Twenty-Sixth Biennial Report

of the

FISH AND GAME DEPARTMENT

of the

State of Idaho

July 1, 1954 to June 30, 1956

State of Idaho
Department of Fish and Game
Idaho Fish and Game Commission

Honorable Robert E. Smylie
Governor of Idaho
State House
Boise, Idaho

Sir:

Transmitted herewith for your consideration is the twenty-sixth biennial report of the activities of the Idaho Fish and Game Department.

This report covers the period July 1, 1954 through June 30, 1956, with certain data for the last six months of 1956.

Respectfully submitted,

R. J. Holmes, *Chairman*
Ray Sims
Glen Stanger
Arlie Johnson
Tom Felton

Attest:
Ross Leonard, *Director*

Wildlife Policy

The wildlife policy of the State of Idaho has been established under the Fish and Game Commission Initiative Act of 1938, as follows:

> *"All wildlife, including all wild animals, wild birds, and fish within the State of Idaho, is hereby declared to be the property of the State of Idaho. It shall be preserved, protected, perpetuated and managed. It shall only be captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this State, and as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping.*
>
> *It shall be the authority, power and duty of said Commission to carry out the policy of the State in accordance with this Act."*

"Management of Idaho's Fish and Wildlife resources presents an ever increasing challenge to the professional worker in this field. Improved methods of harvesting fish and game, together with improved transportation, and an ever increasing number of hunters and fishermen create new problems, never found before in attempting to meet the heavy pressures being placed upon Nature's resources. The Idaho Fish and Game Department is dedicated to meeting the challenge in a consistent effort to preserve the finest of American traditions, abundant wildlife and freedom in hunting and fishing. With the cooperation of the conservation conscious people of Idaho, this can be done."

ROSS LEONARD, *Director*

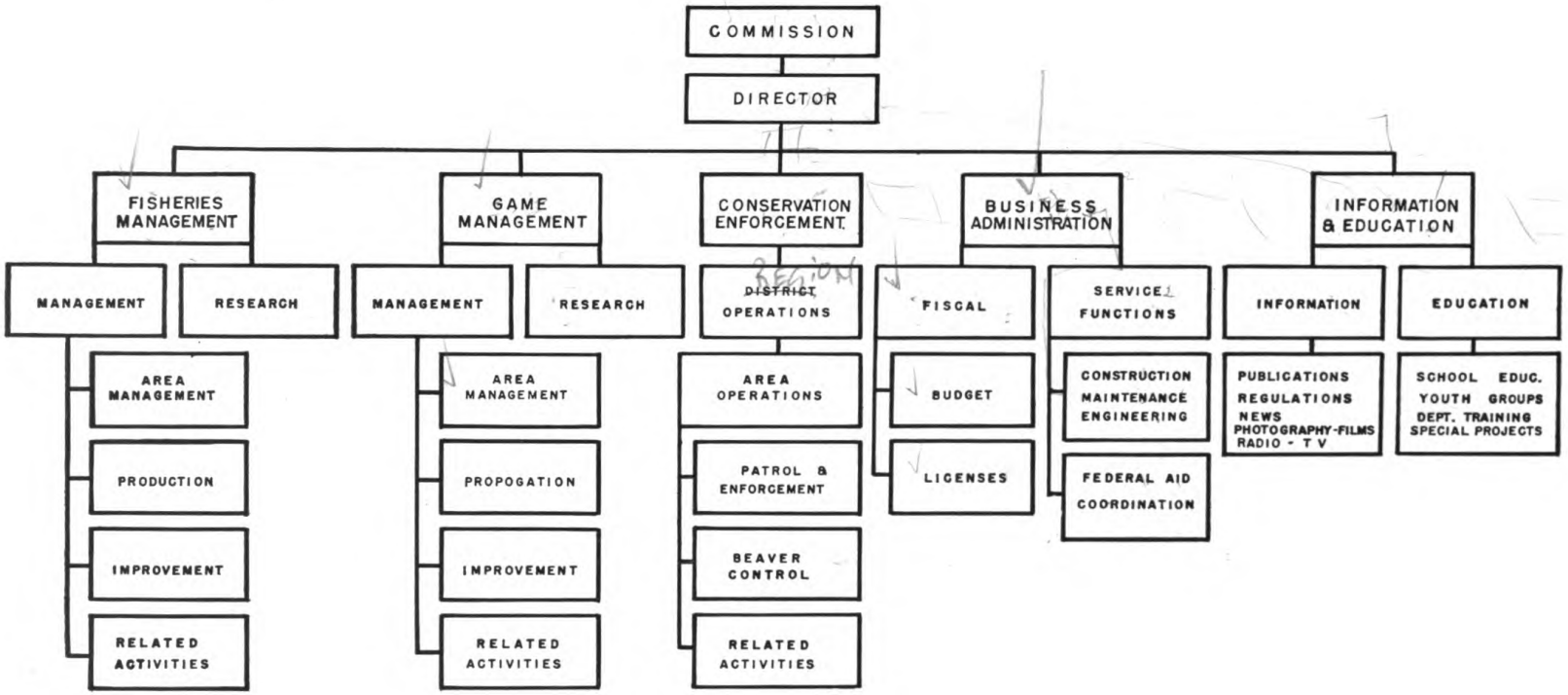
l under the

ild
by
It
id
h
h
t,
e
o
-

l
1

nts an
d. Im-
proved
fisher-
meet
Idaho
llenge
itions,
ie co-
an be

TABLE OF CONTENTS



Administration

Following the passage of the initiative act of 1938, the Idaho Fish and Game Department has operated under a five man commission in administering the wildlife resources of the state. This form of government was followed without significant change until 1953, when the legislature amended the law supporting the original act in regard to the method of removal of commissioners from office.

Commissioners are appointed for staggered terms of six years from each of five districts in the state. These districts include the following counties:

District No. 1 - Boundary, Bonner, Kootenai, Benewah, Shoshone.

District No. 2 - Latah, Clearwater, Nez Perce, Lewis, Idaho

District No. 3 - Canyon, Ada, Elmore, Owyhee, Adams, Valley, Washington, Payette, Gem, Boise.

District No. 4 - Lincoln,Minidoka, Jerome, Twin Falls, Cassia, Lemhi, Custer, Butte, Camas, Gooding, Blaine.

District No. 5 - Clark, Fremont, Jefferson, Madison, Teton, Bonneville, Bingham, Power, Bannock, Caribou, Oneida, Franklin, Bear Lake.

Members of the Commission

Members of the commission during the first part of the biennium were:

George Moody, Calder, District No. 1

Oliver W. McConnell, Grangeville, District No. 2

N. F. Raymer, Boise, District No. 3

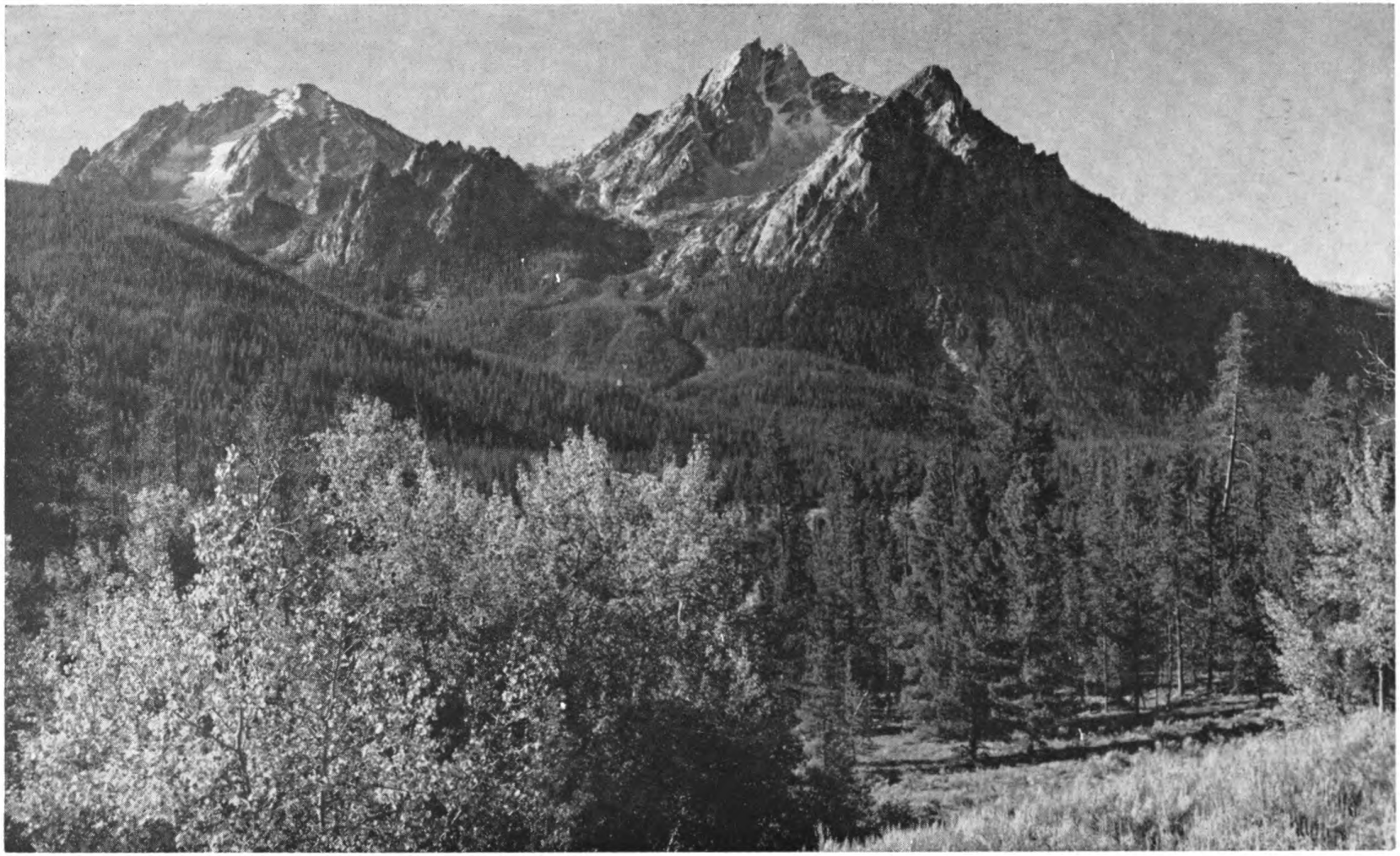
R. J. Holmes, Twin Falls, District No. 4

Glenn Stanger, Idaho Falls, District No. 5

Ray Sims, Bonners Ferry, was appointed by Governor Jordan on August 7, 1954, following the resignation of George Moody in District No. 1.

Arlie Johnson, Boise, was appointed by Governor Robert E. Smylie on March 19, 1955, following the resignation of Norman F. Raymer in District No. 3.

Tom Felton, Moscow, was appointed by Governor Smylie on February 28, 1956, following the death of Oliver W. McConnell of District No. 2.



Idaho is a state rich in natural resources. Its forests, soil, water and wildlife, are all part of a heritage that can be perpetuated by wise use, proper management, and the help of the people.

Conservation Enforcement

The primary responsibility of the Conservation Enforcement Division is impartial enforcement of the fish and game laws which regulate the harvest of fish and wildlife.

Recognizing the need for uniformity and cooperation, personnel of the division work closely with all other Department personnel in striving to give Idaho a sound wildlife management program.

Conservation officers are required to know, and evaluate, the fish and wildlife resources in their assigned areas. They conduct, or assist in conducting, surveys of game populations and distribution, range forage supplies, and general wildlife conditions. They assist in lake rehabilitation programs, keep creel census, report stream conditions and fishing results, assist in fish planting and distribution, and perform other duties too numerous to mention. They also cooperate in formulating recommendations and suggestions for future seasons, regulations and management programs.

They are required to participate in many phases of conservation information and education, including radio and television work, and programs for public schools, youth groups, civic and service clubs, sportsman organizations and other adult groups interested in conservation. They cooperate and work closely with city, county, state and federal agencies.

The goal of any conservation enforcement program is to provide maximum protection for the resources, and to develop public cooperation to the point where a minimum of arrests is necessary. It is generally agreed that the establishment of a sound program to discourage game law violations is the duty and responsibility of any enforcement agency.

It has been found that the most effective method of preventing violations is a sound and thorough educational program directed to the public, explaining why regulations are necessary. A concerted effort is being made to keep the public properly and fully informed of all rules and regulations governing the taking of wildlife.

Organization of Division

The division consists of a chief of the division, five district conservation officers and 66 conservation officers. To insure adequate protection of a natural resources and keep in step with the ever-increasing activity of hunters and fishermen, it will be necessary to increase the field staff in the future.

A definite line of authority is established in the division whereby conservation officers are directly responsible to the district conservation officer and indirectly responsible to the chief of the division. The district conservation officer is directly responsible to the chief of the division, and in turn the chief is responsible to the Director.

Equipment

Early in 1956 the Department furnished a full dress uniform to all conservation officers. The uniform consists of a hat, necktie, two shirts, one jacket, one pair of trousers and a pair of jodhpur boots. Uniforms are worn at meetings, while on assigned duty at checking stations, while attending court, etc.

During the last quarter of the biennium, approval was obtained to purchase and install a modern up-to-date two-way radio system. Repeater stations were installed on Mica Peak near Coeur d'Alene, Moscow Mountain near Moscow, Cottonwood Butte northwest of Grangeville, Brundage Mountain north of McCall, Shafer Butte north of Boise, Sugarloaf Butte east of Jerome, Baldy Mountain west of Salmon, East Butte west of Idaho Falls, and Chinks' Peak southeast of Pocatello. Forty-two mobile radio units were installed in automotive equipment and twelve portable units

purchased. The mobiles operate from car to car, or from car to repeater to car.

This modern and up-to-date installation will save the Department thousands of dollars annually, reducing travel, telephone and telegraph and subsistence expense, as well as to provide more efficient supervision of field personnel.

The radio system plays an important role in the enforcement program. Many habitual law violators have been apprehended by the use of the system, but most important of all is the psychological effect produced in the prevention of violations. The frequent use of radio in aircraft to car operation, has greatly increased the efficiency of the program.

Report of Arrests and Convictions

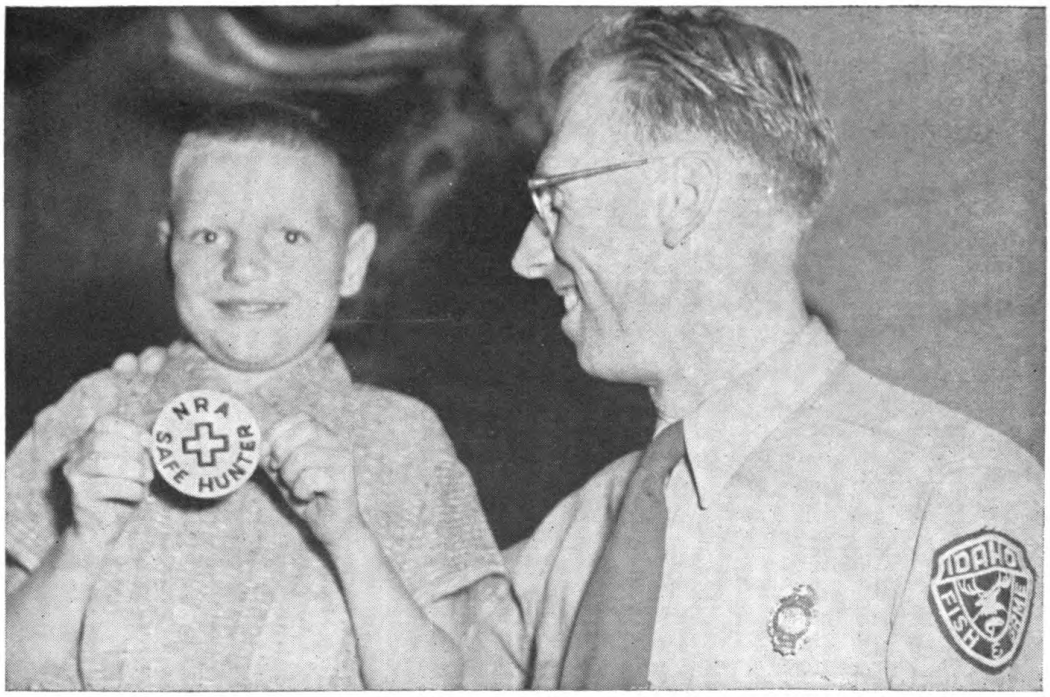
In 1955, the legislature amended the law pertaining to remittance of fish and game fine money. The amendment now requires that the judge remit one-half of all fine money to the Department, and the other one-half to the county treasurer who apportions one-half to the county school fund, and one-half to the county general fund.

During the fiscal year of July 1, 1954 to June 30, 1955, a total of 1091 arrests were made and 1073 convictions obtained. A total of $30,540.20 was collected by county treasurers, who in turn remitted one-half, or $15,270.10, to the Department.

In the fiscal year of July 1, 1955 to June 30, 1956 a total of 1006 arrests were made with 936 convictions obtained. A total of $25,760.50 was collected by the county treasurers, of which one-half, or $12,880.25 was remitted to the Department.

During the biennium 2097 arrests were made for game law violations, with 2009 convictions obtained. Fines assessed amounted to $56,300.70 of which one-half or $28,150.35 was to be remitted to the Department.

The following table shows a breakdown of violations for each month during the biennium.



Conservation enforcement officers participate in many activities—in this instance, working with youngsters to provide Hunter-Safety training.

Type of Violation

1954	Fishing	Big Game	Upland Birds	Water Fowl	Licenses	Misc.	Trappers Delinquent with Reports	Checking Station Violation
July	61	5	1		61	1		
August	31		6	1	45	3		
September	32	18	14	1	33	4	7	1
October	6	73	22	7	24	12	3	12
November	4	23	21	19	13	12		29
December	4	11	6	76	8	4	3	32
1955								
January	8	5	2	29	13	7	8	7
February	11	7			7	2	14	3
March	8	6	2	2	6	2	1	
April	12	7	3		5	5		
May	32	2			7	1		
June	49	10			4	3		
July	64	3	1	1	19	11		
August	64	8	5	1	42	5		
September	36	14	3		22	2		1
October	17	57	16	17	45	12		10
November	1	43	14	25	14	19	7	17
December	1	19	4	37	10	2		20
1956								
January	4	8		14	18		1	1
February	4	1	3	1	28	1		1
March	12	1	1		12			1
April	19			1	16	2		
May	31		1		18	6		
June	39	2			46	4		
TOTAL	550	323	125	232	516	120	44	135

The beaver caretaker trapper program enacted by the legislature in 1945 was continued. Extreme low prices for beaver skins have made it difficult for the caretaker trappers to harvest surplus beaver, as well as transplant complaint beaver to suitable habitat, when the fur is not prime. If beaver skins continue to sell at such low prices, a change in the law will be necessary to enable the Department to assure adequate control of this species in agricultural areas and other situations where its activities are damaging to property.

A summary of beaver taken and receipts for the biennium is as follows:

Number of Beaver Pelted and Value of Skins Sold

Season	Class A Trappers	Class B Trappers	Salaried Trappers	Conservation Officers	Total	Receipts Sale of Skins
1954-55	753	8,258	109	277	9,397	$123.767.36
1955-56	271	7,077	215	10	7,573	$ 69,358.15

Distribution of Receipts from Sale of Beaver Skins

	1954-55	1955-56
Total Receipts	$123,767.36	$69,358.15
Trappers' Share (75%)	89,342.68	50,829.18
State's Share (25%)	34,424.68*	18,528.97

*State receives full value of skins taken by salaried trappers and conservation officers.

1955-56 trappers' bids were placed on 31 skins, State share was $88.75.

Idaho lakes provide outstanding scenery, recreation, and good fishing.

Information and Education

Activities in the division continued to expand during the biennium. Not only did the demand for the regular services increase, but new projects were entered into in cooperation with sportsmen of the state, such as the Landholder-Sportsman Relations Council and a statewide hunter safety program. Information and education work in the department was accelerated in cooperation with the various divisions to keep the public completely informed concerning the projects and programs needed for the proper conservation of Idaho's valuable wildlife resources.

