest of approximately 117,600 deer by 258,375 tag holders is the seventh highest on record and makes the eleventh year that the deer take has exceeded 100,000 animals, as shown in Table I. The 1963 elk harvest of 13,700 animals by 54,724 tag holders is the highest recorded.

Deer Seasons

The general deer season extended from September 28 through October 20, with unit permits becoming valid on October 12. This gave only 9 days of either-sex hunting as compared to the previous 16. Unit permits totaled 97,350 as compared to 135,100 in 1962, a reduction of 28 per cent. Since no controlled seasons were held, the actual reduction in antlerless hunting opportunities was 39 per cent. Table I presents a 12-year summary of total deer harvests.

The total deer harvest was down only 16 per cent from the 1962 total despite the poor opening weather conditions and the reduction in antlerless hunting. Central Oregon units showed a decline in total harvest of 15 per cent. Unit antlerless permits had been reduced by 55 per cent in that area. Southeastern Oregon units dropped 14 per cent on the harvest. Antlerless permits in that area were reduced by 65 per cent due to drought and poor fawn survival. Over-all the buck harvest during the general and extended seasons dropped only 5 per cent from the 1962 level, and the antlerless harvest declined by 31 per cent. Actually, the total deer harvest was much better than expected, considering the aspects of no controlled seasons, a reduction in unit permits, and one week less of antlerless

hunting. Hunters could bag but one deer during the 1963 season. Total harvest by region and unit is shown in Table II.

The general deer season opened on September 28 with very hot and dry weather conditions prevailing throughout most of the state.

From the first two days' field checks, northwestern Oregon hunters appeared to do well with an average buck success of about 10 per cent. The hunter success on the opening weekend in southwestern counties averaged about 9 per cent.

Despite dry weather and the fact that deer remained in dense cover, biologists reported fair to good success in most eastern Oregon counties although hunter pressure was generally down. Hunter success east of the Cascades varied from 25 to 40 per cent on opening morning field checks. The number of yearling bucks in Klamath and Lake Counties increased by 10 per cent from 1962, accompanied by an increase in hunter success.

Highest hunter success for the 1963 season in eastern Oregon was experienced in the Lookout Mountain Unit,

where 82 per cent of the hunters reported success. Other units of high success included Snake River, Catherine Creek, Sled Springs, and Whitehorse. Best hunting in the central region was in the Sprague and Sherman units, with 53 to 57 per cent success, respectively.

Figure I represents mule deer populations and harvest under various kinds of seasons. Prior to 1952, a buck season yielded about 50,000 animals per year, with a hunter success of about 30 per cent. From 1952 through 1957, with uncontrolled either-sex seasons, the harvest increased to an average of 110,000 deer and hunter success averaged about 50 per cent. Hunter distribution problems developed with concentrations in central Oregon and not enough pressure in eastern Oregon. This was corrected by the initiation of unit regulations beginning in 1958. From 1958 through 1963, harvests have averaged 140,000 deer, with an average hunter success of close to 60 per cent. The 1962 harvest declined mainly as a result of three years of drought conditions on central and southeastern Oregon ranges. Poor fawn production and survival plus lower deer densities on winter ranges and inequities in summer range distribution caused the Commission to lower antlerless permits on many mule deer units and to reduce the either-sex season by one week in 1963. No controlled season tags were issued, and no multiple bag limits were authorized. This was reflected in a decline of 16 per cent in the 1963 mule deer harvest, as illustrated in Figure 1 and Table I.

In western Oregon, hunters reported best success ratios in the Nestucca and Wilson units. The McKenzie unit led in the number of deer harvested. In south-

(Continued on Page 12)



