Eighteenth Biennial Report of the FISH AND GAME DEPARTMENT

of the

STATE OF IDAHO

1939-1940

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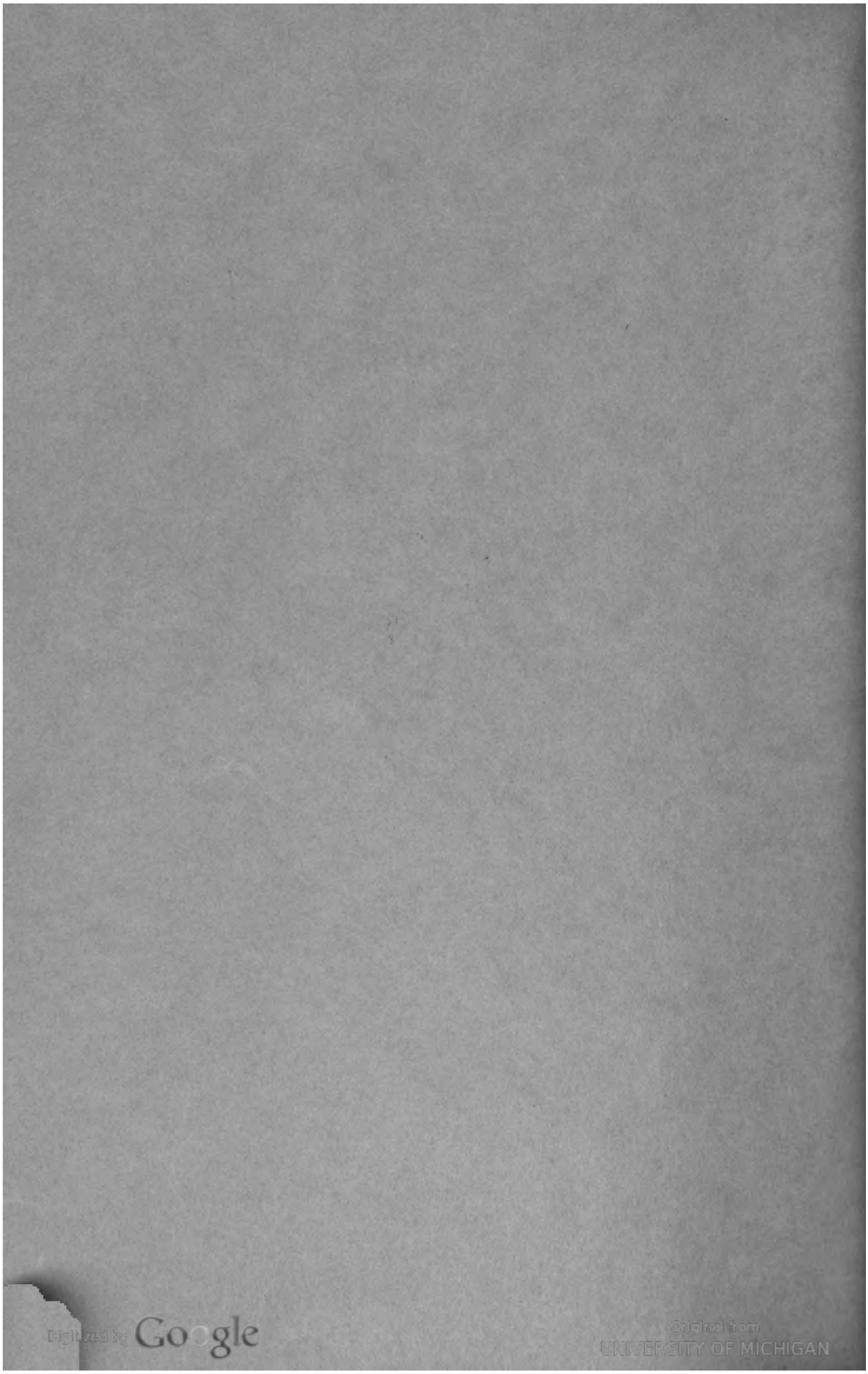
OWEN W. MORRIS

Director



Eighteenth Biennial Report

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FISH AND GAME DEPARTMENT

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STATE OF IDAHO

1939-1940

IDAHO STATE FISH AND GAME COMMISSION

GEORGE E. BOOTH, Burley
Chairman

GEORGE W. GREBE, Kuna
Secretary

WALTER A. FISCUS, Potlatch
Member

ALTON R. HOWELL, Idaho Falls
Member

M. J. BOTTINELLI, Kellogg
Member

OWEN W. MORRIS, Director
State Fish and Game Department

TO HIS EXCELLENCY, C. A. BOTTOLFSEN,

Governor of the State of Idaho, and to the Members of the Twenty-Sixth Session of the Legislature:

Gentlemen:

We submit herewith a report approved by the Idaho State Fish and Game Commisson covering the activities of the Fish and Game Commission and Department during the biennial term ending December 31st, 1940.