Under the information section, the work was organized along definite lines as follows:

1. Maintenance of a central office news service.
2. Publishing of a bi-monthly magazine, THE IDAHO WILDLIFE REVIEW.
3. Publishing various information and educational pamphlets, bulletins, and circulars.
4. Publishing of regulations and legal notices.
5. Production of a statewide radio program.
6. Operation of a film-loan library on wildlife subjects.
7. Maintenance of a photographic file, including moving picture film production.

Educational work in the schools and sportsmen's clubs was strengthened with the addition of a field man for northern Idaho. The lecture-exhibit type of school program was given to many more schools in addition to filling in the gaps with coordination work between the department and northern Idaho people interested in wildlife conservation. The idea of using a field man trained in I & E work, has been proven quite worthwhile and it is hoped to expand this service to other parts of Idaho in the future.

Conservation education was also taken to various youth organizations and clubs, particularly in the summer camps throughout the state. In addition special assistance was given to the state's school teachers through the fifth and sixth summer conservation workshops conducted in cooperation with sportsmen, private industry, and the state's colleges.

The second and third annual in-service-training schools were held at the Farragut wildlife management area near Lake Pend Oreille. The three day schools were in the nature of an administrative conference, and featured sessions in game and fish management, law enforcement techniques, and general information and education subjects. All field and staff personnel were required to attend.

District personnel meetings were continued three times each year. Recommendations for the various seasons were discussed at those meetings as well as a discussion of the over-all program and policies of the department. All personnel in the district are required to attend so that every department worker is fully informed on the activities of the entire department.

In addition to the regular activities of the I and E division, the staff personnel made approximately four hundred appearances before various groups for the purpose of explaining various phases of the department's fish and game management programs. Among these were service clubs, sportsmen's clubs, archery clubs, PTA's, lodges, and similar organizations.

Hunter Safety

During February, 1956, a series of five hunter safety clinics was held in the five enforcement districts to initiate a statewide hunter safety program. As a result, almost 300 National Rifle Association Hunter Safety Instructors were qualified.

Hunter-Safety clinics were conducted by the Information and Education Division to train instructors as a part of a statewide program.

Following initiation of the program, follow-up efforts were made by field men of the department, coordinated by staff personnel of the I & E division. The results were quite gratifying and by the spring of 1956, sportsmen's clubs and schools all over the state were giving the regular NRA hunter safety course to junior hunters.

A system of county chairmen for the program was established and plans were made to carry the program into every school and community in the state.

Landholder-Sportsman Relations

In the fall of 1954, a series of meetings was held with various interested sportsmen to figure out a way to improve farmer-sportsman relations. Various ideas were brought together at a meeting of landowner groups and sportsmen called by the department director on October 13, 1954. The representatives selected the name, Idaho Landholder-Sportsman Council, and named Walter Little, New Plymouth farmer and sportsman as its chairman and the department's I & E chief as secretary. The council discussed the program from various angles and made recommendations for an active publicity and educational campaign. Several meetings were held during the rest of the biennium to survey the results of the program and to suggest new ideas for improvement. The following things were done:

1. The standard "Hunting By Permission" sign was distributed and printed in practically every newspaper in Idaho, along with a discussion of the council's objectives.
2. All sportsmen's clubs were circulated with the objectives of the council and asked for cooperation to put the program into operation.
3. Publicity regarding the council's program was circulated to radio and television, a radio program being taped and rebroadcast over Idaho stations.

4. All field men of the fish and game department were asked to cooperate with the council in making the "Hunting By Permission" program successful.
5. Other newspaper releases were given to all newspapers of the state citing the trespassing laws and asking for cooperation of sportsmen.
6. Mats were furnished to several newspapers and printing companies in the state so that local landholders and sportsmen could obtain the signs at a nominal cost, and to encourage use of the uniform sign design.
7. "Hunting By Permission" signs were distributed to many farmers from the headquarters office at Boise.

Information

The Division's information services included handling thousands of telephoned and written inquiries and requests during the biennium, in addition to the regular news service to newspapers, wire services, radio and television stations, and other news and feature outlets.

Routine written inquiries numbered 8456, and 14,695 information leaflets were used in replying to these letters. (This does not include information inquiries of a more technical nature which were answered by other department personnel.) Telephone requests and inquiries are not tabulated.

The news service prepared and mailed 1280 news stories covering seasons, regulations, department programs and activities, and other developments on the wildlife scene of interest to sportsmen and others concerned with the welfare of Idaho's wildlife resources. Illustrations were furnished in mat form to weekly papers, and in glossy photograph form to the larger daily newspapers, about three times each month. Additional stories were furnished to the newswire services by telephone or personal contact to rush spot news to the public as soon as possible. Acceptance of this material is indicated by a "usage" record of 15,929 clippings from Idaho daily and weekly newspapers during the biennium. No record is kept of usage outside the state, though the service does go to a number of outside newspapers and other publications who request the service and use it regularly.

The mailed news service was also furnished to 60 radio stations and 94 institutions, individuals and more distant publications demonstrating an appropriate need for the material. Radio and TV spot announcements were frequently furnished on a public service basis for special purposes such as hunter safety, courtesy, etc.

Information and photographs were assembled on request for writers of special articles and for numerous directories, maps, general references and other outside publications.

National Wildlife Week was again promoted by the division, in cooperation with its state sponsors, the Idaho Wildlife Federation. Officially opened by a proclamation by Governor Robert E. Smylie, the week was marked by special exhibits, programs and publicity, and "open house" observances at department facilities.

Publications

The *Idaho Wildlife Review,* official publication of the department, is issued every-other-month. It is mailed free to Idaho residents. A charge of $1.00 per year is made to non-residents.

Subscriptions increased slightly during the biennium with approximately 15,000 copies being mailed each time. Several hundred copies go to other state agencies and to several foreign countries. Extra copies are distributed at fairs, meetings and exhibits around the state.

Publishing costs have remained stable during the biennium with a

slight increase in mailing fees. Other costs such as photoengraving, photo prints and artwork, have remained at the same level as the previous biennium.

Approximately 100 thousand reprints of one page sheets of Idaho birds and animals, have been made available to schools, youth groups, exhibits and the general public during this period. These are punched for insertion in standard loose-leaf binders to facilitate classroom work.

Approximately 75,000 single page leaflets, detailing proper care of game animals in the field, were distributed throughout the state in an effort to educate the hunters on the proper method of caring for game after it is killed.

The *Mountain Lakes of Idaho* booklet has been completely revised and corrected and eight new fishing areas have been added. This publication has been very popular with the fishing public and 25,000 copies were printed. This supply should last for several years.

Approximately 5000 hunting safety posters were distributed and nearly 50,000 small leaflets dealing with safe handling of firearms. Several thousand books and leaflets dealing with the Hunter-Safety program were obtained and distributed to help get the training classes organized.

A 150 page bulletin of study and research information gathered on the mountain goat in Idaho, was published during the biennium. Four thousand copies were printed and have been made available to interested sportsmen, schools, libraries, technical workers and other agencies.

Preliminary work has been completed for publication of a bulletin to be titled YOUR GAME DEPARTMENT. This will deal with department operations, wildlife management, study and research work and the animals, birds and fish of the state. Plans call for this to be issued sometime in 1957.

Other publications included game and fish seasons and regulations, upland game bird and waterfowl regulations and trapping seasons. In addition single leaflets were prepared providing information regarding salmon and steelhead fishing, and some of the flora and fauna of Idaho.

Photography and Films

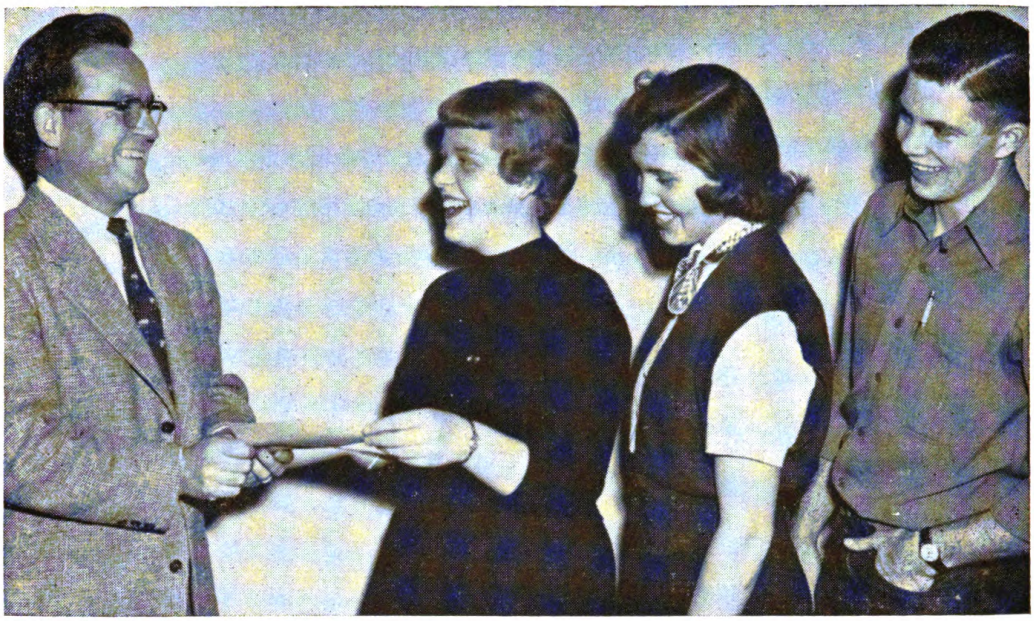
Requests for wildlife and conservation films have increased during the biennium. In addition many more showings have been made by Conservation Educators in connections with their school work, and by other I & E personnel at numerous sportsmen's, civic clubs, youth groups and other meetings. Approximately 3,000 films were shown during the biennium by these methods.

Additional films have been purchased to comply with these requests. Some are prints of films produced by the Fish and Game Department and several other subjects have been acquired from other wildlife agencies.

A 28-minute sound and color film titled *We Are All Neighbors* was produced in cooperation with the Portneuf Soil Conservation District. This picture deals with the importance of soil and water conservation, proper land uses and the place of wildlife in connection with modern land management.

Filming has been completed for a 13½-minute sound and color reel dealing with chemical treatment of lakes and reservoirs to eradicate fish as a management operation with the film to be finished in 1957. Filming is continuing on a subject dealing with all phases of field care of game meat. This will include identification of several bird and fish species together with proper methods of handling and caring for game to prevent any loss.

Work has started on a film dealing with the rare Trumpeter swan. This important species has been under close protection and this film will be directed toward additional identification to management and year around existence of these waterfowl.



Idaho students receive awards for prize-winning essays on conservation. Nine national awards were won by Idaho youths during the biennium.

Some film stock shot material has been gathered during the two-year period and still photographs have been added to the department library. In addition to photographs used by the department for publications, many photos were furnished to newspapers, writers, illustrated publications and upon individual request.

Public School Contacts

During the biennium the department's information and education division maintained an active program of school contacts to acquaint the public with the problems of wildlife management and the value of our wildlife and related natural resources.

In the period, an additional man was placed in the field to step up the volume of these education school contacts. Between September, 1954, and May, 1956, these field men made 426 school appearances, with approximately 92,000 students and teachers reached. Programs included movies and discussion of Idaho wildlife, and natural resources conservation. A feature of these sessions has been a traveling collection of wall charts, mounted game birds, birds of prey and other forms, as well as skins and hides of Idaho's big game, furbearers and predators.

Lists of references and teaching aids are left in teachers' hands following these assemblies, and wildlife leaflets describing many kinds of birds and mammals found in Idaho are distributed to students.

Youth Summer Camp Education

Scout and 4-H camps, and church youth groups are visited by department field men during summer camping periods with the same type of educational programs that are taken to schools during the winter seasons. Approximately 6,000 boys and girls were reached at 37 youth camp sessions. These contacts included the showing of conservation-type films where camp facilities permitted, nature trail identification of living forms about camp, and discussion of the department's exhibit of Idaho wildlife.

Summer youth camps are visited by department personnel with wildlife education programs each year.

National Programs for Youth

In the Fall of 1954 the I & E division participated in promotion of two national youth programs: The Young Outdoor Americans project sponsored by the Izaak Walton League of America, and, the Conservation Essay Contest for school students of high school and junior high school age.

Working with sportsmen's clubs and other interested conservationists, the division led in organizing for an Idaho YOA program. In February, 1955, 34 selected boys and girls convened at Boise to study about the state's natural resources problems. These delegates chose one of their number to represent Idaho youth at a national convention at Chicago where youths from all the states met as the guests of the Izaak Walton League to continue the study of the resource use problems in a three-day convention.

In the statewide conservation essay contest, sponsored by the Idaho Wildlife Federation at the state level, hundreds of Idaho school students submitted entries from which six top essays were selected for participation in the national contests in 1955 and 1956.

Results of the two years' participation by Idaho school students were favorable. In 1955 Idaho won top national honors in the senior high division with additional winners in third place and in the honorable mention class. In the junior high division Idaho students took both second and third places in the national, for a total of five winning essays in that year.

In 1956 Idaho youngsters took four of the top awards, placing second in the nation in the junior high division, and winning honorable mentions and awards in both senior and junior divisions.

The I & E Division worked closely with the schools in assisting student participation in this contest, providing reference materials and assisting in the judging at the state level.

Conservation Workshop Program for Teacher Training

This biennial report covers the two summer sessions of 1955 and 1956, including teacher enrollment and an accounting of cash sponsorship for teacher scholarships for these two summer periods.

The Workshop program has been endorsed by the Idaho Wildlife Federation. Sportsmen and other interested conservationists and organizations in many parts of the state have supported the plan with cash for teacher scholarships since 1950. Teachers preparing to teach about the natural resources of the state and nation have been subsidized in the 1955 and 1956 summer sessions at Idaho schools with cash scholarships in amounts ranging from $25 to $50 each. The list of sponsors providing these funds in the current biennium is presented:

Ada Co. Fish & Game League....	$ 150.00	Jefferson Co. Sportsmen's Ass'n.	$ 75.00
Bannock Co. Sportsmen's Ass'n.	75.00	Madison Co. Fish & Game Ass'n.	150.00
Capitol Sportsmen's Club	25.00	Moscow Wildlife Ass'n.	125.00
Coeur d'Alene Wildlife Fed'n.....	150.00	Payette Lakes Wildlife Fed'n.....	75.00
Elmore Co. Sportsmen's Ass'n.....	75.00	Shoshone Co. Sportsmen's Ass'n.	75.00
Franklin Co. Fish & Game Ass'n.	50.00	So. Idaho Fish & Game Ass'n.....	150.00
Gooding Rod & Gun Club	37.50	Spirit Lakes Sportsmen's Ass'n.	50.00
Hayden Lake Fish & Game Ass'n.	25.00	Twin Falls, Ida. Outdoor Ass'n.	25.00
Homedale Rod & Gun Club	10.00	Nat'l Wildlife Federation	1,750.55
Benewah Soil Cons. Dist.	75.00	Portneuf Soil Cons. Dist.	75.00
Boise-Payette Lumber Co.	300.00	Potlatch Forests Foundation	600.00
Boundary Soil Cons. Dist.	75.00	Statesman Newspapers	150.00
Gooding Soil Cons. Dist.	37.50	Utah Power & Light Co.	300.00
Idaho Power Company	300.00	Washington Water Power Co.....	250.00

Wood River Soil Conservation District $5.00

A total of 100 Idaho teachers were enrolled in the Workshop courses at five schools; Boise Junior College, College of Idaho, Idaho State College, University of Idaho and Ricks College, in the two summer sessions of 1955 and 1956. These received special training and scholarship awards.

In addition, an attempt to achieve wider contacts with summer school students was made at Idaho State College by integrating conservation teaching materials in a number of regular summer courses open to teachers. Approximately 200 teachers each year received benefit of lectures on resource use by visiting specialists from various conservation agencies. The department's I & E division assisted in planning the Workshops, and other training programs at the schools.

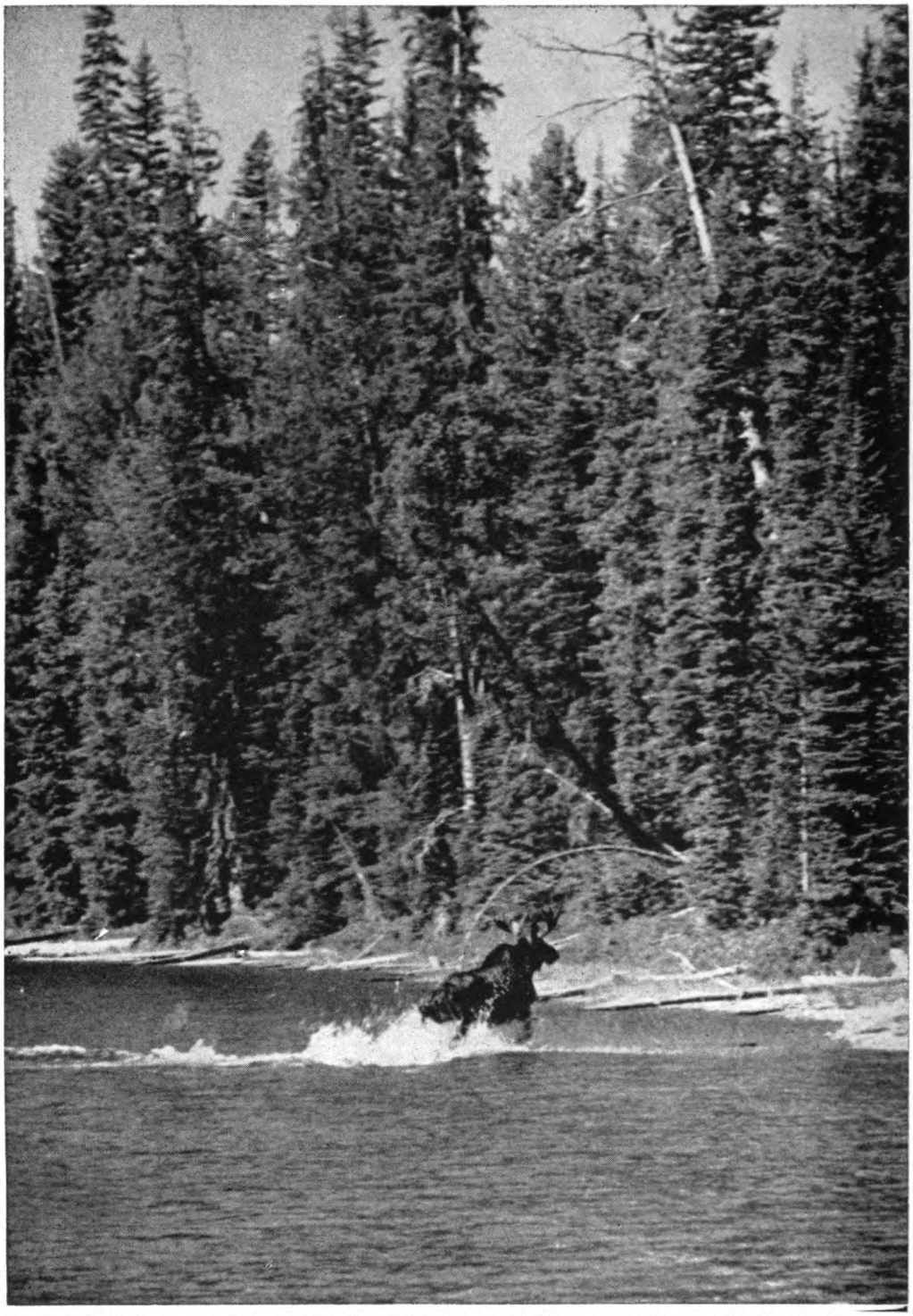
School teachers were supplied with a variety of teaching aids on conservation subject matter by mail, and by personal contact, at the five fall teacher conventions where stacks of reference materials, pamphlets and leaflets on the subject were made available in the convention halls.