TABLE I
SUMMARY TOTAL DEER HARVEST
1952 - 1963

Year	MULE DEER					BLACK-TAILED DEER								
	Deer Tags Issued	Total Deer Harvested	Hunters	Number Harvested	Per Cent Hunter Success	Per Cent of Total	Antlerless Harvest	Per Cent Antlerless	Hunters	Number Harvested	Per Cent Hunter Success	Per Cent of Total	Antlerless Harvest	Per Cent Antlerless
1952	188,250	77,897	126,719	53,030	61	68	20,570	39	61,531	24,867	40	32	5,210	21
1953	204,808	105,275	121,356	64,607	53	61	24,652	38	83,552	40,668	49	39	13,045	32
1954	215,047	112,622	134,617	76,877	57	68	22,410	29	80,430	35,745	44	32	8,043	22
1955	230,585	133,834	148,566	90,126	61	67	37,752	42	81,919	43,708	53	33	13,446	31
1956	233,842	125,671	146,568	85,394	58	68	37,978	44	87,274	40,277	46	32	13,340	33
1957	221,960	116,409	140,627	81,873	58	70	26,853	33	81,333	34,626	43	30	8,877	26
1958	233,885	116,251	139,183	71,250	51	61	19,308	27	94,702	45,001	47	39	15,251	34
1959	248,701	145,823	135,848	88,261	65	61	23,686	27	112,853	56,670	50	39	20,108	35
1960	259,739	157,504	140,068	96,122	69	61	28,254	29	119,671	61,382	51	39	20,133	33
1961	265,326	163,939	142,193	97,951	68	60	30,538	31	123,133	65,988	54	40	24,529	37
1962	263,838	139,712	133,567	76,776	53	55	24,977	32	130,271	62,936	47	45	21,932	35
1963	258,375	117,619	129,840	64,678	50	55	15,403	24	128,535	52,941	41	45	16,754	32