Respectfully submitted,
OWEN W. MORRIS,
Director.

PERSONNEL DIRECTORY

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Burton Perrine, Fish Culturist
David J. Maclay, Director of Fisheries
A. N. Miller, Chief Clerk
John J. Boyle, Supervisor of Federal Aid Projects

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Margaret Holland, Voucher Clerk
Lasca Lou Kibby, Stenographer
Fay Bussard, License Clerk
Marion Orr, Voucher Examiner
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T. J. Mizer, Hailey
J. W. Robertson, Burley
Glen H. Richardson, Sandpoint
John W. Smith, Emmett

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W. Lee Black, Mountain Home
Alonzo Brown, Weiser
Fred M. Clark, New Meadows
Clifford S. Code, Preston
Lorenzo Davis, St. Anthony
Ted Davis, Carey
Charles F. Dickinson, Fairfield
J. B. F. Dillon, Mackay
C. W. Gallaher, Kamiah
Elwood D. Grimes, American Falls
Frank R. Keough, St. Maries
George C. Lowe, Kooskia
Albert F. Lyle, Bonners Ferry
Fred W. Matthews, Driggs
Ernest H. McCabe, Payette
P. J. McDermott, McCall
Harry V. Palmer, Moscow
Vernon B. Rich, Malad
Wesley M. Shaw, Ashton
Ivol E. Sies, Coeur d'Alene
George Staudt, Kellogg
Wendell Twichell, Soda Springs
Ralph K. Walker, Nampa
Nolen N. Whittemore, Dubois
J. M. Wilkins, Salmon
Henry Wright, Orofino

FISH HATCHERY SUPERINTENDENTS

B. D. Ainsworth, Ashton
Harvey Albrethsen, Asst.
Charles Sherwood, American Falls
W. D. Kelley, Asst.
E. C. Tyler, Boyd Creek (Lowell)
Calmer Clark, Cascade
Alan J. Clark, Coeur d'Alene
Norman Floyd, Asst.
J. E. Clark, Evergreen (Tamarack)
E. O. Bailey, Eagle
L. W. Gaver, Grangeville
M. K. Thornhill, Hayspur (Gannett)
Clarence Bess, Asst.
Frank E. Gaver, Henry's Lake
John M. Coleman, Mackay
G. L. Bowlden, McCall
R. W. Brown, Sandpoint
H. G. Stoll, Asst.
O. H. Dahlquist, Twin Falls
Tim Vaughan, Boise

GAME FARM PERSONNEL

V. W. Bailey, Jerome
Superintendent

Homer Woody, Jerome
Assistant

Paul Flinn, Lapwai
Assistant

WILDLIFE RESTORATION PROJECTS PERSONNEL

D. Marshall Gaufin, Leader
Mountain Sheep Survey
Gordon Ellis, Assistant

Rulon L. Medford, Leader
Wildlife Survey Project

William S. Hayes, Leader
Beaver Survey Project

The Idaho Fish and Game Commission

By an initiative measure adopted by majority vote of the people on November 8, 1938, the administration of the Fish and Game Department of the State of Idaho, and the regulation, management and control of all wildlife within the State, was transferred to five commissioners appointed by the Governor.

In compliance with the Act, the State was divided into five districts with one resident commissioner appointed from each district. The counties in each district are:

District No. 1—Boundary, Bonner, Kootenai, Shoshone, Benewah.
District No. 2—Latah, Clearwater, Nez Perce, Lewis, Idaho.
District No. 3—Adams, Valley, Washington, Payette, Gem, Boise, Canyon, Ada, Elmore, Owyhee.
District No. 4—Camas, Gooding, Jerome, Twin Falls, Cassia, Blaine, Lincoln, Lemhi, Custer, Minidoka, Butte.
District No. 5—Clark, Fremont, Jefferson, Madison, Teton, Bingham, Bonneville, Power, Bannock, Caribou, Oneida, Franklin, Bear Lake.