In the fall of 1955 the division was able to secure the appearance of a well known national conservationist as featured speaker at three of the Idaho teacher conventions. Dr. E. Laurence Palmer, Cornell educator and trainer in conservation teaching methods, addressed approximately 2,500 Idaho teachers. This was in line with department objectives to keep the public aware of the need for proper use and appreciation of the natural resources.

State Fair Exhibits

The department's fair exhibit space at the Boise fairgrounds was expanded in 1956 to accommodate the increased number of exhibit items. This fair and the one at Blackfoot has been attracting an estimated 75,000 to 100,000 people each year. Center of attraction at these exhibits seems to be the glass fish tanks in which is displayed a variety of game, food and other fish found in Idaho waters. Other live game and furbearers, and mounted specimens add to the interest of these exhibits.

Department field men of the I & E Division, as well as game biologists and conservation officers also assist at county fairs, supplying exhibit items and equipment as well as man hours of time in meeting the public and explaining facts about the resource, and supplying printed matter on wildlife resources.



Wildlife must be managed so that populations can be maintained in numbers compatible with other land use, and to furnish a maximum number for public hunting.

Game Management

A major accomplishment during the biennium has been in acquainting the general public with the game management program and the basic factors which are involved in producing game for hunters to enjoy and utilize.

The objective of game management is to manage the wildlife of the state so that populations of desirable kinds of wildlife can be maintained in numbers compatible with other land use, to the end that as much game and fur as possible may be available to the public for harvest through hunting or trapping. Since wildlife is an annual crop, this job requires that survey work be repeated year after year, or season after season, so that regulations concerning the take by hunting and trapping can be based on current conditions. Organizing the results of such work and making suggestions and recommendations concerning forthcoming seasons is a major job of this division.

Much of the game management work is accomplished through Federal Aid in Wildlife Restoration (Pittman-Robertson) projects.

Field investigations conducted in Idaho and many other states have shown that wildlife for public hunting or trapping can be provided only if the conditions required by the animals themselves are found on the land concerned. Hence, present-day game management is directed towards maintaining healthy, productive conditions on the ranges, and in the marshes, fields, forests, and other habitat used by game and fur species. An abundant supply of game is the result of good conditions on the land, and a major job of the department is to foster good land management or maintenance of good habitat.

The following six items point out briefly some of the more important results in terms of management procedures which are based upon the findings of continuing field investigations:

1. **Greater uniformity in opening dates of hunting seasons has resulted in better distribution of hunters.**
2. **Upland game bird seasons now tend to follow the pattern of pheasant seasons. Other game birds receive considerably less hunting pressure than pheasants. Hence, hunting most other birds concurrently with pheasants provides additional recreational opportunity without endangering the bird populations. Considerable progress has been made in acquainting the hunting public with the excellent forest grouse and chukar partridge hunting which is available.**
3. **Studies on costs and results of game bird farm operations have proceeded. Results from these studies show the importance of quality habitat in producing wild birds to be hunted, and suggest that the future place of game bird farms is likely to be largely for experimental and "insurance" purposes.**
4. **General open seasons have replaced special hunts for both deer and elk in many areas. This has simplified administration of the hunting seasons and has given the hunting public additional opportunity to become better acquainted with the hunting possibilities over the state. The take of both deer and elk in 1955 was believed to be the highest in Idaho's history.**
5. **Continued hunting, plus inventory work, with moose, bighorn sheep, and mountain goat, gives further evidence of the importance of annual hunting seasons as a part of a sound management program. Properly harvested herds are reproducing satisfactorily, and future hunting seems assured for these species as well as for the more numerous kinds of big game animals.**
6. **Despite deep snows in the winter of 1955-56, big game herds wintered well. Winter studies have revealed numerous areas in**

which herds subsisting on natural forage withstood the winter better than those herds where artificial feeding was done. With proper harvesting of animals in ranges contributing to critical winter areas, it appears that artificial feeding can be largely abandoned excepting in extreme emergencies in localized areas.

The individual kinds of activities of the division are reviewed below under the various appropriate headings.

Big Game

Big game population, harvest, and range studies were continued during the biennium under Federal Aid Project 85-R. New techniques in addition to experienced methods were used to obtain information helpful to the perpetuation and efficient management of the big game herds. Game biologists, district and local conservation officers, fisheries biologists, and Department personnel from every division assisted for various periods. Such cooperation has been extremely valuable in carrying out the big game work program.

Joint effort with the Idaho Cooperative Wildlife Research Unit has accomplished field study work regarding the status of portions of the Owyhee antelope herds and the use of salt in management of elk and other wildlife in the lower Selway River drainage.

Two publications, "The Bighorn Sheep in Idaho, Its Status, Life History, and Management," by Dwight R. Smith and "Life History and Management of the Mountain Goat in Idaho" by Stewart S. Brandborg were completed. They include information obtained during the investigative studies conducted previously.

Deer

Deer hunting attracts more participants than any other species of big game in Idaho. In 1953, the big game hunter questionnaire was instigated and continued for the 1954 and 1955 seasons, to obtain additional information on big game harvest and hunter success. This has provided greater accuracy in obtaining statewide harvest, hunter success, and hunter distribution data. Statistically, the total statewide game harvest will exceed an accuracy of 95 per cent. Comparing the checking station recorded kill with those of the questionnaire for the special hunts in 1954, there was less than one-half of one percent difference in the totals.

Statewide Deer Kill, Hunter Participation, and Success

Hunting Season	Big Game License Sales	Deer Tags	License Buyer Killing Deer	Hunter Success
1954	175,419	103,702	51,463	49%
1955	168,233	106,840	65,056	59%

The non-resident deer kill for 1954 was approximately one percent of the total harvest. About 59 percent of the total hunters were successful.

Resident special deer hunt participants were about twice as successful as those on the general hunts.

Of special interest the past two years were investigations concerning the deer which cross the Boise River and Mores Creek to lower winter range. At least 1,710 deer crossed between December 10, 1954, to February 1, 1955. This does not include those going back and forth. For the 1955-56 migration study, the major deer migrations began about November 19, 1955, and ended about December 19, 1955. At least 2,096 deer crossed, not including those crossing back.

Deer trapping operations near Boise on the Highland Valley Winter range from January 23, 1956, to March 27, 1956, resulted in the tagging of 66 deer for further study of the migration habits and route of the Boise deer herd utilizing this range. Information from this work will be useful in planning management in later years when the impoundment created by Lucky Peak Dam may have considerable effect upon this deer herd.

Elk usually congregate in herds during the late winter months. The herds are becoming more widely distributed throughout Idaho.

Elk

This species is the attraction for the greatest number of non-resident big game hunters to Idaho. The American wapiti, or elk, kill has shown a marked increase during the biennium. The herds are becoming more widely distributed with additional sections of the state supplementing the statewide harvest.

Statewide Elk Kill, Hunter Participation, and Success

Hunting Season	Big Game License Sales	Elk Tags	License Buyers Killing Elk	Hunter Success
1954	175,419	48,201	12,386	25%
1955	168,233	50,757	15,799	29%

For the 1954 season, 62 percent of the non-residents hunted elk only, with 27 percent hunting both deer and elk, and 11 percent hunting deer only. They harvested approximately 12 percent of the elk. The non-residents hunting elk reached a success of 48 percent and the residents about 23 percent, the difference in success being due principally to the greater proportion of non-residents hiring packer and guide service to take them to the better hunting sites.

Moose

Since 1946, permits have been issued for the harvesting of a limited number of moose each year. For the area hunted in Southeast Idaho, the average annual winter census for the 1949-1954 period was 555. Five hundred ninety-six were observed during the 1955 census. Since 1949 the census trend has shown a gradual increase in moose numbers. During the biennium, hunts for a limited number of mature bull moose were conducted in Idaho County also.

Summary of Moose Hunts

Season	Units	Permits Authorized	No. of Applicants	KILL				Participating Hunter Success
				Bulls	Cows	Calves	Total	
1954	11	126	897	60	36	9	105	84%
1955	18	136	858	68	31	9	108	81.8%

The hunting units in Southeast Idaho are a great deal more accessible than those in Idaho County. Also the taking of either sex was permitted, which would contribute to the high hunter success of 90.5% for the 1954 and 1955 seasons, against 56% in Idaho County, where only mature bulls were legal.

Mountain Goat

Rocky Mountain goats are found in portions of the mountainous terrain north of the Snake River plains to Canada. The vast majority of their numbers are found in the Sawtooth, Salmon River, Bitterroot, and Selkirk Mountain Ranges. Their present population is estimated at 2,785.

During the biennium a limited number of permits were issued in specified areas. As with some other species of big game, one of the important problems confronted in the management of mountain goats is obtaining a proper harvest of the annual increase from the inaccessible herds, and not depleting the herds within easy access to the majority of hunters. General hunts are preferred where they can be held without depleting the herds. In order to prevent improper harvesting and to obtain a more equitable hunter distribution, the permit system was used.

Summary of Mountain Goat Hunts

Season	Units	Permits Authorized	No. of Applicants	KILL			Participating Hunter Success
				Billies	Nannies	Total	
1954	14	62	76	10	11	21	58%
1955	14	62	94	14	13	27	59%

Rocky Mountain Bighorn Sheep

Management of the Rocky Mountain Bighorn Sheep during the biennium has been similar to that of the mountain goat on a permit basis. For the range they presently inhabit, their numbers on a statewide basis appear to be at one of the higher levels during the past 40 years. Estimated population to date is 2,500. The Salmon River watershed contains over 95% of the bighorn sheep in Idaho. Their lowest numbers were believed to be in the 1920's and early 1930's.

It is good management, and wise use of this resource, to harvest a portion of the herds annually, especially those herds which are at the capacity of the range to sustain them. Overstocked ranges increase the chances for disease and parasitism generally followed by heavy losses.

Summary of Rocky Mountain Bighorn Sheep Hunts

Season	Units	Permits Authorized	No. of Applicants	KILL	Participating Hunter Success
				3/4 Curve Rams	
1954	7	50	100	13	32%
1955	7	50	118	21	44%

Bear

Grizzly bears are so scarce in Idaho that a closed season has been in effect in an effort to prevent their extinction. Grizzlies are found in the more inaccessible and timbered areas.

The black bear are found almost statewide but are most plentiful in the more scarcely populated, timbered, and mountainous terrain. A year-long season was held in all except the five northernmost counties, where a season from September 1 to November 30 each season was held. Approximately 2,600 bear were believed to have been killed each season during the biennium.

Bison (Buffalo)

Fremont County contains the only group of wild ranging buffalo in the state. They are believed to be herd bulls from the Yellowstone herd. During the 1954 and 1955 winters there were four, and seven, buffalo observed.

They winter in the vicinity of the former Porcupine C.C.C. Camp site near Fall River Ridge, which is located just south of the road leading to Cave Falls in the southeast corner of Yellowstone National Park. Bison have little respect for fences, and only a small group can be maintained here under present conditions. The Department has been feeding them during part of the winters to keep them in the forest and out of private lands.

Antelope

Antelope are principally found on the arid Snake River plains and adjacent mountain valleys and plateaus in Southern Idaho. Because of the more open range the antelope prefer, they are one of the most easily observed of the big game species. This characteristic also makes them more vulnerable to the hunters. Even so, their speed alone makes them a more difficult target than sometimes anticipated, as many hunters will substantiate.

They have been hunted annually during the biennium but only a designated number were permited to be taken. In an effort to let as many different hunters participate in the hunts as possible, those having obtained permits for either of the previous two seasons were ineligible to apply. Investigative work is being conducted in an effort to determine the most efficient management practices applicable to our antelope herds.

Summary of Antelope Hunts

Season	Units	Permits Authorized	No. of Applicants	KILL				Hunters Participating	Hunter Success
				Bucks	Does	Fawns	Total		
1954	12	1,440	3,254	579	275	116	970	1,281	76%
1955	12	1,390	2,937	445	253	124	822	1,277	64%

Protection of Stacked Crops from Big Game Depredations

Both deer and elk, under severe weather conditions, bother stacked crops of land operators in some areas. To assist land operators in protecting their property, the Fish and Game Department has been supplying panels which can be placed around stacks. In 1956 these panels were available on a 50-50 basis, the Department supplying half and the land operator half, with installation and maintenance ordinarily done by the land owner.

Deer Trapping and Transplanting

From December through March, in the 1954-55 winter, 63 white-tailed deer and one mule deer were trapped and tagged at the Farragut Wildlife Management Area and released along the South Fork of the Snake River in Jefferson County in an effort to re-establish white-tailed deer in this

watershed. White-tailed deer are reported to once have inhabited portions of the cottonwood and willow bottomlands along the Snake River. The 64 deer transported to the new site consisted of 20 mature does, eight mature bucks, 23 doe fawns, and 13 buck fawns. Twenty-three additional deer were trapped, tagged, and released at the trapping site.

In January and February of 1956, a total of 44 white-tailed deer were trapped and tagged at Farragut. Twenty-seven of these were released in the Spirit Lake and Priest Lake areas, and 17 were tagged and released at the tagging site.

Deer trapping at Farragut in the biennium was done via Federal Aid Projects W-75-D-8 and W-103-D-3.

Big Game Salting

The placement of salt on designated portions of big game range was continued during the biennium but on a reduced scale. Investigative study was conducted regarding the need and results obtained from this salting effort. Salt distribution was financed partially through Federal Aid Projects W-114-D-1 and D-2. The salt is generally placed during the months of April and May by aircraft when a minimum of human activity is at hand on the big game range.

Salt Distribution

Year	Ground Placement	Aerial Placement	Aerial Cost	Total Placement	Expenditures
1955	25,000 lbs.	174,000 lbs.	$ 5,800.10	199,000 lbs.	$ 8,989.00
1956	17,750 lbs.	139,000 lbs.	4,927.20	156,750 lbs.	7,574.15
Total for biennium	42,750 lbs.	313,000 lbs.	$10,727.30	355,750 lbs.	$16,563.15

Clearwater Game and Range Investigation

The Clearwater Game and Range Investigation has been in progress for two years. It was initiated by the Idaho Fish and Game Department in October, 1954 under Federal Aid Project 112-R.

The broad objectives of this study are to attempt to obtain as much additional information as possible on the changing factors which affect management of the big game herds in this area. Emphasis has been placed on obtaining information on one possible future variable: the effect that future reservoirs created by proposed dams will have on big game populations. Two dams in particular, Bruce's Eddy and Penny Cliffs, have been proposed for the Clearwater drainage. In addition, a number of others have been suggested from time to time.

Four basic approaches are being used. The first is to determine the distribution of the principle three big game species, elk, whitetailed deer, and mule deer, in the project area during the winter concentration months. Helicopters are being used successfully for winter census work. This is the first time that helicopters have been used as a census tool on a broad scale in the field of wildlife management. The second approach is to record the distribution of the major browse fields created by past fires and logging activities in the project area and particularly on the big game winter ranges. The third approach, in conjunction with the second, is to record by occular quantitative methods the stage of plant succession and the species composition in the logged and burned areas, particularly in the proposed pool areas. The fourth approach is to gather information concerning the distribution and the kill of big game during the hunting seasons.

By correlating this information, it will be possible to determine the percentage distribution of the various big game herds in relation to their location, food supply, and in general, the degree to which they are being harvested. At the present time the North Fork of the Clearwater River

drainage has been censused and most of the logged and burned areas for this drainage have been recorded. One year's harvest data for the entire area has been collected and analyzed and all of the summer work, with local exceptions, has been completed.

Game range studies form an important part of management work in Idaho. This bitterbrush plant is on the South Fork of the Payette River winter range.

Big Game Range Rehabilitation Studies

In 1949 the Idaho Fish and Game Department and the Intermountain Forest and Range Experiment Station of the United States Forest Service cooperatively initiated a series of investigations to determine the feasibility of artificial planting as a method of improving forage production on depleted big game winter ranges. This work has been done under Federal Aid Project W-111-R.

The results of these early studies were encouraging. They indicated that such artificial treatment could indeed bring about material improvement in range condition, but several obstacles to establishment of forage plants were encountered. Two years ago, to expedite the solution to problems that became apparent as a result of the preliminary studies, the two agencies agreed to expand the program. The Department now finances a game biologist who spends full time on the project.

The work has been confined largely to the critical winter ranges of the Boise River and Payette River deer herds. The Middle Fork of the Salmon River is within the range of applicability of findings, and with some phases of the study the results would apply on several other southern Idaho game winter ranges.

THE RANGE

A decline in production of browse, the most important feed of big game in winter, occurred on the winter ranges in the Boise and Payette River drainages as a result of heavy insect infestations in the early 1940's. Today, large segments of these ranges are so devoid of browse that there is little likelihood of rehabilitation through natural regeneration. The game herds are only a fraction of their former numbers, and the animals come through normal or severe winters in poor shape. The potential capacity of the ranges is indicated by their former productivity, and the study gives strong evidence of possibility of reattainment of this potential in a matter of a few years if a range-wide program of revegetation should be started.

PROBLEMS ENCOUNTERED

This investigation is concerned primarily with establishment of one browse species—bitterbrush. This shrub has been found to be by far the best of many species tested for use in game winter range restoration in this area. In order to insure its emergence, growth, and survival, several adverse environmental factors must be overcome.

First, the seed has to be protected from rodents. With the help of the United States Fish and Wildlife Service, an effective method of protecting the seed from rodent depredations has been found.

Next, to insure consistent successful seedling emergence the seed has to be planted at a depth between one-half and one inch.

Then after the seedling has emerged, it must have sufficient moisture to permit its survival. In the cheatgrass currently occupying the range, virtually all bitterbrush seedlings die because they are unable to compete for moisture; but with a seedbed preparation treatment that eliminates natural vegetation, very good survival of bitterbrush can be had despite the fact that little effective rain comes during the long summer. Moisture from snowmelt and spring rains is sufficient if it does not have to be shared by too many plants.

On gentle slopes seedbed preparation and planting can be done cheaply by conventional methods, but most of the problem ranges are too steep for farm implements. An effective yet economical method of applying the necessary measures in rough terrain had to be devised. A procedure involving the use of hand tools was worked out; and although it may seem out of date in this machine age, it is practical and reasonably inexpensive.

Among other problems recognized but still to be overcome are the damaging effects of fungal organisms soon after bitterbrush germinates, the many kinds of insects that feed on the seedlings, and the game animals that tramp out, break, or bite off the young browse plants before they become established.

The last of these—the problem of game—can be solved only with the close cooperation and support of interested sportsmen; and preliminary to its solution, a frank program of information appears to be in order.

This investigations project is continuing. In the summer of 1956 other critical game ranges were visited with the idea of extending the program of improvement studies to them as soon as the final answers to Boise and Payette range problems are obtained.

Game Birds

Game bird investigations are carried out under Federal Aid Project 96-R. Biologists in the various districts coordinate the survey work in which many Department personnel participate. Techniques have now been standardized so that information from all areas of the state is comparable.

Pheasant

In 1952, the bag limit on pheasants was raised from two to three cocks. It was felt by some that this might reduce the cock population below a desirable level. This has not come about, however. Pheasant sex ratio counts are taken in all areas of the state each winter. These counts are conducted during periods of snow cover and cold weather when pheasants are congregated and large numbers may be counted in a relatively short period of time. The results of these counts for the past three years are shown in the following table. Since a winter sex ratio of one cock to seven or eight hens is quite adequate for reproductive purposes, the one cock to two and one-half hens recorded the last two years is well within the safe range.

Comparison of Pheasant Sex Ratio Counts, 1954-1956

District	1954 Cocks	1954 Hens	Sex Ratio M/100 F	1955 Cocks	1955 Hens	Sex Ratio M/100 F	1956 Cocks	1956 Hens	Sex Ratio M/100 F
One	93	193	48:100	128	209	62:100	111	255	44:100
Two	824	1967	42:100	525	1136	46:100	491	969	51.100
Three	3015	7140	42:100	5481	16551	33:100	2623	8290	32:100
Four	850	1902	45:100	3230	5978	54:100	2115	4006	53:100
Five	853	1446	59:100	4293	9108	47:100	2122	4846	44:100
Totals	5635	12648	45:100	13657	32982	41:100	7462	18366	41:100

Pheasant checking stations are operated primarily on the opening week end of the hunting season. Experience has shown that at least 50 percent of the total season's kill is taken during that period. The results recorded at comparable stations for the 1954 and 1955 seasons are shown in the following table. Hunter success was down slightly in four districts and up in one district in 1955, with the statewide average dropping .09 pheasant per hunter.