Figure 1

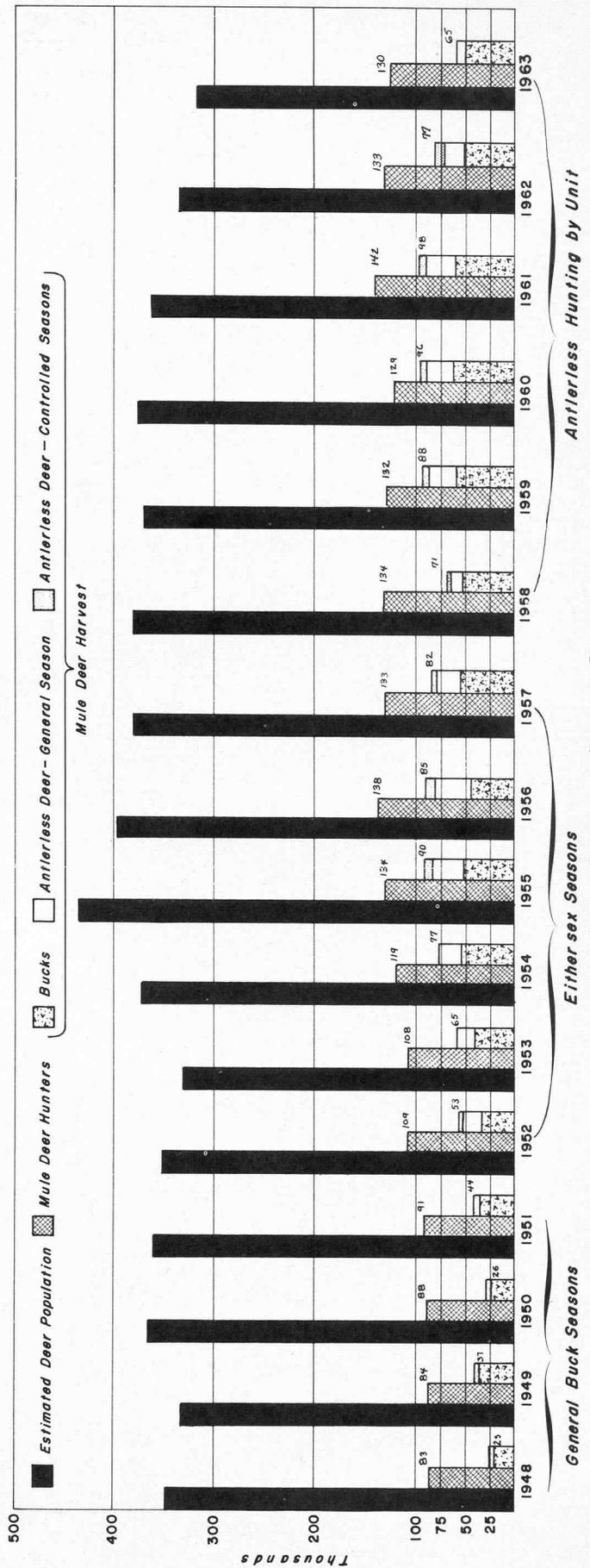


TABLE II

1963 DEER HARVEST

Units by Region	Antlerless Permits	Number of Hunters	TOTAL HARVEST			Days Hunted per Deer Harvested	Per Cent Hunter Success	Deer Harvested Per Sq. Mile
			Bucks	Does	Total			
Alsea	10,000	13,144	3,629	2,047	5,676	11	43	2.6
Clatsop	1,500	4,844	1,142	727	1,869	15	39	1.9
McKenzie	12,000	25,211	7,333	3,969	11,302	15	45	2.8
Nestucca	2,000	1,172	243	311	554	12	47	1.6
Polk	3,000	4,771	1,358	643	2,001	10	42	3.3
Santiam	8,000	17,465	3,783	1,859	5,642	14	31	1.3
Siuslaw	2,000	4,932	1,444	799	2,243	10	45	2.3
Trask	3,000	10,387	2,761	1,473	4,234	11	41	4.0
Willamette	7,000	6,581	1,290	1,044	2,334	10	35	1.4
Wilson	2,500	6,439	1,886	1,057	2,943	10	46	5.0
NORTHWEST	51,000	94,946	24,869	13,929	38,798	11	41	2.3
Applegate	800	2,438	796	260	1,056	13	43	0.8
Chetco	500	1,507	571	156	727	12	48	0.4
Dixon	1,500	3,833	1,522	312	1,834	13	48	0.8
Elkton	400	1,137	467	35	502	14	44	0.5
Evans Creek	600	1,533	519	104	623	16	41	0.7
Melrose	500	2,334	1,125	104	1,229	11	53	1.0
Powers	500	1,859	744	139	883	12	47	0.9
Rogue	1,000	6,520	2,130	519	2,649	15	41	1.8
Sixes	2,000	2,706	883	571	1,454	11	54	1.5
Tioga	500	2,102	675	208	883	14	42	0.9
SOUTHWEST	8,300	25,969	9,432	2,408	11,840	13	46	0.9
Deschutes	400	7,246	1,367	139	1,506	30	21	1.1
Fort Rock	1,000	4,732	1,403	450	1,853	15	39	1.0
Grizzly	400	3,043	1,039	329	1,368	11	45	1.0
Hood River	0	675	139	....	139	75	20	0.4
Keno	0	2,593	935	....	935	17	36	0.9
Klamath	500	6,570	2,753	207	2,960	13	45	2.4
Maupin	200	1,258	536	87	623	11	50	1.0
Mauzy	200	1,635	536	156	692	11	42	0.7
Metolius	500	2,639	641	208	849	13	32	1.1
Ochoco	500	7,355	2,509	294	2,803	12	38	1.8
Paulina	600	4,155	1,108	347	1,455	17	35	0.7
Sherman	400	1,982	848	208	1,056	8	53	0.5
Sprague	0	2,746	1,575	....	1,575	9	57	1.5
Wasco	1,000	4,456	917	416	1,333	16	30	1.3
CENTRAL	5,700	51,085	16,306	2,841	19,147	14	37	1.1
Baker	500	4,136	1,782	434	2,216	9	53	1.5
Catherine Creek	1,000	2,412	935	535	1,470	7	61	2.5
Chesnimnus	1,000	2,158	952	312	1,264	9	59	2.0
Columbia Basin	400	607	226	121	347	8	57	0.1
Desolation	700	1,922	745	380	1,125	9	59	1.6
Heppner	2,500	5,839	2,042	952	2,994	10	51	2.0
Imnaha	500	1,853	866	190	1,056	8	57	2.6
Keating	1,500	2,383	1,204	561	1,765	7	74	2.2
Lookout Mtn.	1,000	2,003	1,003	642	1,645	5	82	3.1
Minam	1,500	1,844	887	174	1,061	8	57	1.2
Murderer's Creek	2,000	4,011	1,489	831	2,320	10	58	1.9
Northside	4,000	6,226	1,419	1,404	2,823	11	45	2.6
Sled Springs	1,500	3,785	1,817	797	2,614	8	69	3.0
Snake River	1,000	1,444	813	225	1,038	7	72	1.4
Starkey	700	2,459	987	415	1,402	10	57	0.9
Ukiah	1,500	2,977	952	416	1,368	11	46	1.8
Umatilla	1,500	3,285	1,228	399	1,627	11	50	2.2
Walla Walla	1,000	1,270	294	260	554	12	44	1.3
Wenaha	1,000	1,277	485	191	676	10	53	1.6
Wheeler	2,500	5,961	2,163	1,212	3,375	8	57	2.5
NORTHEAST	27,300	57,852	22,289	10,451	32,740	9	57	1.7
Beulah	2,500	4,877	2,008	1,195	3,203	7	66	1.2
Hart Mountain	0	384	173	....	173	11	45	0.7
Interstate	0	4,681	2,112	....	2,112	14	45	1.0
Juniper	0	200	86	....	86	10	43	0.3
Malheur River	1,000	4,019	1,558	640	2,198	10	55	0.8
Owyhee	0	852	380	....	380	9	45	0.1
Silver Lake	0	4,706	2,251	....	2,251	12	48	2.6
Silvies	800	3,520	1,246	502	1,748	11	50	1.0
Steens Mountain	500	1,715	866	69	935	9	55	0.5
Wagontire	0	287	173	....	173	10	60	0.1
Warner	250	2,789	1,368	121	1,489	10	53	1.7
Whitehorse	0	493	346	....	346	7	70	0.1
SOUTHEAST	5,050	28,523	12,567	2,527	15,094	10	53	0.5
*GRAND TOTALS	97,350	258,375	85,463	32,156	117,619	11	45	1.2

