

Oregon State GAME COMMISSION BULLETIN

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No. 3

DINGELL BILL MEETING HELD IN PORTLAND

One of a series of regional meetings to discuss operations under the provisions of the Dingell-Johnson Act was held last month in Portland by U. S. Fish and Wildlife Service officials, headed by R. M. Rutherford, in charge of the present Federal Aid program. Representatives of the western states in this region were in attendance.

Income from the excise tax on certain items of sports fishing equipment will be allotted to the states for fisheries work. Income from the excise tax is not known yet but based upon an estimated return, Oregon's share for this year, available July 1, would be around \$50,000.

Funds may be spent for research,
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The Oregon Cooperative

Wildlife Research Unit *

A Partial Review of Its Contribution to the Program of the Oregon State Game Commission

A realization that the unique and specialized nature of the activities of the Oregon Cooperative Wildlife Research Unit was not generally known has brought forth the suggestion that some publicity on the work should be given to all associated conservationists and the general public. This paper gives a partial outline of the activities of the Unit and attempts to treat the subject objectively.

The Oregon Cooperative Wildlife Research Unit as an agency designation implies the make-up of this working group. Many states have a separate research division. In this case Oregon has chosen to become affiliated with other

agencies interested in natural resource conservation and pool their interests so that a duplication in activities and investment is not necessary. The Oregon Game Commission, Oregon State College, Agricultural Research Foundation, The Wildlife Management Institute and the United States Fish and Wildlife Service have joined in this common activity. The headquarters of the Unit are in the Agricultural Engineering Building of the Oregon State College where it is closely associated with the Fish and Game Management school of the College. This arrangement is extremely practical since it does not require the usual outlay for equipment and service facilities since many of these necessary aids are found at the College. It is a simple method of handling a complex problem.

The specific activities, projects and contributions of the Unit to the expanding program of the Oregon State Game Commission since 1935 would be too numerous to present in detail in this report. Details and data on each problem or service task are available for reference at both the Game Commission office in Portland and the Unit's files in Corvallis. Before discussing these in a general way, however, it is

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Adult pheasants being banded prior to liberation. Research on the survival and habits of pheasants has been a major project of the Unit's program.

*Oregon Game Commission, Oregon State College, Wildlife Management Institute, Agricultural Research Foundation, U. S. Fish & Wildlife Service cooperating.

☆ THIS AND THAT ☆

Justice of the Peace A. E. Hagglund of Tillamook levied a total of \$1,195.50 in fines, plus jail sentences, against a party of three men, Ernie Ray Johnson, Toney Paul Hecimovich and Clyde Wm. Vachter, when they were convicted of spotlighting deer last month. In Klamath county, Justice of the Peace E. W. Dunn of the Odell district, fined Fred G. Spencer \$350 on two separate charges of trapping law violations.

* * *

Salmon and steelhead tag cards expired on February 28 and anglers are reminded that the card is to be retained in possession until May 31. In March many anglers will be requested by letter to return their card so that information on the sport catch of steelhead and salmon may be obtained.

New tag cards for the coming season may be obtained from license agencies or the Game Commission office. All persons fishing for salmon or steelhead are required to have the tag card, including landowners and juveniles who fish without an angling license.

* * *

The winter season for salmon and steelhead 20 inches or over in length closed on March 11 in Zone 1, the coast area. The closure will end with the opening of the summer season on April 14.

* * *

Plans have been completed for the development of a 300x900 foot brood pond at the Wallowa hatchery and bids for the pond are expected to be let this month.

* * *

Good progress is being made on the fish screen being constructed at Marmot Dam by the Portland General Electric Company and the screen should be in operation within a few weeks.

* * *

Those desiring a copy of the 1950 Index of the Game Commission Bulletin may obtain one by sending in a request to the Commission office.

* * *

The heaviest run of steelhead for over a period of five years has shown up at the Cedar Creek fish rack in Three Rivers. Steelhead eggs will be taken there as well as at the Alsea hatchery this year. Rainbow egg-take at the Rock Creek hatchery totalled slightly more than 4,500,000. Cutthroat eggs are being taken at the Alsea and Bandon hatcheries.

Dingell Bill Meeting

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acquisition, development, management and maintenance of completed projects. Acquisition for public access was of major interest to most states and from the opinions expressed at the meeting, this type of project will be considered favorably if the need for access is shown. Examples of other possible projects are trash fish control, stream improvement, ditch screening, stabilizing and deepening lake levels and pond construction.