Comparison of Pheasant Checks on Opening Week End, 1954-55

District		No. of Hunters	Hours Hunted	Total Birds	Birds Per Hunter	Hours Per Bird
One	1954	712	2,118	459	.64	4.6
	1955	504	1,277	348	.69	3.7
Two	1954	868	2,866	606	.70	4.7
	1955	645	2,064	387	.60	5.3
Three	1954	3,548	12,888	3,714	1.00	3.5
	1955	2,765	9,119	2,653	.96	3.4
Four	1954	2,329	6,852	2,253	.97	3.0
	1955	1,936	5,967	1,667	.86	3.6
Five	1954	3,616	14,452	3,633	1.00	4.0
	1955	3,654	16,277	3,196	.87	5.1
Totals	1954	11,073	39,176	10,665	.96	3.7
	1955	9,504	34,704	8,251	.87	4.2

Sage Grouse

Sage grouse populations were not high enough during the biennium to allow a hunting season. In some localized areas there were plenty of birds, but other areas showed steady population declines. Since sage grouse hunters tend to concentrate their efforts on quite small areas, it was decided that the season should remain closed until all the major sage grouse hunting areas could be opened at the same time. This would insure a more even hunter distribution and lessen the possibility of overshooting any particular sage grouse population.

Forest Grouse

Fairly liberal seasons were continued on forest grouse during the biennium, with no apparent harm being done to populations in any section of the state. In 1954, bag checks taken primarily during the opening week end of hunting showed that 2,172 hunters had taken 1,864 forest grouse. Similar checks in 1955 showed that 1,699 hunters had taken 1,182 forest grouse. The principal species harvested in both years was blue grouse, followed by ruffed and Franklin's grouse.

Sharp-Tailed Grouse

The remnant populations of sharp-tailed grouse present in the state apparently maintained themselves during the biennium. Scattered flocks were observed periodically in all areas which this species still inhabits.

A few dancing grounds have been located and counts are taken on them each spring. The results of these counts indicate that populations have been about static during the past two years. No open season was held on sharp-tailed grouse.

Hungarian Partridge

In all areas where an open season is declared, the Hungarian partridge season coincides with that for pheasants. Most of the Huns taken by hunters are shot as incidental targets while they are pheasant hunting. A noticeable increase in the wintering population of Huns was recorded in Caribou and Idaho Counties during the winter of 1955-56. The practice of having a general open season on Huns in District Five, which was started in 1953, was continued with no apparent ill effects.

Chukar Partridge

The first open season on chukars in 1953 demonstrated that most hunters soon lost interest when they discovered the amount of energy it was necessary to expend in order to successfully hunt this species. In 1954, three and one-half additional counties were opened and the season was lengthened from one and one-half to fourteen and one-half days. In 1955, another county was added and the season length ranged from one and one-half to twenty-seven and one-half days.

Stocking has been continued and it is anticipated that additional areas will be open to chukar hunting in the future.

Quail

The four species of quail in Idaho—valley, mountain, bobwhite and Gambel's—are rarely hunted as a primary target. Most of the quail shot are taken by pheasant hunters. Quail populations in southwestern and southcentral Idaho have remained quite high during the biennium. The bobwhite population in the Boise and Payette valleys is still surprisingly high.

Mourning Dove

Idaho is cooperating in a nationwide study on mourning doves. The same techniques are utilized by the participating states so that all data gathered are comparable. Counts of cooing doves taken during the breeding season indicate that this state produces many more doves each year than are harvested here. More interest is being shown in dove hunting each year, however, and it is important that reliable population figures be taken annually. During the 1955 season, 1,618 dove wings were collected. Analysis showed that 853 or 53 percent of these came from young birds. Apparently a large portion of the yearly production leaves the state just prior to or during the early stages of the hunting season.

Waterfowl

The 1954 and 1955 waterfowl seasons were quite liberal. A season length of 80 days and a bag limit of 9 ducks, providing at least three were pintails or widgeon or a combination of these two species, were allowed both years. Some good shooting was enjoyed in all sections of the state during at least a portion of the season each year.

The Department participates in the annual mid-winter waterfowl inventory coordinated by the U. S. Fish and Wildlife Service. Similar counts are taken in all other states at the same time. The results of the counts in Idaho for the past five years are given in the accompanying table.

Idaho Waterfowl Mid-Winter Inventory
January 1952 - January 1956

Species	1952	1953	1954	1955	1956
Mallard	192,808	331,863	394,034	344,054	379,436
Baldpate	8,281	15,013	20,780	27,658	19,539
Pintail	8,309	12,420	24,237	17,891	5,231
Green-winged Teal	2,021	1,453	2,274	1,707	1,318
Blue-winged Teal	1	5	9	---	---
Shoveller	5	213	83	554	157
Gadwall	1,821	643	263	1,246	1,131
Wood Duck	7	27	102	---	2
Redhead	4,371	687	1,147	2,559	5,724
Canvasback	1,929	439	2,887	3,477	1,629
Scaup	6,563	1,571	2,191	2,602	1,927
Ringneck	850	446	800	2,313	1,002
Goldeneye	6,042	9,707	8,414	10,713	11,188
Bufflehead	453	1,298	992	834	1,007
Ruddy Duck	235	274	152	76	127
Scoter	---	---	---	---	---
Unidentified Ducks	3,812	15,869	7,246	3,657	8,058
Canada Goose	3,714	8,960	12,375	6,709	11,281
Snow Goose	---	37	2	1	6
Cackling Goose	---	8	---	2	---
W. Swan	47	103	102	134	1
T. Swan	373	171	419	290	323
Mergansers	2,187	4,106	5,574	1,605	5,514
Coot	12,392	23,169	49,750	36,832	24,646
TOTALS	**256,221**	**428,482**	**533,833**	**464,914**	**479,247**

Canada geese are banded each year. Band returns provide information regarding migration routes. Banding is done on selected areas throughout the state.

Wildlife Management Areas

The Idaho Fish and Game Department has recognized that utilization by wildlife is the highest beneficial use which can be made of certain lands. For this reason several areas throughout the state have been reserved for this purpose. This does not mean that once the areas have been acquired that a fence is thrown around them and the public excluded. In fact every effort is made to permit hunting and fishing on all areas where it is feasible, since an orderly harvest is an integral part of any wildlife management plan. The wildlife management areas currently being developed and maintained for the highest possible wildlife and public benefits are listed in the accompanying table. Such areas will become increasingly important each year.

Location and Major Use Of Wildlife Management Areas

Name	County	Primary Benefits
Boundary County	Boundary	Waterfowl, furbearers, deer
Farragut	Kootenai	Deer, public access
Valley County	Valley	Waterfowl, deer
Middle Fork, Salmon	Valley, Custer, Lemhi	Deer, elk
C. J. Strike	Owyhee, Elmore	Waterfowl, pheasant, quail, public access
Boise River	Boise	Deer, elk
Hagerman	Gooding	Waterfowl, pheasant, public fishing
Star Lake	Lincoln	Waterfowl, pheasant, sage grouse
Carey Lake	Blaine	Waterfowl, sage grouse, furbearers
Sand Creek	Fremont	Elk, deer, waterfowl, sage grouse, public fishing
North Lake	Jefferson	Waterfowl, pheasants, antelope, sage grouse, public fishing
Market Lake	Jefferson	Waterfowl, pheasants, furbearers

Steady progress was made during the biennium in improving the various wildlife management areas. The two main objectives of the improvements carried out were to:

1) Increase the usability of the areas by the major wildlife species involved.

2) Increase the usability of the areas by the public.

The areas were improved for the benefit of the wildlife species by planting grasses, trees and shrubs to improve living conditions, by growing crops which were left in the field for utilization as food and by adding to existing habitat with the creation of additional water areas. Development for the benefit of the hunting and fishing public consisted primarily of building and maintaining access roads, trails, boat launching sites, etc., by stocking reclaimed or natural waters with fish and by providing additional hunting sites.

Maintenance and Development

Considerable attention was given to maintaining the previous developments made on the management areas. This entailed keeping up fences, dikes, buildings, roads and similar improvements made in prior years. As each of the areas becomes more fully developed this section of the work will become increasingly important.

One of the major development activities was the construction of a two bedroom house, double garage and shop building at C. J. Strike. Additional living quarters were provided by the renovation of the secondary headquarters building at North Lake. New access roads were constructed at North Lake and C. J. Strike. Provisions for new pond and marsh areas were made at North Lake with the construction of canals, dikes and water control structures. The canal which is utilized to usher water into Carey Lake was enlarged and the necessary structures installed to allow more rapid filling of the reservoir.

Improvements at the Sand Creek Management Area are making the land increasingly productive for wildlife. Enlarging the reservoir on Blue creek increased the number and size of the fish and accommodated more fishermen than any previous season. To provide additional habitat suitable for ducks, geese, sandhill cranes, moose and other species in addition to

Fourteen self-filling, plastic water cisterns were installed during the biennium. These collect rain and snow run-off water making it available for birds during late summer and early fall.

fish, a pond that will cover approximately 35 acres is being constructed. A cooperative road construction program with Fremont county has increased its accessibility.

An exchange of part of the Boise river big game winter range land was made for an adjacent piece of more desirable winter game range. Several herbaceous plantings were made in the Middle Fork, Salmon area and the fields of tame and wild hay were kept irrigated for maximum production.

Clean-up and screening of the foundations at Farragut was continued to reduce hazards and improve the appearance and usefulness of the lands. The program of seeding perennial grasses and legumes and planting trees and shrubs for the benefit of wildlife was accelerated during the biennium. A public boat dock and camp ground was provided and sanitary facilities improved. This popular recreational area provides additional access to Lake Pend Oreille. Whitetail deer are plentiful and easily observed when driving through the area. Archery hunting of deer was permitted on the area in 1955.

Various Federal Aid Projects were utilized in carrying on the work involved in the Wildlife Management Area program.

Habitat Improvement

An increase and better distribution of wildlife numbers can often be obtained by manipulating and improving the habitat available to them. Federal Aid Project W 80-D provides for doing such work for some of the many wildlife species in Idaho.

Four biologists are assigned to the project. Their responsibilities are to

determine the needs for improvement in various portions of the state, work with other agencies to get as much of that improvement done as possible, supervise crews to do improvement work outlined in the project, and to evaluate the success of the improvement work and the biological returns in the form of wildlife.

Many improvements desirable for wildlife may be incorporated in programs of other land management agencies or individuals. It is, therefore, an important phase of habitat improvement to see that these agencies or individuals are kept interested in wildlife and advised of the benefits that proper land use provides to a good wildlife management program. The various farming practices probably influence the wildlife production on the privately owned lands of the state more than any of the game management techniques that have been used.

As one method of influencing some of the farming practices use on private lands in Idaho, the Fish and Game Department has entered into cooperative memorandums of understanding with 20 of the 45 Soil Conservation Districts in the state. The purpose of this cooperative arrangement is to assist these districts in providing for wildlife conservation in the soil and water conservation activities in which they are engaged. This assistance is provided in the form of specific materials or technical advice. One of the active phases of this cooperative program is to furnish trees, and plant them for farm utility purposes, where they will also furnish needed food and cover for upland game birds.

The Bureau of Reclamation has developed a new irrigation project in Minidoka County. They have cooperated with the Department, and as new farm lands were laid out, odd areas of non-farm lands were made available for wildlife development. Long term leases have been obtained by the Department on several such parcels of land. These areas are being developed for wildlife habitat and fenced against use by livestock. They will be maintained as public hunting areas. Established developments of this same kind in the Black Canyon irrigation project in Canyon County have been maintained. Plantings in these areas are maturing so they are attracting quite a bit of wildlife use.

Planting trees and shrubs has continued to be an important phase of providing food and cover for upland game bird species, especially Chinese pheasants. The following summary indicates the tree plantings made during 1955 and 1956.

Summary of Tree Plantings Made

Year	No. of Planting Sites				New Plantings	Replants	Acres Planted	Acres Opened To "Hunting by Permission"
	SCD	Pvt.	Dept. Lands	Other				
1955	140	4	6	6	121,464	13,013	164	21,962
1956	116	1	4		93,092	8,339	108	20,150
TOTAL	256	5	10	6	214,556	21,352	272	42,112

Plantings made in Soil Conservation Districts are designed as field windbreaks, farmstead shelterbelts, living fence-rows or odd corner plantings. Those put in as strictly private plantings have been odd corner developments. For all SCD or private plantings, the cooperating landholder agrees to allow a reasonable amount of hunting to those who ask permission. When the plantings were originally made, the Department furnished the cooperator with cardboard signs for him to use in posting his lands to "Hunting By Permission."

As indicated in the above summary, the tree and shrub planting program for 1955 and 1956 has provided an assurance for over 42,000 acres of private farm lands to be kept open to "Hunting by Permission." If plantings are still successful after three years, the project furnishes and posts permanent metal signs indicating the landholder is cooperating in habitat improvement and will allow hunting by permission.

There is a need for obtaining other strains or species of trees and shrubs which will provide better wildlife values. For this reason, observational test plots of new trees and shrubs are being maintained and enlarged at the North Lake Wildlife Management Area, the Hagerman Refuge, and the North Idaho Bird Refuge. The adaptation of each species to the growing conditions in these areas and the value of each for wildlife is being observed.

Food patch plantings of alfalfa, sweet clover and crested wheat grass have been made as food plantings for upland birds on lands controlled by the Department. Plantings of barley for waterfowl food have also been made on such lands.

Fourteen self-filling plastic water cisterns have been installed for the purpose of collecting rain and snow run-off water and making it available during the dry portion of late summer and early fall. These have been installed for use by pheasants, doves, quail, chukars, huns, sage grouse and sharp-tailed grouse. Springs and seeps have also been developed in the Clover Creek area in Gooding County to provide free water for chukars and Hungarian partridge. A 2,000 gallon self-filling type cement cistern was installed south of the Mud Lake irrigation area for the purpose of keeping antelope out of the desert during the summer rather than coming into the irrigated section after water.

An attempt is being made to evaluate the success of the plantings and water developments which have been installed. This is being done, not only to determine the success of having trees or water, but also to determine the use made of such developments by wildlife species and the additional amount of wildlife produced.

Trees and shrubs are planted to provide food and cover for upland game bird species. Many also serve as field wind-breaks, shelter-belts or fence rows.

Game Farms

Production was continued at the game farms at Lapwai and Jerome. The holding pens at Coeur d'Alene, Eagle and Hagerman were also utilized. The pens at Coeur d'Alene were dismantled late in 1955 and arrangements made to hold additional birds over the winter at Lapwai. This will result in a considerable saving and increased efficiency. Pheasants were raised at both game farms and Jerome also reared all chukars planted during the biennium. The production and planting records for both farms are given in the accompanying tables. In addition, the Jerome farm furnished sportsmen organizations with 4,080 day old pheasant chicks in 1955 and 4,440 day old pheasant chicks in 1956.

Pheasant Production Record

Jerome Game Farm Planting Record

	1955				1956			
County	Spring Release	Brood Stock	Summer Release	Total	Spring Release	Brood Stock	Summer Release	Total
District No. Three—								
Ada	440		495	935	344		1268	1612
Adams	200		300	500	80		600	680
Elmore	220		300	520	140		400	540
Gem	200		295	495			600	600
Owyhee	368		300	668	110		800	910
Payette			200	200				
Washington	314		300	614	267		1050	1317
	1742		2190	3932	941		4718	5659
District No. Four—								
Butte	150		510	660		400	600	1000
Cassia	152	250	450	852	167		750	917
Custer			200	200		112	408	520
Jerome		150	200	350			400	400
Lemhi	100		200	300		336	460	796
Lincoln			200	200			400	400
Minidoka	160	250	450	860	150		700	850
Twin Falls		360	450	810		300	850	1150
	562	1010	2660	4232	317	1148	4568	6033
District No. Five—								
Bannock		130		130		120	200	320
Bingham	316		944	1260	60		1200	1260
Bonneville	98		360	458			600	600
Caribou		390		390		400		400
Franklin		136	350	486			700	700
Fremont		65		65				
Jefferson	190		540	730			600	600
Madison		218	120	338	306	240		546
Oneida		390		390		400	300	700
Power			634	634			400	400
	604	1329	2948	4881	366	1160	4000	5526

Pheasant Production Record

Lapwai Game Farm Planting Record

County	1955 Spring Release	1955 Brood Stock	1955 Summer Release	1955 Total	1956 Spring Release	1956 Brood Stock	1956 Summer Release	1956 Total
District No. One—								
Benewah	690		1100	1790	638		1004	1642
Boundary	1136		1871	3007	1065		1720	2785
Kootenai	463		611	1074	381		758	1139
	2289		3582	5871	2084		3482	5566
District No. Two—								
Clearwater	153	147	684	984	177	162	580	919
Idaho	309	317	1370	1996	354	323	1304	1981
Latah	316	319	1382	2017	355	323	1306	1984
Lewis	153	158	690	1001	177	163	652	992
Nez Perce	307	320	1203	1830	355	319	1523	2197
	1238	1261	5329	7828	1418	1290	5365	8073

Lapwai Incubation Report

	1955	%	1956	%
Eggs Set	22,740		22,759	
Infertile	2,089	9.19	1,943	8.54
Dead Shell	2,125	9.35	2,133	9.37
Broken	171	.75	109	.48
Culls	387	1.70	287	1.26
Hatch	17,968	79.01	18,287	80.35

Jerome Incubation Report

Pheasant	1955	%	1956	%
Eggs Set	36,601		30,773	
Infertile	4,702	12.85	2,426	7.88
Dead Shell	12,900	35.24	4,029	13.09
Broken	124	.34	70	.23
Culls	759	2.07	329	1.07
Hatch	18,116	49.50	23,919	77.73

	1955	%	1956	%
Chukars				
Eggs Set	4,883		5,181	
Infertile	226	4.63	275	5.31
Dead Shell	301	6.16	356	6.87
Broken	94	1.93	4	.08
Culls	41	.84	50	.97
Hatch	4,221	86.44	4,496	86.77

Chukar Partridge Planting Record

County	1955 Spring Release	1955 Brood Stock	1955 Summer Release	1955 Total	1956 Spring Release	1956 Brood Stock	1956 Summer Release	1956 Total
Ada					207			207
Bannock			370	370				
Bingham		225		225				
Caribou	100			100	200			200
Cassia	200			200	293			293
Custer	600			600		447		447
Elmore					175			175
Gem			200	200				
Gooding			200	200				
Idaho	250			250	250		210	460
Nez Perce	250			250	250			250
Oneida	225			225	300			300
Owyhee	250	260	150	660				
TOTALS	1875	485	920	3280	1675	447	210	2332

Furbearers and Predators

Fur Resources Survey

The statewide fur resources survey was continued through the biennial period under Federal Aid Project 108-R, with an additional man assigned to the project in October, 1955. Two biologists are now working on this project (1) evaluating the annual catch and value of the various furbearers, (2) determining their range and distribution, (3) developing methods of measuring changes in furbearer populations, and (4) a survey of the beaver management program.

Approximately one half of the state has been covered to date, and it is anticipated that the survey portion of the project will be completed during the next year.

Furbearers

Trappers' licenses were issued for the calendar year period prior to the 1955-56 season. The 1955 legislature amended the licensing law to provide a trapper's license that would be valid throughout an entire trapping season. Thus, during the biennium three types of trappers' licenses were sold; 1954 calendar year, 1955 calendar year, and 1955-56 season, numbering 954, 440, and 669 licenses, respectively.

In evaluating the annual fur harvest for the two trapping seasons of the biennium, the catch reported by trappers who purchased the 1955 calendar year licenses was divided between the 1954-55 and 1955-56 seasons.

Prices paid to trappers for raw furs reached the lowest point in a decade during the biennium, resulting in light trapping for most species, and a catch which is considerably below the normal level.