ORGANIZATION

During the earlier months of 1939 considerable difficulty was encountered in an attempt to organize the commission and reorganize the Department under a commission plan. A complete reorganization of the Department was finally accomplished and the commission began to function in conformity with the letter and spirit of the Act.

CIVIL SERVICE RULES ADOPTED

The first important work of the commission was the adoption of civil service rules under which all applicants for positions in the Department were subjected to competitive examinations. This was in accordance with the provisions of the Act designed to take the Department entirely out of politics. Employees were selected not for their political affiliation or influence, but upon the grades shown as a result of examinations held on June 25th, 1939, at which time approximately 2000 persons took the examinations for the various classified positions. From the 516 successful applicants, eligible registers were set up for all branches of the service based upon the relative numerical rating each had attained as a final grade in

the examination. The entire civil service system as set up by the Commission was patterned after approved civil service practices in use by other agencies operating under this system.

To insure the successful operation of this plan, the Commission appointed an impartial advisory board composed of three members whose duties require them to review, approve and report to the Commission on the manner in which the procedure is followed in all personnel matters. A supervisor of examinations and an examination committee were appointed by the Commission to prepare and supervise the examinations; the examination board ceased to function after the completion of the examinations.

The examinations were composed of three sections: first, a written examination covering subjects common to the particular position being applied for; second, a rating based on education and experience of the applicant; and third, the rating given by an oral examining board before whom the applicant appeared. Oral examining boards were composed of three members chosen by the examining committee from towns outside the points at which they were to serve.

At the request of the Commission, the Civil Service Advisory Board has made a complete review of the procedure which has been followed in making all appointments, and the report of this board to the Commission established the fact that the personnel of the Department has been chosen from civil service registers on the basis of merit and that all rules and regulations have been followed in all matters of selection and administration of personnel.

A Director and a Fish Culturist were selected by the Commission, and these appointments, too, were made entirely upon the qualifications of the applicants and without regard for personal friendship or politics. The Commission itself is composed of men whose interest in the conservation of the fish and game of the State transcended any interest they might have had in politics.

Soon after reorganization of the Department in 1939, a rule was adopted giving each Commissioner the right to final determination on any question pertaining to the management of wildlife within his particular district, except when such question had general application throughout the State or affected any other district, it being presumed that each commissioner by reason of his residence and familiarity with fish and game conditions within his district would be best qualified to make such determination. This rule established a harmonious working agreement between all commissioners, simplified and expedited the work and gave to each commissioner his full share of power and responsibility.

HEARINGS, REGULATIONS AND ORDERS

Hearings were held prior to the adoption of any regulation or order and every means was employed to bring before the Commissioners all pertinent facts from which they might make their findings. The Act did not grant the Commission power to make the law but only to administer it by finding the facts and by making an order in accordance with such facts and the provisions of the Act.

Where any species of fish or game were found to be threatened with serious depletion in any locality, it was not necessary to wait until the next session of the legislature to remedy the situation. Upon the presentation of the facts to the Commission, either at its regular or special meetings, the necessary orders were made to close the stream, lake or area affected, or restrictions were imposed which in every instance resulted in immediate benefit to the species and prevented loss of valuable foundation stocks of birds, game animals and fish.

Another distinct advantage of the commission plan of game management became apparent when it was found that each commissioner soon developed a most thorough knowledge of the needs and conditions within his district and was in a position to act intelligently on matters requiring his attention.

Fish and game being essentially the property of all the people, the Commission assumed that it was its duty to make every effort to regulate the hunting and fishing privileges in a way that would insure a constant supply for the future and so that all who purchase hunting and fishing licenses might have an equal opportunity to harvest their share of it.

Commission regulations and orders were issued too late in the 1939 season to be printed on the licenses and it was necessary to make publication of them in addition to the legal notices required by the Act. The law providing that all publications of laws issued in pamphlet form shall be sold at not less than ten cents per 100 folios, seriously hampered the commission in its endeavor to give wide distribution to its orders and changes in regulations. The Commission recommends an amendment to that act permitting the fish and game department to publish commission orders in pamphlet form or otherwise and distribute them free of charge. The 1939 regulations and orders, thanks to a great deal of gratuitous publicity by the press of the State, were generally respected and obeyed and the season closed with everyone seemingly well satisfied with the commission regulations.

In 1940 the Commission held its hearings in January and was able to have all major regulations printed in synopsis on the license. Some changes were made during the season where it was deemed necessary and again the season closed with every indication of general approval on the part of the public.