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WINTER BIG GAME SURVEYS

A favorable outlook for Oregon's deer and elk herds is indicated in big game winter range survey reports received by the game commission from the five regional game districts.

A mild open winter has prevailed on nearly all big game ranges and deer and elk herds are widely scattered over much summer as well as winter range, report the game agents.

December and the first two weeks of January are the period in which the game agents normally carry out deer and elk herd composition studies, but wide scattering of the animals has hampered this winter's work. By mid-January, the buck deer are shedding their antlers, and buck-doe ratios can no longer be taken.

Deer herds sampled in the southeast Oregon game region revealed a ratio of 1 buck to 5.8 does, and in the central Oregon game region, the ratio was 1 buck to 4.2 does. Generally, it appears that the average buck-doe ratio in eastern Oregon is as good or better than last year while the 1950 fawn crop appears to be slightly lower, the observed ratio in Deschutes and Crook counties being 1 fawn to 1.6 does.

SAMPLE POLL OF HUNTERS TAKEN

A group of 5,000 Oregon hunters, chosen at random from hunting license files, are being sent a questionnaire from the Game Commission. Each sportsman selected is asked whether or not he hunted deer, elk, pheasants, quail, and waterfowl during 1950 and, if so, what his bag was. This information will be correlated with 1950 hunting license sales and with deer and elk tag returns. A complete analysis of the 1950 hunting season, including a breakdown by counties, will then be made.

Each hunter receiving a questionnaire is urged to cooperate as in this type of survey every questionnaire must be returned. Telegrams and personal interviews are planned as a follow-up on those sportsmen not reporting. All information obtained will be used solely for purpose of game management.

Do you want to receive this BULLETIN each month? If so, send in your name and address and you will be placed on the mailing list free of charge.

"JOE BEAVER"

By Ed Nofziger



Forest Service, U. S. Department of Agriculture

"It's the obvious truth—the grass is always greener on the other side of this fence!"

WATER HOLES AND "GUZZLERS" MADE FOR GAME

Seven new water holes for mule deer and antelope have been excavated on dry eastern Oregon ranges by U. S. Forest Service and Bureau of Land Management personnel. Field agents for the Oregon State Game Commission, which bears the construction cost, selected the water hole sites.

Water developments for deer are concentrated on the Deschutes National Forest south of Bend. Fifteen water holes, including three just completed on the north half of the Deschutes game refuge, are supplying water to deer in the Paulina mountain country. Spring runoff fills the water developments, but occasionally water must be trucked in. Each water hole is lined with a water-tight clay, bentonite.

Water supplies for deer are short throughout the Paulina mountain area. The result has been heavy overuse of deer food in areas adjacent to water. Deer browse on either side of Paulina creek, a major source of water on the

deer summer range, provides a good example of an overused deer range. The water development program is designed to correct this situation and lure deer into areas with plenty of deer browse but no water.

On the high desert south of Wagon-tire mountain the Bureau of Land Management completed four antelope water holes in November. Eight other water holes have been constructed in Malheur and Harney counties. Game agents believe these water hole developments will aid in increasing antelope numbers through better distribution.

Another water development program is also being carried on for upland game birds. These watering devices are termed "guzzlers" by the game agents who have constructed 20 in Morrow, Sherman, Gilliam and Umatilla counties. A concrete apron sloping into an underground storage tank supplies the "guzzlers."

Approximately 400,000 fall chinook fry were scheduled for release in the North Umpqua river below Winchester Dam last month.

MARCH-APRIL CALENDAR

Salmon and Steelhead over 20", open both months inland waters.

Salmon and Steelhead over 20", closed March 12-April 13 in coastal waters of Zone 1.

Salmon, Steelhead, Trout over 12", open through April 13 in main Columbia river; Willamette Slough and tributaries; Willamette river and tributaries below Oregon City Falls; and Sandy river below Dabney State Park.

Trout Summer Season—

Opens April 14 in Zones 1 and 2;

Opens April 28 in Zones 3, 4, 5, 6, 7, 8 and 9.

Warm water game fish, open both months.

Predatory animals, open both months.

NOTE: For exceptions, consult official angling regulations.

RETRIEVER TRIALS SCHEDULED AT SAUVIES ISLAND

The Sauvies Island Wildlife Management Area will be the site of two field trials sponsored by the Oregon Retriever Trial Club this year, one on April 7 and 8 and the other September 2 and 3. These are licensed American Kennel Club meets, open to all entries.