*Include early, general, and extended seasons

TABLE III
ELK HUNTING TRENDS
1933-1963

Year	State Total					Rocky Mountain Elk					Roosevelt Elk				
	Hunters	Bulls	Cows	Total	Success	Hunters	Bulls	Cows	Total	Success	Hunters	Bulls	Cows	Total	Success
1933	2,523	579	0	579	23%	2,440	579	0	579	23%	No Open Season				
1940	6,152	1,340	1,179	2,529	41%	4,809	1,152	1,179	2,331	48%	1,343	198	0	198	15%
1945	12,625	7,270	2,243	2,465	20%	7,270	2,176	67	2,243	30%	1,327	222	0	222	17%
1950	24,713	3,157	2,234	5,391	22%	16,726	2,210	1,234	3,444	21%	6,076	947	1,000	1,947	32%
1955	29,309	4,228	1,855	6,083	21%	21,504	3,361	1,749	5,110	24%	6,205	867	106	973	16%
1961	51,349	9,707	2,384	12,091	23%	36,514	7,098	1,863	8,934	24%	14,835	2,609	521	3,130	22%
1962	52,983	7,998	2,178	10,176	19%	39,432	6,460	1,925	8,385	21%	13,559	1,538	253	1,791	13%
1963	54,724	10,082	3,606	13,688	25%	41,216	6,959	3,606	10,565	26%	13,508	3,123	....	3,123	23%

1963 Big Game Harvest

(Continued from Page 9)

western Oregon, the best harvests occurred in the Rogue and Dixon units.

Hunters taking advantage of early buck seasons reported harvest of 142 bucks in the High Cascades area and 124 in the Waldport-Mapleton hunt. Hunter success was only 11 per cent for Cascade hunters, but those contacted seemed to enjoy the hunt and the recreational opportunity afforded during the early fall period. Minam Pack hunters harvested 265 deer, of which 212 were bucks.

As usual, western Oregon extended seasons were heavily utilized, especially in the northwest region where early and extended seasons accounted for 34 per cent of the total deer taken as compared to 25 per cent in the past few years.

The northwest agricultural season, designed to alleviate deer damage in farm and orchard areas, provided 9,096 deer for 19,082 hunters—a hunter success of 48 per cent.

Central Oregon extended seasons were only partially effective in controlling deer populations on specific problem areas. Hunter success varied by area but, overall, few deer were taken. Range and agricultural problems are still generally unresolved.

Eastern Oregon extended seasons on range and agricultural areas did not do the job for which they were designed. For example, only 35 deer were reported taken on the Elkhorn, 52 on the Huntington, and 34 on the Medical Springs areas. Controlled seasons granting an additional deer tag were much more effective in removing problem animals. The posting of lands during the Walla Walla orchard season precluded effective removal of problem deer in that area. In general, central and eastern Oregon extended hunts limited to unused unit permits were ineffective.

Hunters reported that it took an average of 11 days to bag a deer during the

TABLE IV
CLATSOP ELK SEASONS

Season	Reporting Hunters	Three Points	Spikes	Per Cent Hunter Success	KNOWN ILLEGAL KILL		
					Spikes	Antlerless	Total
1956	4,774	387	....	8.1	12	6	18
1957	4,275	415	....	9.7	38	10	48
1958	4,972	560	....	9.4	50	17	67
1959	5,586	532	....	9.5	11	4	15
1960	6,244	683	....	11.0	28	10	38
1961*	4,800	391	475	17.0	....	22	22
1962*	2,810	165	322	17.0	....	10	10
1963*	5,000 permits	536	655	24.0	....	12	12

*Spikes legal since 1961
1 & 2 Report card returns only

1963 seasons, which is the same as for 1962. An average of 1.2 deer were killed per square mile in the 66 units represented. This varied from 2.3 deer per square mile in the northwest region to 0.5 deer per square mile in the southeastern region.