Annual Fur Catch by Idaho Trappers

1954-55, Calculated Total Catch

SPECIES	Number Caught	Amount Received	Average Price per Pelt
Fox	3	$ 8.25	$ 2.75
Marten	350	2,548.75	7.58
Mink	5,276	83,061.54	15.68
Muskrat	107,204	81,281.66	.75
Otter	102	1,430.62	13.82
Raccoon	278	207.26	.77
Totals	113,213	$168,538.08	

1955-56 Trappers' Reports Rec'd to August 30, 1956

SPECIES	Number Caught	Amount Received	Unsold or No Price Reported	Average Price per Pelt
Fox			1	
Marten	175	$ 1,176.25	127	$ 6.72
Mink	488	6,012.70	66	12.32
Muskrat	83,164	69,879.46	8,785	.84
Otter	45	794.50	11	17.66
Raccoon	31	33.75	20	1.09
Totals	83,903	$77,896.66	9,010	

Predator Control

The Fish and Game Department continued its policy of contributing funds to the cooperative predator control program in which various district and county predatory animal boards, livestock associations, county commissions, and federal agencies participate. Administration of this fund and actual control operations are carried out by the Branch of Predator and Rodent Control, U. S. Fish and Wildlife Service, with the provision that no Department funds be used to finance operations involving the use of poisons. The following table presents the portion of the program supported by the Fish and Game Department during the biennium.

	Salaries	Other Expenses	Aircraft Hire	Total Cost	Predators Taken	
					Coyotes	Bobcats
1954-55	$11,675.21	$3,742.28	$2,082.51	$17,500.00	710	211
1955-56	13,214.80	4,093.68	2,691.35	19,999.83	575	184
Totals	$24,890.01	$7,835.96	$4,773.86	$37,499.83	1285	395

The program of predator control to protect transplanted antelope herds was continued through the 1954-55 fiscal year in portions of Owyhee County. This work, conducted by personnel of the Predator and Rodent Control Branch, U. S. Fish and Wildlife Service, and financed under Federal Air Project 75-D, resulted in the destruction of 354 coyotes and 85 bobcats at a total cost of $4,574.80.

In addition, the Department maintained two full-time predator trappers in northern Idaho throughout the biennial period, and employed one trapper for three months during the winter of 1954-55 to remove predators from big game winter ranges on the Salmon River. Details of these activities are summarized as follows:

PERMANENT TRAPPERS

	Salaries and Wages	Expenses	Total Cost	Predators Taken	
				Coyotes	Bobcats
1954-55	$ 6,000.00	$ 1,370.20	$ 7,370.20	263	88
1955-56	6,210.00	1,551.84	7,761.84	348	106
TEMPORARY TRAPPERS					
1954-55	600.00	163.27	763.27	34	34
Totals	$ 12,810.00	$ 3,085.31	$ 15,895.31	645	228

Summary of Predator Control for the Biennium

(Excluding cougar bounty)

Program	Total Cost	Total Predators Taken (Coyotes & Bobcats)	Cost per Animal
Cooperative U.S.F. & W.S.	$37,499.83	1680	$22.32
Project 75-D	4,574.80	439	10.42
Dept. Permanent Trappers	15,132.04	805	18.80
Dept. Temporary Trappers	763.27	68	11.22
Totals	$57,969.94	2992	$19.37

Cougar Bounty

A bounty was paid at the rate of $50.00 per cougar during 1954-55 on animals killed north of the Salmon River drainage. Effective July 1, 1955, the fee was reduced to $25.00 but extended to cougar taken anywhere in the State.

	Bounty per Cougar	Number Bountied	Total Cost
1954-55	$50.00	38	$1,900.00
1955-56	25.00	100	2,500.00
Totals		138	$4,400.00

Cooperative Wildlife Research Unit

The Idaho Cooperative Wildlife Research Unit objectives include (1) technical and professional training in wildlife and fishery management; (2) investigation and restoration of desirable wildlife populations compatible with good land use; (3) to demonstrate research findings through extension and practical management of game, furbearers and fish; (4) to make available to landowners, sportsmen, conservation officials, teachers and others the facts, methods, and new findings discovered through research and to disseminate research findings through the publication of reports, bulletins, circulars, and journal and magazine articles.

During the biennium graduate students completed the following theses:

The Wildlife Research Unit during the past biennium continued work on mule deer productivity on the Cassia Division of the Sawtooth National Forest. The major portion of this study has appeared in a master's thesis by Burt R. McConnell entitled "A Productivity Study of Mule Deer on the Cassia Division of the Sawtooth National Forest."

The results of the research on the conditions surrounding waterfowl mortality on the Coeur d'Alene River were presented in a master's thesis by Norman R. Chupp entitled "An Evaluation of the Lower Coeur d'Alene River Waterfowl Habitat in Kootenai County, Idaho."

An analysis of the productiveness of two types of blue grouse nesting territory was presented as a master's thesis by Gordon C. Heebner under the title of "A Study of the Life History and Ecology of the Blue Grouse in West-Central Idaho."

"Food Habits and Productivity of White-tailed Deer in the Hatter Creek Enclosure," a master's thesis by Hadley B. Roberts continued the work designed for the overall plan of research for this 800-acre deer enclosure. This report is the third in a series of research projects whose purpose is to obtain basic information for white-tailed deer management.

"A Preliminary Study of the Influence of Magpie Predation on Pheasant Populations in Idaho," is the title of a master's thesis prepared by Clyde A. Novak. The study is being continued.

Research in Progress

A Fishery Survey of Priest Lake was begun during the biennium and will be completed in 1957.

A study of the Influence of Logging on Trout Streams began in 1955, the first phase will be completed late in 1957.

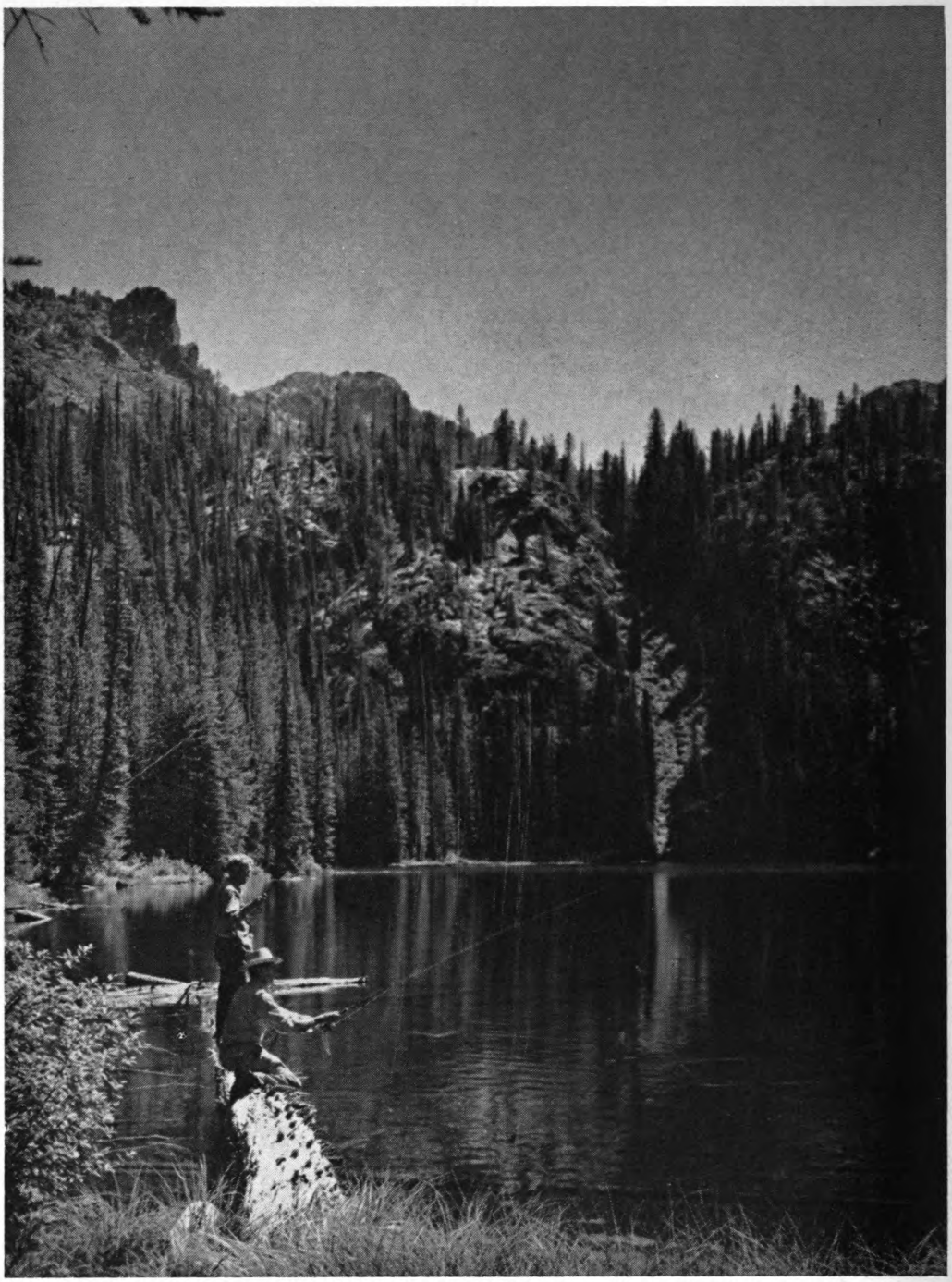
A study on the evaluation of salt in the management of elk in the lower Selway is showing promise in pointing the way for future big game salting programs.

An evaluation of sage grouse booming grounds and seasonal movements is a continuation of sage grouse research begun in 1952. Work on this project is being continued through 1957.

Field work on ruffed grouse investigations by Dr. Hungerford has been completed. The annual census of ruffed grouse on the University of Idaho Experimental Forest is being continued to determine annual fluctuations in numbers.

The antelope in central and north-central Owyhee County have been under investigation during the last half of the biennium to determine more accurately the productiveness and survival of the herd.

Five men completed the requirements for the master's degree and all are employed in wildlife or related land-use management.



Fishing is the most popular form of recreation—and Idaho's high mountain lakes contribute a great deal to this sport.

Fisheries Management

Management

Angling Regulations

A trend toward liberalization of angling regulations was, in general, followed during the biennium.

The regulation restricting the use of multiple flashing gear or trolling device with more than two blades and one rudder in certain waters was rescinded by the Commission. There continues to be a certain amount of agitation for restrictions on certain food items, such as corn, colored tapioca and ground meat, which are used for chumming. Before restrictive action is taken, however, it should be proved conclusively that the use of such material is causing an over-harvest of the fishery resource.

The daily bag limit on channel catfish was increased from five to ten fish as a result of an increase in the population of catfish. The popularity of this species as a sport fish continues to increase.

On the other side of the ledger more restrictive regulations were passed for the taking of sturgeon. The minimum size limit was increased from 30 to 40 inches, the area where set-line fishing is permitted was reduced and an annual bag limit of two fish was established.

Because of the increase in the commercial take of kokanee from Pend Oreille Lake, it became necessary to place some restrictions on commercial fishermen. A closed season was established from June 1 to September 30. During this period, the use of handlines by sport fishermen was also prohibited.

Floods

The December flood of 1955 and the ice flows which followed had a very detrimental effect on the fishery of the South Fork of Payette River and the North and Middle Forks of the Boise River. It is believed that this flood was one of the major factors in the decline of fisherman success during the 1956 fishing season.

Rough Fish Control

Dynamiting concentrations of spawning squawfish, treatment of spawning areas with rotenone to eradicate fry, and reduction of lake levels to eliminate spawn appear to be economical and effective controls of squawfish in Hayden Lake. Surveys of the shoreline of other North Idaho lakes have indicated that techniques developed at Hayden Lake can be put to more widespread usage in the control of this particularly undesirable rough fish.

The lower two miles of Dodge Creek, a tributary of McArthur Reservoir, were treated in 1955 and again in 1956 to eradicate spawning runs of long-nosed suckers. Reeder Creek, a tributary of Priest Lake, was treated in 1955 to eliminate spawning suckers and other non-game fish.

Mountain Lakes Management

As a result of increased interest in mountain lake fishing the management of these waters has received considerable attention during the biennium. Investigations of high mountain lakes in the Clearwater and lower Salmon River drainages supported earlier observations concerning the slow rate of growth of fish in these waters. Four barren lakes at altitudes approaching 7,000 feet elevation were stocked with cutthroat fry at the planting ratio of 500 fish per surface acre. Four years later these fish had reached a maximum length of 10 inches.

A check of 30 mountain lakes in Boundary, Benewah, and Shoshone Counties showed 14 to be adequately stocked or overstocked; six unsuitable for stocking; and 10 in need of planting.

The Mountain Lakes booklet was revised to include additional areas. This publication has been of primary importance in encouraging anglers to fish these waters.

Stream and Lake Surveys

At the request of the Tribal Council for the Fort Hall Indian Reservation, a survey was made of the streams on the reservation to (1) evaluate the use of reservation waters by non-game fish, and (2) make recommendations for the management of these waters. Data were collected by visual observation during the spawning season and by population studies utilizing the electric fish shocker. A written report was submitted to the Tribal Council.

Limited limnological studies were conducted on Blackfoot Reservoir to determine the factors limiting the trout population. The physical and chemical properties of the reservoir water are suitable for trout production during the entire year; however, the large population of carp and Utah chubs in the reservoir prevent substantially enlarging the trout population.

Multiple Water Use

In conjunction with the Soil Conservation Service, plans were formulated and effected on Lanes Creek, tributary of the Blackfoot River in Eastern Idaho, to reduce the loss of both adult and fry cutthroat to irrigation ditches. Improvements included modification of irrigation methods, changing of the stream channel, and installation of headgates in the diversions. Additional work is planned to still further reduce the loss of trout to irrigation ditches in this important spawning stream for trout from Blackfoot Reservoir.

Farm Ponds

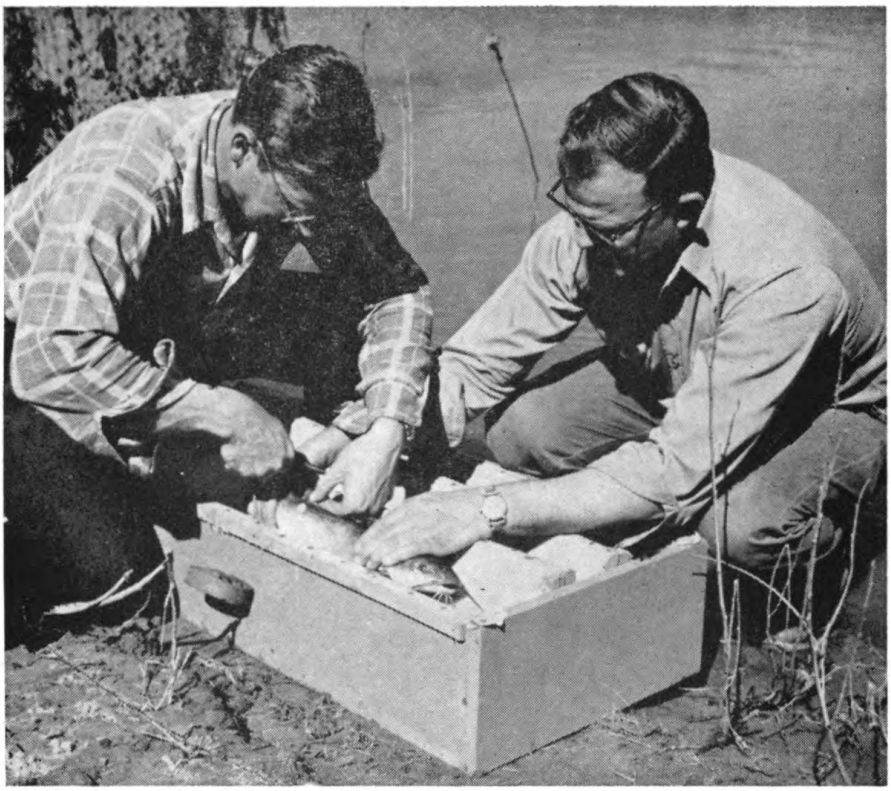
Technical assistance has been given to numerous individuals for the construction and management of both private and semi-private fish ponds. It has been hoped that the creation of these new waters would help compensate for the increased fishing pressure on other waters. However, few of the fish pond permit holders are willing to spend the time and funds to produce good productive farm ponds.

Dredge Mining

Considerable time was spent in January through April, 1955, obtaining factual evidence regarding damage of dredge mining silt to eggs and fry in Bear Valley Creek. As a result of controlled experiments using Bear Valley water and dredge mining silt, it was shown that the silt in quantities released by the Bear Valley dredge was harmful to eggs and fry in gravel. Differences in mortality rates of eggs and fry in clear and turbid water were significant, with mortality in turbid water higher in every instance or test. Field work in Bear Valley established the fact that eggs and/or fry of chinook salmon and/or steelhead trout are in the gravels of the streams every month of the year.

Rehabilitation of Roseworth Reservoir

The waters of Roseworth Reservoir, treated with "Fish-Tox" in the fall of 1953 to eradicate the fish population, which was mainly chubs, remained toxic to fish during 1954 and the early part of 1955. Two rainbow trout taken in gill nets set in this water during the spring of 1956 indicated the waters to be no longer toxic to trout. Several thousand rainbow fingerling and thirty thousand 7- to 9-inch rainbow trout were stocked during May and June of 1956. Fishing success was excellent during the 1956 season.



Fish are tagged and released back to the river as a part of the fisheries investigation being carried on along the Middle Snake river.

Middle Snake River Fisheries Investigations

This study was formulated in a cooperative agreement between the Pacific Northwest Power Company and the Idaho Department of Fish and Game. Purpose of the project is for research relating to fishery problems arising from the proposed construction of Mountain Sheep and Pleasant Valley Dams on the Snake River. The two main objectives of the project are:

(1) **To determine the timing of up-and downstream migrations of fish past the proposed dam sites.**

(2) **To determine the nature and extent of the present resident fishery resources in the impoundment areas and how they will be affected by these dams.**

From mid-August, 1955, through October, 1956, a total of 631 fish had been trapped and tagged.

Species	No. Tagged	Species	No. Tagged
Channel Catfish	276	Smallmouth Bass	36
White Sturgeon	126	Rocky Mountain Whitefish	12
Steelhead	106	Flathead Catfish	10
Chinook Salmon	64	Black Crappie	1

From the information gathered on downstream movements of chinook salmon fingerling there appears to be a definite correlation between water temperature, volume of flow and migration. Information to date on downstream movements of steelhead fingerling in Snake River is inconclusive.

Golden Trout

During the past several years, efforts have been made by the Department to make a limited expansion of the range of the golden trout in Idaho. In 1955 132,000 golden trout eggs were obtained from Wyoming in exchange for cutthroat trout eggs. The following lakes were stocked in 1955:

Name of Lake	Tributary to	County
Azure Lake	Johnson Creek	Elmore
Browns Lake	Little Queens River	Elmore
W. Fk. Buckhorn Cr. Lake No. 1	West Fork Buckhorn Creek	Valley
Callahan Lake	Callahan Creek	Bonner
Glacier Lake	Johnson Creek	Elmore
Heather Lake	Meadow Creek	Shoshone
Hunt Creek Lake	Hunt Creek	Boundary
Hunt Peak Lake No. 1	McCormick Creek	Boundary
Long Canyon Cr. Lake No. 1	Long Canyon Creek	Boundary
Long Canyon Cr. Lake No. 3	Long Canyon Creek	Boundary
Meadow Cr. Lake (S. of Heather)	Meadow Creek	Shoshone
Meadow Cr. Lake (S.W. of Heather)	Meadow Creek	Shoshone
McCormick Cr. Lake	McCormick Creek	Boundary
Myrtle Creek Lake	Myrtle Creek	Boundary
Rock Island Lake	Johnson Creek	Elmore
Sheepeater Lake No. 2	Fish Creek	Idaho
Two Mouth Creek Lake	Two Mouth Creek	Boundary

The Department has no plans at the present time for further expansion of the range of the golden trout.