A. A. Jones, Chairman of the National Field Trial Committee, recently announced in San Francisco that the 1951 National Field Trials would be held on the Pacific Coast. The Sauvies Island wildlife management area is being strongly considered as a site for the national trials. Prior to this time, a national field trial has never been held in the west.

FIREARM EXCISE TAX RECEIPTS INCREASE

Recent information on the receipts from the excise tax on firearms and ammunition show a great increase. An all-time high was reached in 1949 and then there was a drop in 1950. During the first six months of this fiscal year, the amount received exceeded by \$4,000,000 the receipts for the same period last year, which is a 45 per cent increase. This makes it appear that during the fiscal year of 1950 the retail dealers, afraid of price drops, lowered their inventories, but then when present situation arose, restocked heavily.

Revenue from this excise tax is distributed to the states for wildlife restoration projects under the Federal Aid or Pittman-Robertson Act.

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pertinent to the background of this activity to first review briefly the history of this phase of natural resource management in Oregon during the fifteen-year period involved.

The concept of wildlife management has passed through a marked evolution as to the basic principles and procedures used in the management of wildlife. Essentially this has involved a change along two distinct lines of thinking: (1) A change in the philosophy toward wildlife from one of exploitation to sustained utilization; and (2) The replacement of *opinion* as the basis of regulations for game harvests by the use of *facts* to draw sound conclusions in this phase of game management. There have been numerous other factors entering this field but the two above points are of primary importance for our purpose at this time.

The above points posed a problem for the Game Commission. Their effective applications could only be accomplished by securing a much higher degree of detailed information and the immediate application of practical, valid techniques in securing this information. In order that this might be achieved, the Department needed both personnel equipped by experience and training to do a good job and immediate information of a very sound nature to meet some of the problems that were current issues. This situation, in-

cidentally, was nation-wide, in some instances prior to and in others subsequent to the creation of the Unit in Oregon.

At the same time the Unit was organized the Department of Fish and Game Management was established at Oregon State College for the training of personnel for professional careers in the field of fish and game management or other fields of conservation. The close integration of the Research Unit and the Department of Fish and Game Management has been recognized by the Game Commission since their establishment. With the inception of these two divisions for training, the future source of responsible personnel was assured. In the years prior to the period of availability of additional personnel, however, many pressing problems needed immediate practical consideration founded upon a sound scientific approach. Since the Unit's work embraced research and service functions as part of its stated purpose and the Game Commission represented one of the active Cooperators, several of the early problems of both a service and research nature were assigned to the Unit for solutions. In recent years those activities of a management nature have been embodied within the Game Commission's state-wide program as they have increased their staff of technicians and the Unit's work with the Game Commission consists primarily of carrying out various phases of research.

Projects Undertaken

A review of contributions made by the Unit and the College to the Game Commission program embraces a wide scope of the state's wildlife program during this fifteen-year period. These may be partially listed as follows:

1. Small game in the Willamette Valley:

This overall project embodies a number of individual phases of small game management. The most useful facts to the Department have been those concerning the biology of the pheasant which can be applied in our program. For example, it was early found that shooting hen pheasants was a destructive practice in maintaining the productive stock. The effect of farm practices was also determined and thus determined management procedures.

2. Big Game Sex Ratios:

This factor was the subject of concern for some time and the early information secured by the Unit was of a high degree of utility in the 1930's. In recent years, the maintenance of a record of this factor has been secured as a routine procedure by the Department. Sex ratios determine harvest limits and must be kept in proper balance for sustained yields. Had the early demands for regulations more favorable to man been followed on big game management, Oregon hunters would have had little to expect today since the unbalance reported in sex was not found to be a fact or a critical factor.

3. Life History and Management of the Antelope in Oregon:

The Unit was assigned this as a specific and major project. The primary phases of the project were completed some two years ago with the publication of the fine book on Pronghorn Management. The general pattern of management of the pronghorn as outlined in this work is now being followed not only in Oregon, but in Nevada, Utah and Arizona as well. The coordination of management of herds common to Oregon, Idaho, Nevada and California was urged by the Unit at an early date and is now a routine phase of the management of this species. It is an example of research being applied in management.

4. Diagnostic Research of the Columbian Blacktail Deer:

This project has contributed substantially to the present blacktail management program and is continuing along specialized phases. It offers a

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Planting of cover and food plants established along the irrigation canals and wasteways of the Madras irrigation district for the benefit of upland game. A boat-operated fire pump was used to sprinkle the plantings the first few weeks.