Elk Harvest

Analysis of the random hunter surveys showed a harvest of 13,688 elk by 54,724 hunters. This record harvest bore out the field reports of game biologists and State Police, indicating an excellent season. Comparative harvest through past years are shown in Table III.

The general elk season opened on October 26 and extended through November 11 in coastal units (except for

the Wilson which ended on October 30), and through November 24 in the Cascade and eastern Oregon units. In most units the general season bag limit was one elk with antlers longer than the ears. Either sex of elk was legal from the beginning of the season in some southeastern Oregon units.

Some west side units were open to bull hunting by permit only, including the Clatsop, Wilson, Trask, and Dixon units. Antlerless permits for eastern Oregon units became valid on November 9 and continued on through the November 24 general season closing date.

Total harvests by unit are presented in Table V. Two permit elk hunts—the

(Continued on Page 13)

District game biologist Ellis Mason looking over mule deer range in the Pueblo Mountains area.





Roosevelt Elk

1963 Big Game Harvest

(Continued from Page 12)

Mill Creek and Shaw Mountain—are incorporated within unit totals.

In western Oregon, hunter success was highest on the Trask and Wilson units but the greatest number of elk was taken in the Clatsop unit. Good hunting in western Oregon was partially the result of the Columbus Day storm, which reduced the take of bulls in 1962, plus the good conditions that generally prevailed state-wide during the 1962-63 winter period.

In eastern Oregon, the Starkey, Umatilla, and Wenaha units led in numbers of elk harvested. Data for units hunted by permit was prorated against the total harvest rather than presented on the old basis of return cards alone. This change was recommended by Dr. Scott Overton, a biometrician from Georgia, who was retained to review the harvest inventory. This presents a much more accurate total of permit season harvest than the minimal card return totals formerly used.

For the third year, Clatsop unit elk hunting was by permit only with 5,000 free permits available. As before, the season opened at 9 a.m. on the opening day. Hunters reported a projected harvest of 1,191 bulls for a success ratio of 24 per cent. Fifty-five per cent of the bulls taken were spikes. Hunter conduct was good. A total of 12 wasted antlerless elk was found as compared to 10 the previous year, and 22 and 38 animals in 1961 and 1960, respectively.

Hunters using the new Tioga unit in
(Continued on Page 14)