Columbia River Fisheries Program

A Federal act of May 11, 1938 (52 Stat. 345), and amended August 8, 1946 (60 Stat. 932), authorized and directed the Secretary of the Interior:

1. To establish one or more salmon and steelhead cultural stations in the Columbia River Basin in each of the States of Oregon, Washington and Idaho.

2. To conduct such investigations and such engineering and biological surveys and experiments as may be necessary to direct and facilitate conservation of the fishery resources of the Columbia River and its tributaries.

3. To construct and install devices in the Columbia River Basin for the improvement of feeding and spawning conditions for fish, for the protection of migratory fish from irrigation projects, and for facilitating free migration of fish over obstructions.

4. To perform all other activities necessary for the conservation of fishery resources of the Columbia River Basin.

5. To utilize the facilities and services of the agencies of the States of Washington, Oregon, and Idaho responsible for the conservation of the fish and wildlife resources in such States in carrying out the authorizations and duties imposed by the act.

Although Idaho was a signatory to the original agreement, it was not until July of 1956 that we were permitted to become an active participant in the program. The sum of $200,000 has been made available during the fiscal year 1957. During the initial phase of the program considerable effort will be expended on planning. It has long been recognized that there have been extremely heavy losses of small migratory fishes in irrigation canals. Funds for screening will be available under the Columbia River Fisheries program. However, before the Department can enter upon an extensive program the present law governing screening of water diversions should be modified.

Fisheries biologists study the effects of chemical treatment at Stanley Lake. These waters have been stocked with game fish since the operation was completed.

Fish Eradication Projects

Year	Name	County	Maximum Surface Area—Acres	Storage Acre-Ft. at time of Treatment	Undesirable Species	Restocked
1954	Hump (Buffalo) Lake	Idaho	13	216	Brook Trout	Rainbow
1955	Waha Lake	Nez Perce	90	5100	Squawfish Carp Suckers	Rainbow
1955	Blue Lake	Nez Perce	5.6	139	Squawfish Carp Suckers	Rainbow
1955	Chesterfield Reservoir	Caribou		400	Utah Chubs	Rainbow
1955	Twenty-four Mile Reservoir	Caribou	40	250	Utah Chubs	Rainbow
1955	Perkins Lake	Boundary	60	562	Suckers	Brook
1955	Bonner Lake	Boundary	23	533	Perch Bass	Rainbow
1956	Glendale Reservoir	Franklin	260	49	Utah Chubs	Rainbow
1956	Crowther Reservoir	Oneida	50	40	Utah Chubs Carp	Rainbow

Fishery Research Program under Sponsorship of United States Army, Corps of Engineers

During the biennium the Idaho Fish and Game Department continued fishery research work under contract with the Corps of Engineers to determine the number and timing of the various runs of anadromous fish in Snake River tributaries.

Flathead Catfish

During March of 1956, a biological survey crew working on Snake River at Pittsburg Landing captured a flathead catfish, *Pilodictis olivaris*, in a fyke net which had been set to check the upstream movements of anadromous fishes. It weighed 17 pounds and measured 30½ inches, total length. Since that time, several other flathead catfish have been taken. This is the first known record of this species in Idaho. Chances are, its introduction was accidental, for it probably came with a shipment of channel catfish.

Lands Acquired by the Department for Fisheries

Area	County	Type of Agreement	Purpose for Which Acquired
Granite Lake 1 Acre	Bonner	Gift	Access to Granite Lake
Shepherd Lake 358.68 Acres	Bonner	Purchase	Access
Cedar Draw 5.20 Acres	Twin Falls	Purchase	Access to Snake River
Round Lake			
A. 156.06 Acres	Benewah	Purchase	Access to Round Lake
B. 151 Acres	Benewah	Purchase	Access
C. 274.6 Acres	Benewah	Administrative Use Agreement	Access
Cocolalla Lake 2.56 Acres	Bonner	Purchase	Access

Hatchery Operations

Bass Ponds

Five bass rearing ponds were completed on C. J. Strike Wildlife Management Area so that natural reproduction of bass might be augmented during the early years of the reservoir. Difficulty was encountered in obtaining a sufficient number of brood fish to stock all the ponds prior to spawning during the first year of operation. Production, however, was estimated as between 50-100,000 bass fingerlings.

Maintenance and Improvement

Ashton

Constructed a pipeline 200 feet long and 18 inches in diameter to bypass drainage water around hatchery water supply pond.

Painted all buildings.

Clark Fork

Constructed a cold storage building of 50-ton capacity.

Added a utility room to assistant's quarters.

Installed an oil furnace in assistant's quarters.

Subdivided six raceways.

Eagle

Painted all buildings.

Fernwood

Painted all buildings.

Grace
Constructed a cold storage of 50-ton capacity.
Painted all buildings.
Gravelled access roads.
Constructed a concrete raceway 8 ft. by 125 ft.

Hagerman
Constructed a three-car garage.
Replaced the dole plates in the cold storage plant with a coil and blower system.

Hayspur
Installed an oil furnace in assistant's quarters.
Rebuilt perimeter fence around hatchery grounds.
Painted all buildings.

Henrys Lake
Completed landscaping of hatchery grounds.
Constructed concrete sidewalks to the hatchery and dwellings.
Oiled all buildings.

Kamiah
Painted the residence.

Mackay
Constructed a cold storage building of 100-ton capacity.
Constructed a three-car garage and workshop.
Rebuilt fences on perimeter line of property.

Sandpoint
Rewired superintendent's residence.
Installed an oil furnace in assistant's residence.
Constructed a concrete raceway 6 ft. by 125 ft.

Access Properties

Crystal-Niagara Springs—Gooding County
Constructed 200 yards of additional access road.
Surveyed property boundary line.
Built a fence along west end of property.
Constructed some sanitary facilities.

Lake Cleveland—Cassia County
Cooperated in the construction of an access road—one mile in length.

Henrys Lake—Fremont County
Drilled a well and installed a hand pump to provide drinking water for campers.

Shepherd Lake—Bonner County
Installed three cattle guards and repaired perimeter fence.
Cooperated in the construction of an access road and sanitary facilities.

Wildhorse Lake—Idaho County
Cooperated with U. S. Forest Service in construction of 1¾ miles of access road to Wildhorse Lake in Buffalo Hump area.

Dingell-Johnson Program

3-R Biological and Economic Survey of Fishery Resources in Lake Pend Oreille

The major problems which have arisen as a result of the construction of Albeni Falls and Cabinet Gorge Dams are: (1) the blocking of spawning migrational runs and the exposure of spawn by power-peaking operations of Cabinet Gorge Dam; and (2) the loss of spawn from drawdowns of the lake level by Albeni Falls Dam. Each year since 1952 varying amounts of kokanee spawn have been lost through drawdowns and power-peaking operations. Since 1951 the spawning migrations up the Clark Fork River by kokanee and trout have been blocked by the Cabinet Gorge Dam.

In order to evaluate and measure any changes that might occur in the fishery of this lake a creel census and spawning-ground survey have been conducted each year since 1951. The kokanee have a four-year life cycle; therefore, the harvest from 1951 to and including 1954 were not affected by either dam due to the fact that these fish were spawned prior to 1951. However, kokanee spawning after 1951 will be affected by drawdowns and peaking operations and any effects from these causes should be noted in the harvests after 1954.

In addition to the above objectives other related phases of work have been carried on. In 1955 an economic survey was conducted to determine the approximate value of the Lake Pend Oreille fishery. In 1956 an intensive effort was made to collect data pertaining to the age and growth phases in the life history of the kokanee. During the winter of 1955-56 a survey was made by the Idaho Fish and Game Department, Washington Water Power Company, and the U. S. Corps of Engineers to evaluate the needs of stream improvement to provide better spawning sites for kokanee and trout.

Creel Census Figures Showing Estimated Total Catch of Game Fish for Years 1951 to 1956

Year	Men	Hours	Kokanee	Trout	Other Game Species
1951	60,172	330,923	820,486	10,750	18,838
1952	57,814	308,850	514,913	8,778	*
1953	99,855	522,692	1,335,881	16,398	73,523
1954	90,566	459,271	1,232,916	11,515	53,182
1955	70,829	330,612	642,045	11,366	19,215
1956**	80,378	377,505	1,073,846	10,656	20,637

* Not tabulated

** Census totals for January through September.

13-R Fisheries Investigations of Henrys Lake

This study originally started in the spring of 1954 to evaluate certain life history factors of the cutthroat trout and to obtain data in order that this important lake fishery could be properly managed. The field data were collected:

1. Marking and releasing all the fish entering the Henrys Lake spawn-taking station during the course of the study.
2. Enumeration of the spawning runs in other tributaries of Henrys Lake.
3. Conduction of an intensive creel census, which, in conjunction with the first two items, would yield important management data in regard to the sports harvest, natural mortality, and carry-over of each individual year's spawning run.

Chemical toxicants were sprayed from low-flying airplanes when Mud Lake was treated to kill fish infesting the area.

Furunculosis, a lethal blood disease, has positively been diagnosed in cutthroat trout from Henrys Lake. It is strongly indicated that this pathogenic bacteria is largely responsible for a natural mortality which annually exceeds the sport catch. The data are presently undergoing tabulation and analysis in preparation for publication.

15-R Clearwater River Fisheries Investigation

The study objectives of this project are:

1. Trout migration.
2. Creel census.
3. Recovery of hatchery-reared trout.
4. Taxonomic review of various races of rainbow trout in the drainage.

Trapping studies of 1955-56 indicated a small, but continuous, drift of rainbow trout occurred throughout the summer months. During the rainy period of the fall months large drifts of rainbow trout took place in the experimental areas. Studies during the spring months were inconclusive for extreme water level fluctuations made trapping operations all but impossible.

A creel census program was carried out in 1955 on the North Fork of the Clearwater River and the main Clearwater River. During 1956 the census study was transferred to the accessible area of the Selway, Lochsa, and Middle Fork Rivers. The census was continued on the main Clearwater River. Analysis of collected data has not been completed.

All hatchery-reared fish planted in the census area during 1955 and 1956 were fin-clipped to insure their identity when observed in the fishermen's creel. Information available from the 1955 census showed that hatchery fish made up an appreciable number of the total fish kept by fishermen during the season.

Several phases of the taxonomic portion of the program have been explored, but to date no conclusions have been drawn.

22-R Experimental Rough Fish Control

Investigations of the existing markets for non-game fish species, and the possibilities of expanding these markets, were conducted. The full utilization of non-game species does not appear favorable at the present time. Testing of various types of fish traps and nets to capture rough fish did not bring positive results. Age and growth studies of various fish species in Lake Lowell, in addition to population estimates, are being continued to determine the effects of partial rough fish removal. It is anticipated future project activity will be primarily aimed at experimental methods of destroying rough fish species in various waters, in order to decrease competition with game species, and thus produce better fishing.

24-R The Priest Lake Fisheries Investigation

Priest Lake was said to support a good cutthroat trout fishery in years past. Within the last decade or so a noticeable decline in the success of cutthroat fishermen has taken place. Kokanee were introduced in the late 1930's and have now become the dominant game fish in the lake.

This study was initiated in May, 1955, to determine which factors may be causing the decline of the cutthroat and what might be done to reverse the downward trend of the fishery. In addition to that on the cutthroat, information was also collected on the other game species and important non-game species to be used in future management plans.

The project consisted of three phases:

1. Creel census. The estimated harvest for 1955 was approximately 88,000 kokanee and 5,000 trout (cutthroat, Dolly Varden, and mackinaw). Preliminary catch estimates show the 1956 catch to be much greater than the 1955 catch.

2. Stream survey. All tributary streams which appeared capable of supporting a population of spawning fish were studied to determine: (1) to what extent the tributaries are being used by spawning fish; (2) migration patterns of adult and juvenile fish in the tributaries; and (3) the amount of suitable spawning areas.

Most streams in the Priest Lake drainage appear to have two types of cutthroat trout populations: (1) resident fish which are hatched, live, and die in the streams, and (2) non-resident fish which are hatched in the streams and spend the first two or three years of their life there before migrating to the lake.

3. Population and life history. Length, weight, scale, and stomach samples are being collected to determine growth rates, size range, age, and food habits of the game species and major non-game species.

One of the more interesting findings was the fact that kokanee in Priest and Upper Priest Lakes mature at five years of age instead of four years as is commonly the case in most other waters.

Kokanee caught in 1956 were significantly larger than kokanee caught in 1955, a difference which might indicate a change in population numbers or total productivity of the lakes. The rate of fishermen success for 1956 was at least as high as for 1955 so that a decrease in abundance of at least the particular year class or classes caught in 1956 is not indicated.

The large percentage of immature cutthroat harvested from the lakes is an indication of a declining population.

4-D Mirror Lake Fisheries Development

Mirror Lake in Bonner County was treated in 1953. An extended period of toxicity delayed restocking of the lake until 1956. A public-access area was developed in 1955.

8-R The Effect of Hydroelectric Developments on the Fishery Resources of Snake River

A two-year study on a section of Snake River in which five hydroelectric dams are located revealed:

1. Trout and whitefish populations are reduced in impoundments because of siltation of spawning areas and changes in the quality of fish food organisms.

2. Sturgeon populations are reduced in reservoirs because of changes in habitat.

3. Carp, sucker, catfish, largemouth bass and crappie populations are increased in reservoirs because of added habitat.

4. There is a detrimental effect upon fishing success in trout impoundments when the diurnal fluctuation of water levels is in excess of one foot.

14-D Slate Creek Stream Improvement

This project was completed in 1954. Two miles of Slate Creek, a tributary of the St. Joe River near Wallace, were improved by the placement of small rock deflectors and dams and the anchoring of fallen trees and snags.

Access roads and campsites have since been improved by Shoshone County and the Wallace Chapter of the Idaho Outdoor Association.

Observations of the effects of improvement over a two-year period have indicated that this type of work is economically feasible in increasing the natural crop of fish as well as providing suitable planting sites on small streams which are subject to heavier fishing pressure than the stream can sustain without such improvement.

Total cost of the project was $1,000.00.

16-D Silver Creek Stream Improvement

Seven concrete-block, four digging-log and one sheet-piling stream improvement structures were installed in Silver Creek and tributaries during1955 and 1956. The stream channel below each structure was deepened in each instance. The extent of improvement depended on the relative composition of the gravel-clay-sand substratum below each structure. Results appear to be most favorable where a thick bed of sand lay below a thin layer of clay-gravel hardpan.

17-D North-Idaho Lake Development

This project was started in 1954 and completed in 1956. It was designed to improve sport fishing in four North-Idaho lake areas:

1. The Granite chain of lakes (4) in Bonner County was treated in 1954 to eradicate mixed rough and game-fish species. Trout were restocked in 1955 and 1956. Deeds have been obtained for public-access sites at Kelso and Granite Lakes. These sites are presently being developed by the Department of Fish and Game.

2. Dennick Lake in Bonner County was treated in 1954 to eradicate stunted perch, restocked with cutthroat trout in 1955, and reopened to fishing in 1956. Nearby Sand Lake in Bonner and Boundary Counties was stocked with grayling.

3. Blue Lake near Priest River in Bonner County was treated in 1954 to eradicate rough fish, restocked with trout in 1955, and will reopen to fishing in December, 1956.

4. A public dock and breakwater were constructed on Lake Pend Oreille at the Farragut Wildlife Management Area to facilitate the free, safe launching of boats.

Total cost of the North-Idaho Lake Development Project was $13,000.00.

A migration-block dam was constructed at the outlet of Stanley Lake to prevent fish from moving upstream into the lake after it was stocked with game fish.

19-D Rehabilitation of Stanley Lake

Stanley Lake was treated with "Fish-Tox" in the fall of 1954 to eradicate the fish population which consisted of squawfish, whitefish, kokanee and a few trout. It remained toxic during 1955. In July of 1956, approximately 20,000 rainbow fry, 40,000 rainbow fingerling, and 2,000 10- to 12-inch rainbow trout were stocked in Stanley Lake and tributaries. Fishing success was excellent during the remainder of the 1956 season.

The channel below the migration-block dam constructed in the outlet of Stanley Lake during the fall of 1954 was widened and deepened and the dike and riprap behind the wings of the dam strengthened after the high spring runoff of 1956.

25-D Waha and Blue Lakes Rehabilitation

Waha and Blue Lakes, located in Nez Perce County, were treated in November, 1955, to eradicate non-game fish populations composed primarily of squawfish, suckers and carp. They were restocked with legal-size rainbow trout and opened to fishing in 1956. Public access was obtained by easement through private land to the northwest shoreline, and included a small parking area adjacent to Waha Lake. A boat launching area was improved.

The project cost was $5,600.00.

26-D Boundary County Lake Development

Perkins and Bonner Lakes were treated in 1955 to eradicate spiny-ray and rough fishes. The lakes have a combined surface area of 83 acres. In 1956, they were restocked with trout and will reopen to fishing in 1957. Public access sites are being developed by Boundary County and local sportsmen.

Cost of this project was $1,500.00.

28-D Mountain Lakes

Approximately 12 miles of all-purpose trail were constructed in the Sawtooth Primitive Area to provide access to mountain lakes. The trails were constructed in the Little Queens River drainage (tributary of the Middle Fork of Boise River) and Johnson Creek drainage (tributary of the North Fork of Boise River) at a cost of $14,000.00. Additional all-purpose trails and foot trails are contemplated in 1957 to increase accessibility of the lakes in the area. Upon completion of the project, about 30 miles of all-purpose trails and 12 miles of foot trails will have been completed. In addition, suitable signs showing distances and directions to the various lakes will be constructed and placed in proper areas.