Wildlife Research Unit

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plan that may well result in deer abundances in ranges without conflicts with other activities of man. The facts apparently indicate that black-tailed deer can become a more important segment of our game harvest by more fully utilizing our coastal ranges and other black-tailed deer habitats.

5. Sage Grouse:

Accumulation of data on the distribution and life history of this species was assisted by early work of the Unit.

6. Game Management on Farm Grounds:

This project assisted the Commission in several ways when a perplexing problem associated with increased development of our agricultural areas arose. It was accomplished by testing assumptions to secure evidence. This determined that approximately 80 per cent of the land holders are gracious to hunters' demands but are almost wholly opposed to common trespass without permission. By systematic interview it was proven that the way to Farmer-Sportsmen harmony lies in the improvement of the sportsmen's approach.

7. Beaver Survey of Oregon:

In the early phase of beaver restoration the Unit participated by assisting in setting the pattern of initial surveys. This work was divided into two segments — an analysis of catch records and field surveys of the distribution of beaver. Beaver potentialities were found to be important.

8. Life History and Management of the Mountain Quail:

This is a life history and management project on a research level to provide an ecological record of the requirements of this species. It is appropriate with the progressive ecological change taking place on the timbered areas of Western Oregon. It is a program vital to the maintenance of a native species. This work is developing to a point that will permit practical management tests in the light of new facts.

9. Publications:

The publications prepared by the Unit have been of practical use to the Department. They range from periodic reports to more detailed and conclusive treatises on special subjects. They have dealt with both management and conservation thrift. Records of range use and using game as food are examples.

10. General Management Programs:

In numerous instances the Unit and



Study of the life history and management of the antelope was one of the early long-term projects undertaken by the Research Unit.

the Department of Fish and Game Management have been requested to assist in orienting specific management programs. This assistance was often given when the Oregon Game Department lacked in personnel experienced in such tasks.

11. Island Studies:

The investigations inaugurated by the Unit on islands in Puget Sound, where conditions could be controlled to a high degree, are contributing accurate biological data useful not to Oregon alone but to areas where similar problems exist. This work is nationally recognized.

12. Service Work:

The Unit has from time to time been requested to assist either by consultation or active participation in many short term activities. This type of work has varied widely and for this purpose can be most easily classified as "Service" in nature.

13. Bandtail Pigeon:

The information available from the Unit on this species has been of value to the Game Department in our limited participation in the management of the bandtail.

14. The Development of an Upland Game Management Program for the Madras or North Unit Irrigation District:

The title of this project is self-explanatory and is a current project of the Unit. It is a program of evaluation

and will not be completed for several years based on developments.

15. Census Techniques:

The development and testing of census methods, one of the essential tools of a management program has been a very important contribution. The upland bird census method currently used by the Game Commission was developed and tested by the Unit during the 1940's. It has been a factor in sustaining pheasant yields in Oregon when other states reported cycles of depletion.

16. Maintained study plots in grazing problem areas of Oregon and found that there was a lack of understanding of "multiple use" as applied to forest and grazing lands and that better attention to details of land use by responsible individuals and agencies could prevent many recurring issues of irritation.

17. Made systematic collections of reported diseased game animals in Oregon, as for example, in one year the Unit collected 114 specimens for study. This search revealed malnutrition as one of the greatest factors in winter deer losses. The management of logged or burned lands in Western Oregon became an important step in blacktail production.

18. The Unit has contributed systematically to the knowledge of the

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Wildlife Research Unit

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life histories of various game species of Oregon including the sage grouse, mountain quail, Chinese pheasant, valley quail, band-tailed pigeon, and it has been the policy of the Unit to aid the management division in making reports at times when they are needed on abundance, sex ratios and suggesting techniques or management aids satisfactory to the species.

19. The Leader of the Unit was charged with the responsibility of drafting the first program of developing a Big Game Management Division. Time was devoted to this program and a training schedule of several weeks initiated the plan.

20. As examples of some of the unusual or emergency service assignments, the Unit collected data on the use of "slug bait" as a menace to upland game birds and a series of intensive tests were made. It showed no game bird loss from the practice of baiting slugs on farm crops. Similarly, a persistent rumor of losses of pheasants through turkey diseases was thoroughly investigated and found groundless in the areas in question. This service work has a direct influence on the Game Commission relationship with the public.