BUDGET AND FINANCE

The Commission gave careful consideration to the financial affairs of the Department. A budget was fixed for the year 1939 and again in 1940, covering every anticipated requirement for expenditure of funds for all purposes. Much needed repair work as well as new construction was provided for and a careful estimate of the necessary funds for each purpose was made. The records will show that all improvements and repairs scheduled for the years 1939 and 1940 were adequately financed and that the Department did not exceed the budget requirements.

These were but a few of the accomplishments under the new system. In addition, the Commission has sponsored attention to the scientific approach to fisheries problems and has financed an enlarged program in the divisions of law enforcement and fisheries.

RECOMMENDATIONS

The Commission recommends a complete revision of the fish and game code to make it conform to the Commission Act. While it is true that orders and regulations of the Commission supersede old statute laws, except those pertaining to licenses and penalties, yet those old acts have never been repealed and stand to confuse those who seek knowledge of the law when they get ready to go out to fish or hunt as well as tending to confuse Justices of the Peace before whom most actions for violation are brought.

The Commission has gone over all game laws, making note of all which are obsolete and those which are duplicated, as well as those which need to be amended to make them conform to the Commission Act. The result of this research indicates 74 sections of the Idaho Code Annotated and 27 sections in the Session Laws which are duplications or obsolete and 24 sections that should be amended. This would bring the fish and game code down to less than half its present volume and clarify it so that the ordinary person could much more readily determine what actually is the law.

PUBLIC COOPERATION

The Commission is indeed grateful to the sportsmen of the State, and to all those who fish and hunt, for the splendid cooperation it received in observing its orders and regulations, and the generous

help given in restoration and conservation programs throughout the State. The Commission also expresses its appreciation to the press of the State for its cooperation and the publicity which made it possible for the people of the State to be adequately and accurately informed of changes in fish and game regulations.

Respectfully submitted,

IDAHO FISH AND GAME COMMISSION

M. J. Bottinelli, Kellogg, District 1.
Walter A. Fiscus, Potlatch, District 2.
G. W. Grebe, Kuna, (Sec.) District 3.
Geo. E. Booth, Burley, (Chmn.) District 4.
Alton R. Howell, Idaho Falls, District 5.

Conservation Division

The program of the Fish and Game Department under a political system, even though directed and carried out by interested and conscientious employees, was hampered by periodic changes in the personnel of the department, cutting short any efforts which might have been put forth to attack problems requiring long periods of time to complete. To eliminate this weakness in organization, by initiative act the voters of Idaho established a more permanent system of managing the Fish and Game Department through the creation of a non-partisan Fish and Game Commission, charged with the responsibility of establishing a civil service procedure to govern the selection and administration of personnel.

The advantages of the merit system have been evidenced during the past year in the manner in which the employees have approached the work assigned to them. In all divisions of the department, an increased amount of work has been accomplished and in most instances at a considerable reduction in cost.

In the fish hatchery and game farm fields, an increased production has been effected, an improvement made in the quality of output, and savings have been effected in the cost of operation of the individual units. The clerical force has assumed added duties and has kept correspondence, accounts and reports up-to-date without the necessity of employing additional assistance.

In addition to their regular duties of enforcing game laws and regulations, conservation officers have assisted in live-trapping and transplanting beaver, and trapping and pelting them when transplanting is impossible, have distributed fish from the hatcheries to the streams, have placed hay and salt for big game, planted game birds from the game farms, and have disseminated information on the objectives and policies of the commission at public schools and before civic groups.

To enable the conservation officers to participate in the enlarged program, the commission approved the purchase of twenty-six pick-ups during the biennium which makes it possible for the officers to perform these duties more effectively. Conservation officers have equipped themselves with camping outfits and the department has furnished them with snowshoes, skiis, rubber boots, and in some instances with tents and sleeping bags, to make it possible for them to make extended field trips throughout the district assigned to them under all weather conditions.

COMPARATIVE TABLE
OF
ARRESTS, FINES AND CONFISCATIONS

	1937	1938	1939	1940
Arrests Made	221	350	493	864
Convictions Obtained	216	342	485	844
Number of Fines Collected	148	228	323	521
Amount of Fines Collected	$3,703.46	$5,751.50	$7,420.45	$10,803.34
Number of Confiscations	99	79	163	175
Amount of Confiscations	$209.85	$201.84	$559.33	$419.92

BIG GAME

The limiting factor in the production of big game in Idaho is the lack of abundant winter forage. During the biennium, however, we have experienced two mild winters which have permitted big game animals to range over a larger area during the winter than is possible during more severe winters. With the exception of a few key problem areas, conditions have been favorable and an increase in big game animals has been evidenced through this period.