FISH PLANTINGS IN IDAHO BY OTHER AGENCIES

(November 1, 1954 — October 31, 1956)

Station	Year	Rainbow No.	Rainbow Lbs.	Cutthroat No.	Cutthroat Lbs.	Brook No.	Brook Lbs.	Chinook Salmon No.	Chinook Salmon Lbs.	Totals No.	Totals Lbs.
U. S. Hagerman	1955	742,718	95,798			1,919	237	4,528	232	749,165	96,267.00
	1956	907,291	99,641							907,291	99,641.00
Wyoming *1*	1955			76,456	168.30					76,456	168.30
Totals	1955	742,718	95,798	76,456	168.30	1,919	237	4,528	232	825,621	96,435.30
	1956	907,291	99,641							907,291	99,641.00
Biennium Total		1,650,009	195,439	76,456	168.30	1,919	237	4,528	232	1,732,912	196,076.30

1 Figures not available for 1956 plantings.

HATCHERY PRODUCTION

(November 1, 1954 — October 31, 1956)

Station	Year	Rainbow		Cutthroat		Brook		Brown		Golden		Kamloop	
		Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
American Falls [1]	'55	642,042	71,080	132,712	636	52,501	420	58,874	7,656				
	'56	710,103	82,334	80,570	288.50	31,736	243	20,494	5,132				
Ashton	'55	940,926	11,080	532,780	450	68,885	652						
	'56	1,174,044	15,848	305,616	225	93,215	1,210						
Clark Fork	'55	45,710	7,700	876,200	1,891	43,174	1,182					172,860	10,846
	'56	173,100	16,948	574,700	2,057	24,840	540					66,120	10,460
Eagle [2]	'55	825,379	17,617.83	122,780	103	68,760	526	8,180	818	26,468	12.63		
	'56	806,494	31,622	124,800	48	80,072	572						
Grace	'55	765,766	33,561	890,094	3,622	42,136	916						
	'56	745,066	34,517	841,780	5,049	42,800	680						
Grangeville	'55			384,800	96.20								
	'56			262,470	73.75								
Hagerman [3]	'55	893,044	113,874			12,580	3,700	28,000	4,000				
	'56	948,858	126,594			16,675	3,3[illegible]5	28,077	3,342				
Hayspur	'55	768,505	27,240	96,000	96	98,431	4,410						
	'56	816,245	30,087										
Henrys Lake	'55			1,243,200	518								
	'56			985,000	985								
Mackay	'55	725,449	29,184	171,080	993.25	66,780	548						
	'56	627,315	35,843.50	131,180	212.50								
McCall	'55	253,400	103	486,120	213.50	123,300	731						
	'56	291,200	142	263,600	126	81,400	696						
Mullan	'55	319,042	2,240	491,260	173.50								
	'56	298,303	1,487	545,900	291	49,600	58						
Sandpoint [4]	'55	430,994	832	691,600	262	336,660	190			43,200	10.25		
	'56	382,253	267.75	619,600	241	91,850	31						
Twin Falls	'55	547,590	11,813			73,300	3,700	59,600	2,600				
	'56	607,390	17,152			19,900	3,980						
Warm River [5]	'55	170,320	172	713,445	755								
	'56		238	698,142	2,988								
Totals	'55	7,328,167	326,496.83	6,832,071	9,809.45	986,507	16,975	154,654	15,074	69,668	22.88	172,860	10,846
	'56	7,580,371	393,080.25	5,433,358	12,584.75	532,088	11,345	48,571	8,474			66,120	10,460
Biennial Totals		14,908,538	719,577.08	12,265,429	22,394.20	1,518,595	28,320	203,225	23,548	69,668	22.88	238,980	21,306

[1] Includes 19,190 (159 lbs.) rb. trans. 1955 to Ashton for holding.
[2] Includes 48,020 (343 lbs.) in 1955 and 54,180 (430 lbs.) in 1956 brk. trans. to Hagerman for holding.
[3] Includes 83,482 (469 lbs.) in 1955 and 92,584 (1,304 lbs.) in 1956 rb. trans. to Twin Falls for holding.
[4] Includes 134,226 (617 lbs.) rb. and 50,470 (103 lbs.) brk. trans. in 1955 to Clark Ford and 1,200 (150 lbs.) steelhead and 52,800 (22 lbs.) ct. trans. in 1956 to Mullan for holding.
[5] Increase in wt. of rb. trans. from Ashton prior to planting. (1956)

HATCHERY PRODUCTION

(November 1, 1954 — October 31, 1956)

		Steelhead		Mackinaw		Dolly Varden		Kokanee		Bass		TOTALS	
		No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.	Number	Pounds
American Falls [1]	'55											886,129	79,792
	'56											842,903	87,997.5
Ashton	'55											1,542,591	12,182
	'56											1,572,875	17,283
Clark Fork	'55					1,650	2,970	1,331,400	317			2,470,994	24,906
	'56							1,280,000	320			2,118,760	30,325
Eagle [2]	'55	780	39					433,872	156	3,150	15(lm.)	1,489,369	19,287.46
	'56	1,386	231					400,000	200			1,412,752	32,673
Grace	'55			43,291	5,584							1,741,287	43,683
	'56											1,629,646	40,246
Grangeville	'55											384,800	96.2
	'56											262,470	73.75
Hagerman [3]	'55											933,624	121,574
	'56								8,140	8,140	148(sm.)	1,001,750	133,419
Hayspur	'55											962,936	31,746
	'56											816,245	30,087
Henrys Lake	'55											1,243,200	518
	'56											985,000	985
Mackay	'55											963,309	30,725.25
	'56											758,495	36,056
McCall	'55							76,000	23			938,820	1,070.5
	'56							75,000	23			711,200	987
Mullan	'55											810,302	2,413.5
	'56							1,040,334	246			1,934,137	2,082
Sandpoint [4]	'55											1,502,454	1,294.25
	'56	1,200	150	23,632	844			113,400	31.5			1,231,935	1,565.25
Twin Falls	'55							182,000	33			862,490	18,146
	'56							190,000	105.5			817,290	21,237.5
Warm River [5]	'55											883,765	927
	'56											698,142	3,226
Totals	'55	780	39	43,291	5,584	1,650	2,970	2,023,272	529	3,150	15	17,616,070	388,361.16
	'56	2,586	381	23,632	844			3,098,734	926	8,140	148	16,793,600	438,243.00
Biennial Totals		3,366	420	66,923	6,428	1,650	2,970	5,122,006	1,455	11,290	163	34,409,670	826,604.16

IDAHO FISH PLANTINGS*

By Species, Size—All Agencies

(November 1, 1954 — October 31, 1956)

Species	Year	Numbers of Each Species Planted, by Size: 1 to-3-inch	3 to 6-inch	6 to 22-inch	Total	Pounds
Rainbow	1955	5,460,566	719,995	1,527,139	7,707,700	412,644.13
	1956	4,140,559	2,374,966	1,703,559**	8,219,084**	484,295.25**
Cuttthroat	1955	6,714,958	118,139	10,122	6,843,219	9,943.75
	1956	5,155,688	151,009	25,911	5,332,608	12,547.45
Brook	1955	569,673	279,545	37,137	886,355	16,223.00
	1956	258,338	182,995	34,225	475,558	10,445.00
Brown	1955	24,150	54,060	76,444	154,654	15,074.00
	1956		8,297	40,274	48,571	8,474.00
Goldens	1955				69,668	22.88
Mackinaw	1955		11,100	31,945	43,045	5,564.00
	1956		23,632		23,632	844.00
Steelhead	1955		570		570	30.00
	1956			1,267	1,267	195.00
Kamloops	1955	84,000	26,400	62,460	172,860	10,846.00
	1956			66,120	66,120	10,460.00
Kokanee	1955	2,023,272			2,023,272	529.00
	1956	3,098,734			3,098,734	926.00
Dolly Varden	1955			1,650	1,650	2,970.00
Chinook Salmon	1955	4,528			4,528	232.00
Largemouth Bass	1955	3,150			3,150	15.00
Smallmouth Bass	1956		8,140		8,140	148.00
Totals	1955	14,953,965	1,209,809	1,746,897	17,910,671	474,093.76
	1956	12,653,319	2,749,039	1,871,356	17,273,714	528,334.70
Biennium Totals		27,607,284	3,958,848	3,618,253	35,184,385	1,002,428.46

*Excludes all salvaged fish, tabulation of which appears in another table.
**Includes 29,440 fish (6,300 lbs.) purchased from a commercial hatchery.

FISH FOOD

(November 1, 1954 — October 31, 1956)

Item	Year	Pounds	Cost
Liver	1955	452,565	$ 54.655.04
	1956	424,861	48,838.60
Slaughterhouse by-products	1955	856,202	43,279.67
	1956	904,495	47,957.22
Horsemeat	1955	165,432	11,427.85
	1956	63,840	4,554.80
Fish and fish viscera	1955	509,420	24,224.19
	1956	520,234	23,808.65
Meal and meal products	1955	204,806	15,536.61
	1956	250,153	19,740.64
TOTALS	1955	2,188,425	$149,123.36
	1956	2,163,583	144,899.91
Biennium Totals		4,352,008	$294,023.27

EGGS TAKEN BY STATE

(November 1, 1954 — October 31, 1956)

Station	Year	Species	Number Green Eggs	Eye-Up, %	Number Eyed Eggs
American Falls	'55	Rainbow	4,751,588	86.37	4,104,324
	'56	"	4,884,629	89.99	4,395,858
	'56	Browns	14,304	99.30	14,204
Clark Fork	'55	Kamloops	720,196	74.86	539,160
	'56	"	550,098	92.71	510,000
Coffee Pot	'55	Rainbow	2,393,090	87.84	2,102,134
	'56	"	2,340,640	94.00	2,200,262
Eagle	'55	Rainbow	180,451	89.24	161,039
	'56	"	444,624	91.24	405,668
Granite Creek (Pend Oreille Lake)	'56	Kokanee	117,357	96.88	113,697
Hayspur	'55	Rainbow	585,440	86.17	504,497
	'56	"	1,186.642	90.71	1,076,418
Henrys Lake	'55	Cutthroat	11,037,462	90.56	9,995,500
	'56	"	7,130,414	92.92	6,625,596
Mullan (Hale)	'55	Rainbow	252,369	82.61	208,494
Priest Lake	'55	Kokanee	3,315,840	99.76	3,307,900
	'56	"	4,392,168	94.29	4,141,068
St. Charles Creek	'55	Rainbow	108,960	77.09	84,000
	'56	"	69,600	81.03	56,400
	'55	Cutthroat	97,200	78.77	76,560
	'56	"	216,000	84.00	181,440
Williams Lake	'55	Rainbow	2,890,476	94.78	2,739,720
	'56	"	1,419,234	95.88	1,360,722
Totals	'55		26,333,072	90.47 (Av.)	23,823,328
	'56		22,765,710	92.60 (Av.)	21,081,333
Biennium Totals			49,098,782		44,904,661

EGGS RECEIVED BY PURCHASE OR EXCHANGE FROM, AND EXCHANGED TO, OTHER AGENCIES

(November 1, 1954 — October 31, 1956)

Species	Year	Number Received	Number Exchanged
Brook	1955	1,226,546	
	1956	1,014,536	
Brown	1955	184,088	
Cutthroat	1955		1,764,264
Goldens	1955	132,028	
Kokanee	1955		1,403,852
	1956		1,089,000
Rainbow	1955	2,588,000	
	1956	2,139,973	
Totals	1955	4,130,662	3,168,116
	1956	3,154,509	1,089,000
Biennium Totals		7,285,171	4,257,116

ROUGH FISH REMOVAL—SEINING PERMITS

(in Pounds)

(November 1, 1954 — October 31, 1956)

Species	Year	Pounds
Carp	1955	392,216
	1956	62,121
Suckers	1955	666,955
	1956	435,033
Chiselmouth	1955	1,655
Chubs	1955	43,244
	1956	167,940
Unidentified	1955	175,641
	1956	163,965
Totals	1955	1,279,711
	1956	829,059
Biennium Totals		2,108,770

FISH SALVAGED AND PLANTED

(November 1, 1954 — October 31, 1956)

Station Area	Year	Trout	Whitefish	Bullheads	L.M. Bass	Perch	Crappie	Totals Numbers	Totals Pounds
American Falls	1956	151						151	168
Ashton	1955		2,925					2,925	3,100
Eagle	1955			2,200	45	7,200	8,280	17,725	2.621
	1956			11,900	8,000	71,700	140,000	231,600	10,210
Hayspur	1955	800						800	1,216
	1956	627						627	1,132
Mackay	1955	2,702	1,802					4,504	1,287
	1956	1,610	8,000					9,610	355
Mullan	1956	166						166	0.1
Totals	1955	3,502	4,727	2,200	45	7,200	8,280	25,954	8,224
	1956	2,554	8,000	11,900	8,000	71,700	140,000	242,154	11,865.1
Biennium Totals		6,056	12,727	14,100	8,045	78,900	148,280	268,108	20,089.1

FISH COUNTS
LEWISTON DAM FISH LADDERS
(November 1, 1954 — October 31, 1956)

Month	Year	Steelhead	Chinook Salmon	Small-mouth Bass
November	1954	360		
	1955	81		
December	1954	23		
	1955	53		
January	1955	1		
	1956	2		
February	1955	47		2
	1956	15		
March	1955	577		
	1956	383		
April	1955	6,191		
	1956	3,120		
May	1955	3,823		
	1956	1,414	2	
June	1955	382	4	2
	1956	77	7	
July	1955	26	6	
	1956		4	
August	1955	15	3	5
	1956	3	1	
September	1955	659	1	4
	1956	128		
October	1955	2,116		
	1956	301		
Totals	1955	14,220	14	13
	1956	5,577	14	
Biennium Totals		19,797	28	13

Business Administration

The primary responsibility of the Administration Division lies in budgetary planning, to assist the director in establishing appropriate fiscal procedures and records to carry this planning into successful operation. The following accounting statements reflect the details of this responsibility.

The secondary responsibility of the Administration Division is to act as administrative agent for the department's personnel, for management divisions, in land acquisition and services, of planning, building, repairing and maintaining the department's capital assets.

The following is a report of lands and property acquired during the biennium:

Warehouse site of 3.40 acres, located in Garden City, $21,500.00.

Conservation Officer quarters at Island Park, Fremont County, $10,500.00.

Conservation Officer quarters site, 3.81 acres, North Fork of the Salmon River, Lemhi County, $850.00.

Conservation Officer quarters in Garden Valley, Boise County, $10,500.00.

Shepherd Lake Area in Bonner County, 358.68 acres around the lake. Purchased to provide access to the lake and for management of wildlife resources, $16,000.00.

Crystal-Niagara Springs Area in Gooding County, 99.68 acres. To provide access to Snake River, and for development of wildlife and recreational purposes, $1,800.00.

Cedar Draw Area in Twin Falls County, containing 5.20 acres. To provide access to Snake River for public use, $2,500.00.

Round Lake Wildlife Management Area in Benewah County, containing 581.66 acres. To provide for public access to the area, and to provide for harvest and management of fish and waterfowl, $5,500.00.

North Lake Wildlife Management Area in Jefferson County, containing 530.11 acres. Addition to North Lake project area, $13,250.00.

Carey Lake Wildlife Management Area in Blaine County, containing 61.06 acres. To provide for development and management of the area, $13,100.00.

Market Lake Wildlife Management Area in Jefferson County, containing 2,845.01 acres. To provide for restoration of drained marshlands and management of wildlife, $160,000.00.

Boise River Deer and Elk Winter Range in Boise, Ada and Elmore Counties, containing 1,313.61 acres. To provide additional winter range for game, and to compensate for wintering areas cut off by construction of Lucky Peak dam, $13,450.00.

The following is a report of lands and property sold during the biennium. These properties were determined to be surplus to department needs, and were sold through the State Land Department as provided by law:

General Howard Refuge in Idaho County, containing 160 acres, $6,321.00.

Idaho County Refuge, containing 40 acres, $4,550.00.

Grangeville Refuge in Idaho County, containing 140 acres, $12,500.00.

Burley Holding Ponds in Cassia County, containing 2.57 acres, $25.00.

Rogerson Conservation Officer site in Twin Falls County, 2.57 acres, $250.00.

Shoshone Conservation Officers site in Lincoln County, five lots, $825.00.

Coeur d'Alene Hatchery residence in Kootenai County, $3,400.00.

Wolf Lodge Fish Trap Site in Kootenai County, 1.12 acres, $235.00.

Boise River Game Range in Ada County, 313.45 acres, $22,400.00. This property was acquired by U. S. Army, Corps of Engineers to be inundated by backwaters of Lucky Peak Reservoir.

In addition, the Corps of Engineers paid the Department $830.00 for flood easement on 1.91 acres at the Sandpoint Hatchery, and $10,751.00 for flood easement at Farragut Wildlife Refuge.

Federal Aid in Fish and Wildlife Restoration

WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Act provides that the Federal Government will finance 75 per cent of approved wildlife projects. Under this act Congress appropriates annually funds received from revenue derived from an 11 per cent excise tax on sporting arms and ammunition. The Idaho legislature passed an enabling act authorizing the Fish and Game Department to participate in this program on March 4, 1939.

Types of Suitable Projects

The basic requirements are that all projects shall be substantial in character and design. Depending upon objectives, they embrace activities in form groups as follows:

1. LAND PURCHASE—Purchase of lands for the rehabilitation of wildlife.
2. LAND DEVELOPMENT—To make land and water areas more suitable for and productive of wildlife, through planting food and cover planting, creating new water impoundments, stabilization of water levels, introduction of game species into suitable habitat and other activities necessary to accomplish this purpose.

   Provisions are made under development projects to maintain all Federal Aid projects, buildings or land improvements.
3. INVESTIGATIONS AND SURVEYS—Research to solve pressing wildlife management problems. These studies must be confined to procurement of factual information designed to improve the administration of the wildlife resources of the state.
4. COORDINATION – The preparation and submission of proposed projects for consideration of Director, Fish and Game Commission, the U. S. Fish and Wildlife Service and Department of Interior, and the coordination of active projects in compliance with Federal and State law.

The act providing for Federal Aid in Wildlife Restoration was amended August 12, 1955, to provide that up to 30% of the funds so appropriated may be used for game management. (Measures concerned with harvest and control of wild birds and mammals being managed by the state fish and game department; law enforcement and public relations are not approvable activities.)

Wildlife Restoration Funds Received

One-half the federal funds available to the states for wildlife restoration projects is allocated in the ratio that the area of each state bears to the total area of all the states; the remainder is allocated in the ratio of the states' paid hunting licenses to the total number of paid hunting license holders in all the states. No state shall receive less than one-half of one per cent, nor more than five per cent of the total amount apportioned to all the states. Since March 11, 1939, when the Idaho Legislature passed the Act enabling participation, $2,304,297.65 in federal apportionments has been allocated to the State of Idaho.

The following financial report is for the period July 1, 1954 to June 30, 1956:

Unobligated balance of Federal funds, July 1, 1954	$ 3,757.09
Apportionment Fiscal Year, 1955	197,986.74
Apportionment Fiscal	288,552.95
Total Federal money available to finance approved projects for period July 1, 1954 to June 30, 1956	$490,296.78
Unobligated balance of Federal funds as of June 30, 1956	$ 5,150.07

Federal Aid in Wildlife Restoration Projects Initiated During Biennium July 1, 1954 to June 30, 1956

Coordination			*Federal*	*State*	*Estimated Total*
FW	40-C-14	Fish and Wildlife Mgmt. Coordination	$ 20,481.38	$ 6,827.12	$ 27,308.50
FW	40-C-15	Fish and Wildlife Mgmt. Coordination	19,790.47	6,596.83	26,387.30
		Total Coordination	$ 40,271.85	$ 13,423.95	$ 53,695.80
Development					
W	89-D- 3	Sand Creek Wildlife Mgmt. Area	$ 3,375.00	$ 1,125.00	$ 4,500.00
W	55-D- 7	North Lake Wildlife Mgmt. Area	3,367.78	1,122.59	4,490.37
FW	4-D- 1	Carey Lake Development	11,600.45	3,866.82	15,467.27
FW	2-D- 3	C. J. Strike Wildlife Mgmt. Area	32,250.00	10,750.00	43,000.00
W	80-D- 7	Game Habitat Improvement	3,000.00	1,000.00	4,000.00
W	73-D- 4	Star Lake Management Area	6,535.68	2,178.56	8,714.24
W	103-D- 3	Farragut Wildlife Mgmt. Area	5,247.62	1,749.21	6,996.83
W	89-D- 4	Sand Creek Wildlife Mgmt. Area	8,123.19	2,707.73	10,830.92
W	60-D- 4	Boundary County Refuge	930.02	310.01	1,240.03
W	64 D- 4	Boise River Deer and Elk Winter Range	3,952.93	1,317.65	5,270.58
W	36-D- 6	Hagerman Refuge	10,165.26	3,388.42	13,553.68
W	80-D- 8	Game Habitat Improvement	34,490.77	11,496.93	45,987.70
W	113-D- 1	Primitive Area Winter Range	4,213.41	1,404.47	5,617.88
W	55-D- 8	North Lake Wildlife Management Area	27,694.32	9,231.44	36,925.76
W	110-D- 2	Chamberlain Basin Hunter Access Trails	2,338.54	779.51	3,118.05
W	114-D- 1	Statewide Aerial Big Game Salting	7,050.00	2,350.00	9,400.00
FW	5-D- 1	Shepherd Lake	1,815.30	605.10	2,420.40
FW	4-D- 2	Carey Lake Development	2,661.01	887.00	3,548.01
W	89-D- 5	Sand Creek Wildlife Management Area	2,175.00	725.00	2,900.00
FW	4-D- 3	Carey Lake Development	2,250.00	750.00	3,000.00
W	36-D- 7	Hagerman Refuge	6,300.00	2,100.00	8,400.00
W	55-D- 9	North Lake Wildlife Mgmt. Area	12,525.00	4,175.00	16,700.00
W	60-D- 5	Boundary County Refuge	600.00	200.00	800.00
W	80-D- 9	Game Habitat Improvement	17,850.00	5,950.00	23,800.00
W	89-D- 6	Sand Creek Wildlife Management Area	8,850.00	2,950.00	11,800.00
W	73-D- 5	Star Lake Management Area	5,625.00	1,875.00	7,500.00
W	103-D- 4	Farragut Wildlife Management Area	2,475.00	825.00	3,300.00
W	64-D- 5	Boise River Deer and Elk Winter Range	2,925.00	975.00	3,900.00
W	113-D- 2	Primitive Area Winter Range	1,875.00	625.00	2,500.00
FW	2-D- 4	C. J. Strike Wildlife Management Area	5,325 00	1,775.00	7,100.00
W	114-D- 2	Statewide Aerial Big Game Salting	2,625.00	875.00	3,500.00
		Total Development	$240,211.28	$ 80,070.44	$320,281.72
Lands					
FW	82-L- 4	Carey Lake Migratory Bird Mgmt. Unit	$ 1,575.00	$ 525.00	$ 2,100.00
W	61-L- 7	Boise River Elk and Deer Winter Range	5,666.25	1,888.75	7,555.00
W	82-L- 5	Carey Lake Migratory Bird Mgmt. Unit	8,285.25	2,761.75	11,047.00
W	61-L- 8	Boise River Elk & Deer Winter Range	147.00	49.00	196.00
W	115-L- 1	Market Lake Wildlife Mgmt. Area	30,000.00	10,000.00	40,000.00
FW	3-L- 2	Round Lake Wildlife Mgmt. Area	1,350.00	450.00	1,800.00
W	61-L- 9	Boise River Elk and Deer Winter Range	751.50	250.00	1,002.00
		Total Lands	$ 47,775.00	$ 15,925.00	$ 63,700.00