21. The Unit engaged in a systematic program of waterfowl banding in the Willamette Valley at an early date and it has accumulated information on the range of these birds that indicates, along with other data, that Alaska and British Columbia and the Yukon Territory produced most of the birds harvested in Western Oregon. This is important in the waterfowl program.

22. Observations and accumulation of data on the effect of D.D.T. spraying operations on game birds and fishes.

23. A survey of the Owyhee Reservoir system and game fish potentialities. This was done before Oregon had a staff of field workers in game fisheries.

No report of this nature can be comprehensive enough to fully analyze all the important aspects of research. No attempt will be made to accomplish this end. The report is but a means of calling attention to the simple structure and cooperative nature of this research agency. In the files and reports will be found the detailed data of particular importance to this search for factual material necessary in the establishment of a truly scientific program.

Cooperation Effective

In reviewing the history of the Re-

search Unit activities it is apparent that the coordinated and harmonious association of all the groups involved is effective and economical. To provide a separate Game Department Research Division would require an appropriation, for quarters alone, that would exceed the annual budget of the Unit covering its entire operations. The fortunate arrangement at Oregon State College assures the use of the best knowledge and talents on highly specialized problems and adequate equipment and library facilities at only a fraction of the usual cost for such opportunities.

The policy of using graduate students as field and research assistants under a nominal fellowship grant accomplishes three purposes:

1. It provides adequate manpower.
2. It trains personnel in skills, philosophies and the usual field conditions so that they may better serve Oregon.
3. It reduces research cost to a fraction of the usual level. The Unit's operation has rarely reached $\frac{1}{2}$ of 1 per cent of the budget of the Oregon Game Commission. In private industry from 5 to 30 per cent is often budgeted for research.

Fisheries Research

Under the original memorandum of agreement between the several Cooperators, only big game and upland game problems were allotted for research attention. In strengthening this program, the Oregon Game Commission has proposed to add game fish research to the activities of the Unit on a basis similar to the plan now in force. Already steps have been taken to have the agreement amended to include basic fisheries research. This addition will simplify Game Department procedures by dealing with problems not of a service or operational aspect but which because of their vital nature must be solved to determine policies of the Commission and permit long-range planning for sustained yields. To the Commission and its Directors this is in harmony with their reliance on research so consistently shown by their earnest support of the Research Unit.

The above enumerated projects by no means reflect to any degree the many and varied phases of activity with which the Game Commission is engaged in the current management program of Oregon's wildlife resources. Primarily the Unit and College is looked to as the point of research where needed techniques and unknown biological facts can be developed on a research basis. Tested procedures are

then applied in our day to day management program. There is a close relationship between the College, Game Commission and the Unit with the Research Unit representing a joint approach to the research phase of a modern fish and game management program.

(Note: This paper was prepared by the Research Unit's Coordinating Committee, which is composed of local representatives of the various cooperating agencies.)

HUNTING LICENSE REVENUE CLIMBS IN 1949-50

Hunting license sales for the fiscal year ending June 30, 1950, broke all previous records for revenue received by the 48 States but there was a slight drop in the number of licenses sold.

The Fish and Wildlife Service reports that the country's hunters paid \$37,641,049 for 12,626,539 licenses during the 1949-50 hunting seasons. The number of license sales dropped 132,159 below the 1948-49 total of 12,758,698 while fees rose \$2,674,362 over the previous year's record of \$34,966,687.

The higher revenue recorded for 1949-50 was due to the fact that many States increased the cost of their hunting licenses.

Oregon was in twenty-fourth place for the number of hunting licenses sold.

For comparative purpose, "the big ten" in the license sales line-up are shown for the 1949-50 and 1948-49 hunting seasons. The states included in the "big ten" for 1949-50 are the same states as those listed in 1948-49, but with some changes in relative positions. Michigan, Pennsylvania, New York, and Ohio—in that order—still head the list.

1949-50	
Michigan	1,031,035
Pennsylvania	834,091
New York	751,036
Ohio	740,509
Illinois	503,420
California	497,212
Minnesota	479,746
Wisconsin	460,408
Washington	418,726
Indiana	392,821

1948-49	
Michigan	977,879
Pennsylvania	878,669
New York	847,314
Ohio	718,292
Minnesota	505,970
California	504,450
Illinois	470,855
Wisconsin	421,343
Indiana	408,051
Washington	383,689

PUBLIC SHOOTING GROUNDS REPORT

1950 Waterfowl Season

Hunting conditions in general were fair to poor in the five public shooting grounds operated by the Game Commission during the 1950 waterfowl season, which extended from noon November 3 to December 27, inclusive, giving the hunters a 55 day straight season. Bag limits were six ducks a day and in possession, and six geese a day and in possession, of which at least four had to be snow geese. Three of the public shooting grounds, Summer Lake, Sauvies Island and Government Island, are part of state game management areas, while the other two, Chewaucan and Warner are on privately owned lands and operated under cooperative agreement with the landowners.