GAME BULLETIN

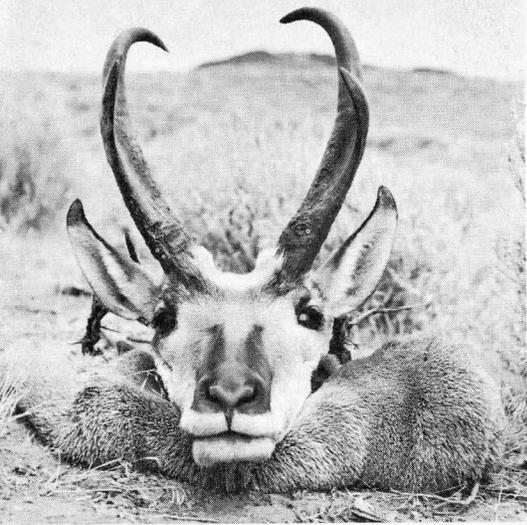
TABLE V
1963 ELK SEASONS

Units by Region	Number of Hunters	Harvest			Per Cent	
		Bulls	Antlerless	Total	Hunter Success	Spike Bulls
Alsea	662	143	....	143	22	39
Clatsop	5,000	1,191	....	1,191	24	55
McKenzie	1,104	179	....	179	16	27
Santiam	114	8	....	8	7	67
Siuslaw	61	22	....	22	36	50
Trask	50	38	....	38	76	57
Willamette	133	11	....	11	8	50
Wilson	600	306	....	306	51	52
NORTHWEST	7,724	1,898	....	1,898	25	51
Dixon	50	15	....	15	30	33
Elkton	582	235	....	235	40	58
Melrose	592	115	....	115	19	44
Powers	365	70	....	70	19	44
Rogue	246	20	....	20	9	57
Tioga	3,479	703	....	703	20	50
SOUTHWEST	5,314	1,158	....	1,158	22	52
Deschutes	98	14	....	14	14	....
Grizzly	106	14	13	27	25	60
Keno	26	6	....	6	23	....
Maury	41	....	17	17	41	....
Ochoco	654	22	130	152	23	13
Wasco	346	47	....	47	13	29
CENTRAL	1,271	103	160	263	21	24
Baker	1,937	289	134	423	22	31
Catherine Creek	505	201	....	201	40	51
Chesnimnus	3,047	587	194	781	26	58
Desolation	2,941	495	144	639	22	38
Heppner	2,349	254	178	432	18	48
Imnaha	626	187	67	254	41	42
Keating	952	115	303	418	44	34
Lookout Mountain	63	28	8	36	57	27
Minam	1,113	439	56	495	44	30
Murderer's Creek	632	53	114	167	27	32
Northside	2,025	87	367	454	22	16
Sled Springs	2,981	606	265	871	29	64
Snake River	533	260	....	260	49	31
Starkey	5,603	691	381	1,072	19	51
Ukiah	3,529	411	183	594	17	39
Umatilla	4,288	791	242	1,033	24	60
Walla Walla	1,788	269	226	495	28	64
Wenaha	3,054	943	108	1,051	34	68
Wheeler	302	20	59	79	26	14
NORTHEAST	38,268	6,726	3,029	9,755	25	50
Beulah	1,171	118	257	375	32	29
Malheur River	741	54	126	180	24	26
Silvies	235	25	34	59	25	22
SOUTHEAST	2,147	197	417	614	29	27
GRAND TOTALS	54,724	10,082	3,606	13,688	25	50

TABLE VI
MILLICOMA TREE FARM ELK SEASONS
(From Checking Station Data)

1st Day Cars	Year	Hunter Visits	BULL HARVEST				KNOWN ILLEGAL KILL		
			Three Points	Spikes	Per Cent Spikes	Total	Spikes	Antlerless	Total
159	1955	1,113	59	....	....	59	11	3	14
330	1955	2,479	64	....	....	64	19	4	23
593	1957*	4,151	83	56	40	139	....	16	16
486	1958*	4,190	54	77	59	131	....	13	13
670	1959*	4,998	77	83	52	160	....	5	5
861	1960*	5,500	44	99	70	143	....	6	6
668	1961*	6,317	60	102	63	163	....	7	7
769	1962*	4,802	22	67	75	89	....	9	9
707	1963*	6,000	79	74	48	153	....	10	10

*Spikes legal since 1957
1. October 12 windstorm



Lake County produced this fine buck antelope trophy head.

1963 Big Game Harvest

(Continued from Page 13)

southwestern Oregon reported a harvest of 703 bulls. Twenty per cent of the hunters were successful.

Spike elk hunting has been permitted in western Oregon for three years on the north coast and for seven years on the south coastal area. Accurate data has been obtained from Weyerhaeuser's Millicomma tree farm in Coos County, where gate records and an intensive patrol have been maintained. A nine-year comparison, shown in Table VI, indicates that not only has the harvest more than doubled with spike hunting, but that hunters still take as many mature bulls as under the 3-point law. Spikes have contributed about 60 per cent of the total over a seven-year average. The 1962 harvest reflects lack of access due to the October 12 windstorm.

Comparable data in the Clatsop unit indicates that three years of spike hunting there has not been detrimental to herds. Both harvest and hunter success have remained higher than under the 3-point regulation.

The production of calves in these two units has remained high, indicating adequate bulls for breeding.

Census trends for the Coos and Clatsop herds indicate an increase of animals in 1963.

Bow Hunting

The questionnaire survey indicates that 9,655 persons hunted with the bow and arrow. They took about 940 deer and 102 elk.

Antelope Seasons

Antelope hunters indicated that they harvested 333 animals in the 1963 season. The seasons extended from August 17 through the 21st and included seven areas containing 17 units. A total of 650

TABLE VII
1963 ANTELOPE HARVEST

Area	Units	Tags Issued	Reporting Hunters	Harvest	Per Cent Successful Hunters
I	Ochoco, Maury, Silvies.....	75	71	36	51
II	Paulina, Wagontire, Fort Rock, Silver Lake	75	57	21	37
III	Warner	100	93	61	66
IV	Juniper, Hart Mtn., Steens	175	152	90	59
V	Beulah, Malheur River, Owyhee.....	100	85	50	59
VI	Whitehorse	75	72	45	62
VII	Interstate, S. 1/2 of Klamath.....	50	48	30	62
TOTALS		650	578	333	58

tags was issued and the harvest by area is shown in Table VII. Hunter success of 58 per cent was the highest reported since 1955, but allowable permits have been kept well below those of the early 1950s due to poor fawn production and relatively low populations. A 14-year comparison is shown in Table VIII.