On the Middle Fork of the Salmon River drainage, due to its inaccessibility and ruggedness it is impossible for a sufficient number to be removed by hunters to maintain the deer herd in keeping with the carrying capacity of the winter range. This year the season was extended by the Commission beyond the closing date of November 5th, to November 30th. Inclement weather conditions, however, discouraged many hunters who had planned to hunt in this area during the extended season from making the rather difficult trip, so that the number removed by hunters was not sufficient to reduce the herd. It is doubtful that even a large percentage of the annual increase was taken this year. Feeding is impossible in this locality, and it is apparent that a method providing for a larger removal must be devised to prevent the eventual destruction of the winter range by overgnazing. To acquaint themselves with conditions in this section, Commissioners Fiscus and Grebe packed into the Middle Fork area in the fall of 1940 in company with sportsmen and Forest Service officials.

On and adjacent to the Soldier Mountain, Warm Springs and Payette game preserves, it has been necessary to resort to artificial winter feeding to supplement the lack of available natural forage for the big game in these respective localities. Hay has been placed at strategic points in the event that snow conditions make it necessary to resort to this type of feeding.

During the latter part of September, 1940, a five-day special hunt was held by order of the commission permitting the taking of 400 antelope from Butte, Custer, Lemhi, Clark and Jefferson counties. These animals have been protected for several years and their numbers are increasing to the point that it was felt this number could be removed safely. Weights and measurements of the animals were taken at the checking stations during the hunt and the compilation of this data is on file in the fish and game department offices.

A systematic plan of distributing salt throughout the big game areas of Idaho was put into operation through the cooperation of the U. S. Forest Service. A total of 48½ tons was purchased during 1939 and 90 tons in 1940, some of which was distributed by conservation officers, the balance being distributed by Forest Service pack strings. By carefully planned distribution of salt on big game areas, it is possible to place the salt in locations to which the animals will be drawn, thus bringing about better utilization of the range by distributing the animals more generally over the area. This thought was kept in mind in preparing the plans for distribution of salt during the past biennium and will be reviewed and revised during the next few years to establish a definite salt distribution program.

FURBEARERS

A state-wide survey of conditions affecting furbearing animals clearly indicates that this resource has been seriously depleted, with the exception of beaver which have been protected for many years. It is anticipated that rigid restrictions must be placed on the taking of furbearing animals in the future, even to the extent of a complete closure on most of the state in order to perpetuate these valuable animals.

BEAVER

With the increased interest in control of soil erosion, the idea of transplanting beaver from the lower elevations to the higher mountain streams was conceived, where, by the construction of their dams, they would serve as a valuable aid in equalizing the flow of water throughout the year. It was soon discovered that the waters impounded by these beaver dams served as a natural rearing pond for trout, thus providing more fish for the fisherman's creel. In semi-arid areas, this impounding of water maintained suitable stock watering holes permitting grazing on lands which during dry years had formerly not been utilized by livestock or game due to the lack of water. This distribution of grazing generally improved range conditions in these localities and to an extent removed the stress on the lower big game winter ranges where livestock were formerly

forced to graze adjacent to the larger streams. The beaver, in fact, has come to be prized more highly by some as an agent of soil and water conservation than for the value of its fur alone.

This program of trapping beaver from agricultural areas where they were a more or less constant cause of damage, and transplanting them to mountainous streams where they were an aid in conservation, has been carried on during the past two years through funds made available under the terms of the Federal Aid in Wildlife Restoration program. Conservation officers actively assisted in this program. The Forest Service and Grazing Service provided valuable information and assistance in the work of transplanting. As a result, 1606 beaver were moved to new homes during the biennium.

Pittman-Robertson funds made possible a general survey of the streams of the state on the basis of which the transplanting was done. It is apparent from the report of this survey that the mountainous streams of the state, with few exceptions, have been stocked with beaver. This stocking will be completed in a short time next year.

Provided the new locations for their homes, with a new and adequate food supply, the transplanted beaver are reproducing in large numbers to the point that many of the streams are now fully stocked; the over-flow of beaver that are unable to establish their homes on these creeks are moving into the main streams and rivers where they constitute a potential source of damage by moving from the rivers into the agricultural areas and again coming in conflict with the irrigationists and farmers. The time is near at hand when the beaver population of Idaho must be managed to remove an annual surplus. This management plan, however, must be intelligently prepared and carefully supervised so that the money invested in establishing them in the mountainous areas will not be totally wasted and so that a constant number of beaver will be maintained on those streams where they are performing such a useful service.