Summer Lake

A November 3 opening is too late in the season for the best hunting in this area. The local birds had gone south and the peak of the migration was nearly over.

Sauvies Island

The early part of the season furnished excellent hunting. Sauvies Island hunting area was typical of the western part of Oregon in that unusually heavy rains made cultivated fields into lakes that were more attractive to the birds than their normal haunts on the lakes and sloughs. Birds were plentiful but difficult to hunt.

Government Island

Deeded land to the state was closed as a refuge. The sand bars and shorelines below the meander line were open to hunting. No check on the number of hunters or their success was made. No hunting fee was collected.

Chewaucan

The November 3 opening was too late for best hunting conditions. Patronage has not increased as expected. The shooting ground was closed December 11 as the peak of the hunting was over.

Warner

The November 3 opening was too late for best hunting conditions. Like Chewaucan, the public shooting ground was closed December 11. We estimate that only about 40 percent of the hunting in Warner Valley was done on the public shooting ground.

The following tables provide the details of the hunting season's results.

SUMMARY OF KILL

Area	Season	No. Permits Sold	Ducks	KILL Geese	Total	Success Ratio
Summer Lake	55 days	3,132	2,957	699	3,800	1.23
Sauvies Island	33 days	2,465	3,017	53	3,070	1.25
Government Island	55 days	None				
Chewaucan	39 days	417	308	255	563	1.35
Warner	39 days	996	532	937	1,469	1.52

WATERFOWL KILL RECORDS

Species	Summer Lake	Sauvies Island	Chewaucan	Warner Valley	Total
Mallard	1,046	1,143	217	267	2,673
Baldpate	557	1,029	28	72	1,686
G. W. Teal	520	351	9	4	884
Pintail	269	303	31	131	734
Spoonbill	170	25	5	15	215
Gadwall	73	3	10	10	96
Scaup	25	40	3	14	82
Canvasback	32	78	2	1	113
Redhead	180	3	0	6	189
Ruddy	43	2	1	2	48
Goldeneye	8	2	0	3	13
Bufflehead	16	8	2	2	28
Ring-necked	0	1	0	2	3
Merganser	10	19	0	0	29
Cinnamon Teal	3	0	0	0	3
Oldsquaw	2	0	0	0	2
Wood Duck	2	2	0	0	4
Black Duck	1	0	0	0	1
Snow Goose	407	0	59	366	832
Canada Goose	128	48	93	102	371
Cackler	129	1	74	296	500
White Front	20	0	26	148	194
Lesser Canada	15	4	3	18	40
Ross's Goose	0	0	0	6	6
Black Brant	0	0	0	1	1
Coot	144	8	0	3	155
Pheasant	789	0	0	0	789

COMPARISON OF PREVIOUS YEARS RESULTS

Summer Lake

Year	Permits Sold	Length of Season	Ducks	Poss. Limit	Geese	Poss. Limit	Success Ratio	Closing Time
1944	2,201	80 days	5,041	(30)	2,317	(12)	3.34	Sunset
1945	4,102	80 days	6,296	(20)	2,864	(12)	2.22	Sunset
1946	5,202	45 days	7,534	(14)	3,964	(4)	2.17	Sunset
1947	2,670	28 days	3,628	(8)	856	(5)	1.68	1 hr. before Sunset
1948	3,789	34 days	4,834	(10)	4,474	(5)	2.60	1 hr. before Sunset
1949	3,684	40 days	5,061	(8)	589	(5)	1.40	1 hr. before Sunset
1950	3,132	55 days	3,101	(6)	699	(6)	1.23	1 hr. before Sunset

Sauvies Island

Year	Permits Sold	Length of Season	Ducks Killed	Poss. Limit	Geese Killed	Poss. Limit	Success Ratio	Hunting Method
1949	1,665	23 days	1,896	(8)	30	(5)	1.18	80% blinds
1950	2,465	33 days	3,017	(6)	53	(6)	1.25	20% free lance 30% blinds 70% free lance

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