Summary

The 1963 big game season produced a total of approximately 132,000 big game animals and over 1,770,000 man-days of hunting for 304,193 license holders.

Despite the cutback of 39 per cent in antlerless deer hunting and elimination of all multiple deer bag limits, a total of 258,375 deer hunters took 117,619 deer, which is a decline of only 16 per cent from the 1962 deer harvest.

Elk hunters reported a total of 13,688 animals with a hunter success of 24 per cent. Six hundred and fifty antelope hunters reported taking 333 animals in seven areas of central and southeastern Oregon.

Better than normal forage production in 1963 provided an incentive to reduce the 1963 take of deer in much of the state and permit some increase of the

TABLE VIII
ANTELOPE HUNTING SEASONS
1950-1963

Year	Number of Hunters	Buck Kill	Per Cent Success
1963.....	578	333	58
1962.....	516	277	54
1961.....	814	418	51
1960.....	845	459	54
1959.....	812	451	55
1958.....	554	314	57
1957.....	543	294	54
1956.....	560	318	57
1955.....	570	358	63
1954.....	589	334	57
1953.....	380	181	48
1952.....	1,076	448	42
1951.....	1,133	600	53
1950.....	1,422	679	47

deer herds. It now appears that this optimism was not justified on some ranges because heavy snow cover denied the animals access to ground forage and many did not survive the winter.

The department's 19 game biologists are currently inventorying the extent of losses and condition of the surviving animals so that the necessary knowledge will be available when hunting opportunities for 1964 are determined.



APRIL MEETING OF THE GAME COMMISSION

The Oregon State Game Commission met on April 22 in Portland and considered the following business:

KEEP OREGON GREEN ASSN. Made its annual contribution of \$250 to the Keep Oregon Green Association.

BIDS. Authorized call for bids for pipeline bridge at the Butte Falls Hatchery; also for digging of well on site of proposed research laboratory.

CAPITAL OUTLAY. Approved procurement of miscellaneous equipment and reconstruction of ferry used to transport equipment to Patch Island (Snake River).

FISH HABITAT. Approved cooperation with Forest Service in fish habitat improvement projects at Balance Lake and Camp Creek in the John Day area.

Also authorized preliminary study on Owhye River and Three Forks area to determine feasibility of a rehabilitation project.

FISH ALLOCATION. Approved allocation of 3,565,000 legal-sized catchable trout and yearling salmon and steelhead. This does not include fry and fingerling classes.

1964 MEETING SCHEDULE. Set the following schedule of meetings in Portland this year (subject to change if conditions require): May 22, June 5, August 21, October 20, November 6 and 20 (angling regulation hearings), and December 10.

ACCESS AND LANDS. Accepted from Otto and O. W. Olson easement for anglers along one-half mile of the east shore of Smith River below the falls.

Exercised option for purchase of 40-acre Graf tract in the Sauvie Island game management area.

Executed interim agreement with White City Realty Company concerning use of Hoover tract pending completion of exchange negotiations (Kenneth Denman management area).

PERMIT NECESSARY TO HOLD WILD ANIMALS AND BIRDS

To hold in captivity any wild animals or birds requires a permit issued by the Game Commission. This applies to both game and nongame species, but no permit will be issued to keep deer, elk or antelope taken in the wild. The law also prohibits holding of coyotes in captivity.

The fee for the holding permit is \$1 a calendar year.

Any wild animals or birds held under permit must be provided adequate facilities and care; otherwise the permit can be revoked and the animals or birds taken over by the state. Regulations pro-

Some "Whys" of Deer Management

(Continued from Page 8)

observed with a following of three or more fawns.

6. Why not have an "any deer" bag limit so there won't be so many does wasted during the buck season?

A staggered deer season, beginning with a buck bag limit and later permitting the controlled taking of antlerless deer, has been recommended by many Oregon sportsmen with the following reasons:

- a. The buck season preserves an element of quality in the hunting experience.
- b. The staggered season spreads hunting pressure over a longer period, making outings more enjoyable and less hazardous.
- c. A high percentage of the bucks can be taken without affecting production.
- d. The irresponsible person who would shoot a doe during buck season would not hesitate to walk away from a small deer during an "any deer" season.

Attempts to measure the relative waste indicate that the loss is just as great during "any deer" seasons as it is during buck seasons.