Research			*Federal*	*Total*	*Estimated Total*
W	112-R- 1	Clearwater Game and Range Study	$ 7,935.94	$ 2,645.31	$ 10,581.25
W	99-R- 3	Mgmt. Study of Bighorn Rocky Mt. Sheep	541.84	180.61	722.45
W	96-R- 2	Statewide Game Bird Survey and Inventory	33,750.00	11,250.00	45,000.00
W	108-R- 3	Fur Resources Survey	13,200.00	4,400.00	17,600.00
W	85-R- 8	Idaho Game Population Census and Range	84,750.00	28,250.00	113,000.00
W	111-R- 2	Artificial Revegetation Study	7,125.00	2,375.00	9,500.00
W	85-R- 7	Idaho Game Population Census and Range	74,775.00	24,925.00	99,700.00
W	112-R- 2	Clearwater Game and Range Study	42,000.00	14,000.00	56,000.00
W	108-R- 4	Fur Resources Survey	4,050.00	1,350.00	5,400.00
W	96-R- 7	Statewide Game Bird Survey and Inv.	11,400.00	3,800.00	15,200.00
W	111-R- 3	Artificial Revegetation Study	7,500.00	2,500.00	10,000.00
W	98-R- 3	Mgmt. Study of Rocky Mountain Goat	2,468.24	822.75	3,290.99
		Total Research	$289,496.02	$ 96,498.67	$385,994.69

Summary of Estimated Costs

Type of Project	Federal	State	Estimated Total	% of Total Money Obligated
Coordination Projects	$ 40,271.85	$ 13,423.95	$ 53,695.80	6.52
Development Projects	240,211.28	80,070.44	320,281.72	38.88
Land Projects	47,775.00	15,925.00	63,700.00	7.74
Research Projects	289,496.02	96,498.67	385,994.69	46.86
Total	$617,754.15*	$205,918.06	$823,672.21	100.00%

***This figure represents the total federal funds obligated for projects initiated during the biennium. Many of the projects are continuing and are carried beyond the biennium period; therefore, this figure does not represent actual expenditures. The total expenditures for all active wildlife restoration projects during the biennium was $485,146.71.**

FISH RESTORATION

A federal Act passed on August 9, 1950, provides that federal funds obtained from a 10% excise tax on fishing rods, creels, reels and artificial lures, baits and flies, be made available to participating states on the following basis: 40% in the ratio that the area of each state, including coastal and Great Lakes waters, bears to the total area of all states; and 60% in ratio that the number of persons holding paid licenses to fish for sport or recreation in each state bears to the number of licensed fishermen in all the United States.

These funds available to the Idaho Fish and Game Department are used to finance approved fish restoration and management projects in exactly the same manner as for the Wildlife Restoration projects.

The following financial report is for the period July 1, 1954 to June 30, 1956:

Unobligated balance of Federal funds, July 1, 1954	$ 48,043.17
Apportionment Fiscal Year, 1955	77,356.43
Apportionment Fiscal Year, 1956	86,740.98
Total Federal money available to finance approved projects For period July 1, 1954 to June 30, 1956	$212,140.58
Unobligated balance of Federal funds as of June 30, 1956	$ 3,708.01

Federal Aid in Fish Restoration and Management Projects Initiated During Biennium

JULY 1, 1954 TO JUNE 30, 1956

			Federal	State	Estimated Total
Coordination					
FW	40-C-14	Coordination	$ 9,201.77	$ 3,067.26	$ 12,269.03
FW	40-C-15	Coordination	7,734.53	2,578.17	10,312.70
		Total Coordination	$ 16,936.30	$ 5,645.43	$ 22,581.73
Development					
F	12-D- 1	Rehabilitation of Mud Lake	$ 14,541.41	$ 4,847.14	$ 19,388.55
F	17-D- 1	North Idaho Lake Development	10,470.00	3,490.00	13,960.00
F	19-D- 1	Rehabilitation of Stanley Lake	13,537.66	4,512.56	18,050.22
FW	4-D- 1	Carey Lake Development	1,374.55	458.18	1,832.73
FW	2-D- 2	C. J. Strike Wildlife Management	2,515.36	838.45	3,353.81
F	4-D- 2	Mirror Lake Fisheries Development	2,287.50	762.50	3,050.00
FW	5-D- 1	Shepherd Lake	1,109.70	369.90	1,479.60
F	16-D- 2	Silver Creek Stream Improvement	3,795.00	1,265.00	5,060.00
F	25-D- 1	Waha and Blue Lake Rehabilitation	5,550.00	1,850.00	7,400.00
F	26-D- 1	Boundary County Lake Development	1,875.00	625.00	2,500.00
F	28-D- 1	Mountain Lakes	14,925.00	4,975.00	19,900.00
F	19-D- 2	Rehabilitation of Stanley Lake	2,452.50	817.50	3,270.00
		Total Development	$ 74,433.68	$ 24,811.23	$ 99,244.91
Research					
F	18-R- 1	Statewide Fishing Harvest Survey	$ 2,028.10	$ 727.64	$ 2,755.74
F	10-R- 3	Fisheries Investigation on Bear Lake	4,350.00	1,450.00	5,800.00
F	22-R- 1	Experimental Rough-Fish Control	11,707.07	3,902.36	15,609.43
F	15-R- 1	Clearwater River Fisheries	1,125.00	375.00	1,500.00
F	24-R- 1	Priest Lake Fisheries Investigation	4,428.24	1,476.08	5,904.32
F	13-R- 1	Fisheries Investigation on Henrys Lake	1,181.25	393.75	1,575.00
F	3-R- 5	Lake Pend Oreille	9,750.00	3,250.00	13,000.00
F	13-R- 2	Fisheries Investigation on Henrys Lake	4,575.00	1,525.00	6,100.00
F	15-R- 2	Clearwater River Fisheries Investigation	12,000.00	4,000.00	16,000.00
F	18-R- 2	Statewide Fishing Harvest Survey	2,241.50	747.16	2,988.66
F	3-R- 6	Lake Pend Oreille	11,250.00	3,750.00	15,000.00
F	24-R- 2	Priest Lake Fisheries Inv.	5,100.00	1,700.00	6,800.00
F	15-R- 3	Clearwater River Fisheries Inv.	18,000.00	6,000.00	24,000.00
F	22-R- 2	Experimental Rough-Fish Control	18,969.00	6,323.00	25,292.00
		Total Research	$106,705.16	$ 35,619.99	$142,325.15
Lands					
F	21-L- 1	Crystal-Niagara Springs	$ 1,350.00	$ 450.00	$ 1,800.00
F	23-L- 1	Shepherd's Lake	12,009.38	4,003.13	16,012.51
F	27-L- 1	Cedar Draw Access	1,946.25	648.75	2,595.00
F	30-L- 1	Spirit Lake Public Access Area	2,400.00	800.00	3,200.00
FW	3-L- 2	Round Lake	1,350.00	450.00	1,800.00
		Total Lands	$ 19,055.63	$ 6,351.88	$ 25,407.51

Summary of Estimated Costs

Type of Project	Federal	State	Estimated Total	% of Total Money Obligated
Coordination Projects	$ 16,936.30	$ 5,645.43	$ 22,581.73	7.80
Development	74,433.68	24,811.23	99,244.91	34.27
Research	106,705.16	35,619.99	142,325.15	49.15
Lands	19,055.63	6,351.88	25,407.51	8.78
Total	$217,130.77*	$72,428.53	$289,559.30	100.00%

***This figure represents the total federal funds obligated for projects initiated during the biennium. Many of the projects are continuing and are carried beyond the biennium period, therefore, this figure does not represent actual expenditures. The total expenditure for all active fish restoration and management projects during the biennium was $208,432.57.**

Financial Report

Fish and Game Department disbursements showed a marked increase compared to the previous biennium. Total funds expended amounted to $3,791,337.58 compared to $3,211,494.91 for an increase of approximately $579,842.67. The increase in expenditures was mainly accounted for by expansion within the department and increased fisheries production.

The Fish and Game Fund required $2,542,165.49 for all regular activities of the department. The Director's Predatory Animal Fund No. 60 utilized $63,915.74. Of this amount, $3,975.00 was paid out for bounties on 129 cougar; $6,832.38 was expended directly for magpie control and the balance for general control on all types of predators.

The Wildlife Restoration Project's (Pittman-Robertson) Fund No. 61 for land purchases of winter game range, game management studies, and habitat improvement for all types of wildlife directly connected with game animals and game birds utilized $831,006.90. $209,450.69 was expended from the Fish Restoration Project's Fund (Dingell-Johnson) No. 65. This is another Federal Aid projects fund which was put into effect the latter half of the 1951-1953 biennium. The program is now well under way and expenditures are being made to the full extent of the funds available. 75% of the above two fund expenditures come from a federal excise tax on fishing and hunting supplies and equipment. The remaining 25% comes out of regular Fish and Game monies.

Receipts

Receipts for the biennium amounted to $3,933,866.35 showing an increase over the receipts for the last previous biennium in an amount of $463,789.38. This is an all time high for Fish and Game Department income. Sales of licenses, tags and permits brought in $2,760,156.76 an increase of $218,761.56—refunds from Federal Aid projects contributed $796,958.05, an increase of $201,294.07—miscellaneous sales accounted for the balance of the revenue. Non-resident hunting and fishing licenses accounted for $1,040,804.60. Big Game tags or controlled hunt permits are not included in this amount, but probably account for another $15,000.00 in out of state revenue.

License Sales

Sales of resident and non-resident fishing and hunting licenses reached a peak during the biennium with a marked drop from previous biennium sales in some classes. Resident combination licenses led all classes with a total number of 228,167 issued—a decrease of 32,646 under the previous biennium. Resident hunting licenses showed a decrease of 1,559; resident fishing permits jumped 4,727; non-resident combination hunting and fishing licenses moved up 830 during the period, to a total of 7,337.

Non-residents contributed heavily to department revenues in numbers of fishing licenses purchased as they boosted season license sales by 26,018. Tourist class five-day fishing permits decreased 2,181 under the 1952-1954 biennium with 88,137 issued.

Big game hunters swelled the ranks as they purchased 210,542 deer tags and 97,958 elk tags during the two-year period. Deer tag sales moved up approximately 2,428 above the last biennium while elk tags jumped 6,362 for the same period.

There was a general levelling off during the biennium and sales during the two-year period showed decreases in numbers for the 1955-56 fiscal year over 1954-55. There was a sharp decrease in resident combination licenses due mainly to the license fee increase which went into effect in May of 1955, causing a heavy run of license buying at the old price.

Fines

Fish and Game Department revenues were increased by $28,268.00 as a result of fines and confiscations during the biennium. Conservation officers reported 2,053 arrests for game law violations during the period.

Legislation, providing that one-half of all funds received from fines in fish and game law violation cases be retained in the county in which the case was held, was placed in effect on May 11, 1951. The above figure is the department's share only.

Detail of Disbursements

Fish and Game Fund No. 6	1954-55	1955-56	Biennium Total
Salaries and Wages	$ 561,763.74	$ 619,705.40	$1,181,469.14
Travel	45,334.72	50,515.12	95,849.84
Operating Expense	391,338.55	403,049.82	794,388.37
Capital Outlay	191,193.09	242,612.00	433,805.09
Refunds	530.85	195.95	726.80
Auditing Fee	1,750.00	200.00	3,750.00
Social Security (Dept. Share)	8,237.74	12,136.93	20,374.67
Statehouse Administration		12,115.69	12,115.69
Less Cancelled Warrants	297.61CR	16.50CR	314.11CR
Total Fund No. 6	$1,199,851.08	$1,342,314.41	$2,542,165.49
Predatory Animal Fund No. 60			
Salaries and Wages	$ 21,104.72	$ 21,247.62	$ 42,362.34
Travel	2,547.68	2,477.25	5,024.93
Operating Expense	5,499.59	5,883.09	11,382.68
Cougar Bounties	1,250.00	2,725.00	3,975.00
Magpie Control	342.12	527.30	869.42
Social Security (Dept. Share)	144.06	167.31	311.37
Total Fund No. 60	$ 30,888.17	$ 33,027.57	$ 63,915.74
Wildlife Restoration Fund No. 61			
Salaries and Wages	$ 199,630.23	$ 213,478.26	$ 413,108.49
Travel	11,385.86	11,960.20	23,346.06
Operating Expense	103,108.11	133,875.78	236,983.89
Capital Outlay	63,397.67	87,304.53	150,702.20
Social Security (Dept. Share)	2,940.96	4,015.97	6,956.93
Less Cancelled Warrants	20.00CR	70.67CR	90.67CR
Total Fund No. 61	$ 380,442.83	$ 450,564.07	$ 831,006.90
Fish Restoration Fund No. 65			
Salaries and Wages	$ 40,208.48	$ 50,139.43	$ 90,347.91
Travel	4,579.64	5,456.28	10,035.92
Operating Expense	40,762.54	26,689.38	67,451.92
Capital Outlay	29,978.97	10,464.15	40,443.12
Social Security (Dept. Share)	378.03	793.79	1,171.82
Total Fund No. 65	$ 115,907.66	$ 93,543.03	$ 209,450.69
Beaver Suspense Fund No. 149			
Claims paid to Trappers	$ 92,477.50	$ 52,321.26	$ 144,798.76
Total All Funds	$1,819,567.24	$1,971,770.34	$3,791,337.58

Detail of Cash Receipts

Fish and Game Fund No. 6	1954-1955 Number	1954-1955 Amount	1955-1956 Number	1955-1956 Amount	Biennium Total Number	Biennium Total Amount
Resident Hunting and Fishing	135,529	$ 400,168.50	92,638	$ 352,024.40	228,167	$ 752,192.90
Resident Hunting	48,085	91,375.75	45,070	107,042.05	93,155	198,417.80
Non-resident Hunting and Fishing	3,934	187,292.50	3,403	242,463.75	7,337	429,756.25
Resident Fishing	47,790	95,716.46	48,074	114,178.34	95,864	209,894.80
Non-resident Bird	1,163	22,097.00	1,134	21,546.00	2,297	43,643.00
Non-resident Season Fish	14,597	143,054.80	11,421	130,199.40	26,018	273,254.20
Non-resident 5 day Fish	47,398	138,282.95	40,939	155,568.20	88,137	293,851.15
Non-resident Trapper	4	285.00	1	71.25	5	356.25
Non-resident Gun	6	11.40	3	5.70	9	17.10
Resident Trapper	1,237	5,875.75	669	3,177.75	1,906	6,193.50
Guide License	69	345.00	72	360.00	141	705.00
Outfitters License	119	595.00	139	695.00	258	1,290.00
Extra Specie License (Non-Res.)	830	19,712.50	16	380.00	846	20,092.50
Non-resident Outfitters			13	325.00	13	325.00
Deer tags	103,372	98,516.90	106,840	101,498.00	210,542	200,014.90
Elk tags	47,201	91,581.90	50,757	96,438.30	97,958	188,020.20
Shipping Permit	1,331	532.40	1,107	442.80	2,438	975.20
Resident Fur Buyer	46	230.00	56	280.00	102	510.00
Non-resident Fur Buyer	1	20.00	1	20.00	2	40.00
Taxidermist License	14	140.00	9	90.00	23	230.00
Private Pond Permit	44	440.00	40	400.00	84	840.00
Game Bird Farm Permit	25	250.00	24	240.00	49	490.00
Comm. Whitefish and Blueback Salmon	170	1,700.00	190	1,900.00	360	3,600.00
Deer Permit	12,960	38,880.00	14,353	43,059.00	27,313	81,939.00
Elk Permit	2,525	12,625.00	1,725	8,625.00	4,250	21,250.00
Moose Permit	126	3,150.00	136	3,400.00	262	6,550.00
Moose tags	126	1,260.00	136	1,360.00	262	2,620.00
Antelope Permit	1,440	4,320.00	1,440	4,320.00	2,880	8,640.00
Antelope tags	1,440	1,440.00	1,440	1,440.00	2,880	2,880.00
Goat Permit	52	260.00	53	265.00	105	525.00
Goat tags	52	520.00	53	530.00	105	1,050.00
Sheep Permit	50	1,250.00	50	1,250.00	100	2,500.00
Sheep tags	50	500.00	50	500.00	100	1,000.00
Deer Archery Permit	200	600.00			200	600.00
Non-resident Outfitters	1	25.00	13	325.00	14	350.00
Ling Permit			2	20.00	2	20.00

Commission (office Sales)	1,314.80	1,672.41	2,987.21
Sub-Total Licenses, Tags, Permits, Etc.	1,364,368.61	1,395,788.15	2,760,156.76
Sold at incorrect fee	12.35	34.22	46.57
Sale Wrong Class License	4.00		4.00
Receipt in Lieu of License Sales	90.00		90.00
Total License Sales	1,364,474.96	1,395,822.37	2,760,297.33
Beaver Hides (states share)	32,683.01	16,583.45	49,266.46
Fines and Confiscations	15,080.55	13,187.45	28,268.00
Rentals	9,460.33	8,580.86	18,041.19
Royalty Non-game fish	5,588.36	3,856.68	9,445.04
Refunds	33,900.89	78,135.45	112,036.34
Miscellaneous Sales	7,775.37	6,972.23	14,747.60
TOTAL FUND NO 6	1,468,963.47	1,523,138.49	2,992,101.96
WILDLIFE RESTORATION FUND NO. 61			
Federal Matching Funds	320,687.67	297,059.57	617,747.24
Miscellaneous	25,641.89	6,105.43	31,747.32
Social Security Adjustment	11.60		
TOTAL FUND NO. 61	346,341.16	303,165.00	649,506.16
FISH RESTORATION FUND NO. 65			
Federal Matching Funds	80,629.75	66,811.14	147,440.89
Misc. Receipts		11.00	11.00
TOTAL FUND NO. 65	80,629.75	66,822.14	147,451.89
Beaver Suspense Fund No. 149			
Sale of Beaver Hides (trappers share)	92,910.91	51,895.43	144,806.34
TOTAL ALL FUNDS	1,988,845.29	1,945,021.06	3,933,866.35

OPERATION IN FUNDS

Funds	7-1-54 BALANCE	RECEIPTS Cash	RECEIPTS Transfer	DISBURSEMENTS Cash	DISBURSEMENTS Transfers	6-30-56 BALANCE
Fish and Game	$679,131.30	$2,992,101.96		2,542,165.49	322,000.00	807,067.77
Predatory Animal	3,910.46		72,000.00	63,915.74		11,994.72
Wildlife Restoration	37,563.05	649,506.16	175,000.00	831,006.90		31,062.31
Fish Restoration	26,876.82	147,451.89	75,000.00	209,450.69		39,878.02
Beaver Suspense	255.23	144,806.34		144,798.76		262.81
Revolving Fund	1,000.00					1,000.00
TOTAL ALL FUNDS	$748,736.86	$3,933,866.35	$322,000.00	$3,791,337.58	$322,000.00	$891,265.63