7. Why have a controlled or extended deer season to alleviate farm damage when most of the farmers post their property?

There is as much variation in the experiences and preferences of landowners as with hunters.

Each individual landowner controls the access to his property, and whether his land is posted or not, the hunter is required to secure permission to hunt on enclosed lands.

Unfortunately, with Oregon's diversified farms, some real knotty problems develop. For example, in the Willamette Valley, foot hill orchards and berry farms have much difficulty with deer on comparatively small acreages. Their neighbor may be in the sheep business, with a large acreage of very attractive hunting area. The deer spend the day on the sheep ranch and the nights in the orchards and berry fields. The sheep man isn't bothered by the deer, and doesn't

hibit the picketing of wild birds or animals by chain, rope or other holding device.

Persons desiring to hold migratory birds must obtain a federal permit also. Application should be made to the United States Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Portland.



Game biologists conducting the Silver Lake deer study have decided this tagged and belled mule deer buck likes the Chase Springs corral trap. He has entered the trap three years in a row.

want hunters disturbing his stock, so he closes his property to hunting. The orchardist welcomes the hunter, but doesn't have much to offer.

Usually, a person that will make a courteous and reasonable approach to landowners will find ample opportunity to hunt in such areas, but there will always be such problems.

8. Why not create some refuges so the deer can build up and spread out over adjacent ranges?

In studying the movements of marked deer, it appears that they have rather precise summer and winter territories that they commute to and from seasonally. Therefore, complete protection of a given area of summer range would only build up deer numbers within the protected area, and if winter forage were the limiting factor, those deer would either not survive or would displace deer that occupied a hunting area.

There are some ranges that to the human eye appear to be suitable deer winter ranges but are not heavily used by deer. There may be some opportunity to build populations to utilize such sites through judicious application of regulatory closures.—John McKean.

1964 GAME BULLETIN TO BE BIMONTHLY

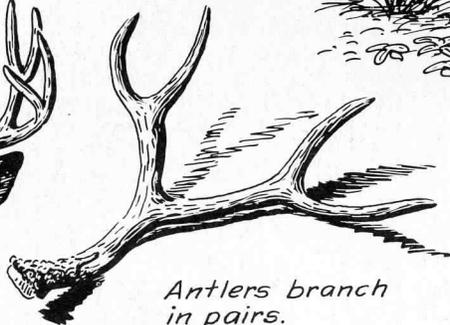
The Game Commission Bulletin will appear only 6 times in 1964 instead of the usual 12 because of a lack of funds.

BLACKTAIL DEER

Blacktail does usually produce twin fawns. Fawns are spotted with white which fades by fall.



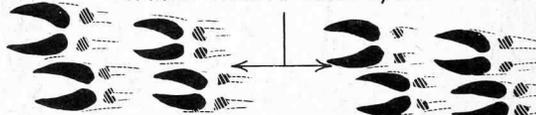
Blacktails are west of the summit of the Cascades. Largest deer and greatest numbers are in open burns & logged off sections.



Antlers branch in pairs.

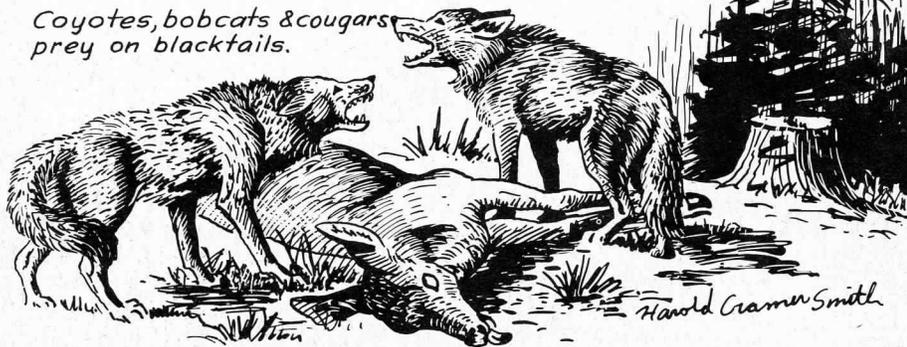
Only bucks grow antlers; shedding in Jan. & Feb. New growth starts in April.

Tracks often 15' to 20' apart



Blacktail hit the high spots with bounding stiff-legged gait, leaping from all four feet & landing on all fours.

Coyotes, bobcats & cougars prey on blacktails.



TAIL

Upper-surface dark; under-surface white.



METATARSAL

Glands on outside of hind legs. Approximately 3" in length.

Oregon State Game Commission Bulletin

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