One of the purposes of the Pittman-Robertson beaver survey project will be to determine the most practical method of handling this problem. Conservation officers are being trained to become experts in all matters pertaining to beaver, including trapping, pelting, preparation of hides for market, and methods of making reliable census of beaver populations on the various types of streams in the state, so that a beaver management program can be intelligently administered. All trapping and pelting is being done in answer to complaints of beaver causing damage. With the general increase in the beaver population throughout the state, the number of these complaints is constantly increasing to the point that it has become necessary to take increasing numbers of beaver each year to provide protection to land-users from the damage caused by these animals.

Until such time as an adequate and intelligent plan of removing beaver on a controlled basis can be put into effect, the department must continue the removal of these animals from locations where they are doing damage, as required by law. To declare an open season would result in too great a depletion of their numbers, particularly in those areas where they have been found to be of such great value.

PREDATOR CONTROL

To successfully propagate game birds and most game animals, a certain control of natural enemies is necessary. To fulfill our responsibility in this connection we have cooperated with the sportsmen's associations in the construction of crow and magpie traps which have been tended in part by our conservation officers, resulting in the destruction of large numbers of these birds; bounty payments were made on 55,675 magpies during 1940.

This department has cooperated with the Predatory Animal and Rodent Control Section of the U. S. Fish and Wildlife Service in the payment of salaries to predatory animal hunters and in addition we have paid a $15-per-head bounty on cougar.

Predators destroyed during biennium:

Coyote	800
Bobcat	47
Cougar	68

Conservation officers have been encouraged to take an active part in the control of predatory animals and predatory birds. Traps and other equipment have been purchased for their use in handling this work.

GAME BIRDS

Conditions have been generally favorable for upland birds during the past two years, resulting in an increase of those which were protected by a closed season.

Sagehens have increased most surprisingly during the past biennium. It was thought for some time that their numbers had been depleted to a point that it would be impossible for them to make a come-back without many years of protection.

Blue and ruffed grouse, with the exception of counties in Districts 2 and 3, have been protected for several years by a closed season. A slight increase has been noted in these protected counties. In District 2, with its large expanse of wilderness country, it is possible to maintain these birds at a more or less stable population. Extreme drouth conditions prevailing in District 3 during the 1939 season resulted in a reduction in numbers, even though action was

taken by the Commission in shortening the season to give them more protection. Followed by inclement weather during the hatching season, the blue and ruffed grouse population in portions of District 3, is insufficient to withstand further shooting unless conditions are very favorable for an increase in 1941.

Chinese pheasants—Reports of field surveys by conservation officers and survey personnel indicate that the Chinese pheasant population has shown a gradual increase during the biennium. Favorable weather conditions, increased numbers released from the game farms, the shortening of the season by the Commission during the year 1940, and the fact that the birds seem to be becoming more wary each year would apparently account for this increase.

Chukar partridges—In order to establish a game bird to supply hunting for the sportsmen in the southeastern section of the state during the early fall months, efforts have been made to propagate Chukar partridges at the game farms for release in those localities where conditions are favorable for these birds.

Hungarian partridges—These birds were trapped last winter and will be trapped again this coming winter for release in favorable localities. It is our hope that in future years these birds and the Chukar partridges will be able to replace to an extent the hunting formerly provided by the grouse family in the southeastern section of the state. It is interesting to note that these birds have extended their range to the South Fork and Middle Fork of the Salmon River in the heart of the wilderness area, and in spite of the presence of many natural enemies have increased to the point that now a good population exists in these sections.

The quail is not considered a major game bird by most sportsmen. Their distribution is not general over the state but is confined to the lower, warmer valleys where their numbers fluctuate according to the mildness or severity of the winter seasons.

As a result of favorable weather conditions and by reason of added restrictions placed on the taking of migratory waterfowl by the U. S. Fish and Wildlife Service during the past several years, the numbers of these birds have increased tremendously, providing a real source of enjoyment to the sportsmen of the state

BIRD FARMS

Increased production of Chinese pheasants at the Jerome and Lapwai state game farms during the biennium has been effected by changes in the methods of handling the birds at the farms and by the maintenance of a larger brood stock to insure an earlier hatch of virile chicks. Cost of production has been reduced through the installation of labor-saving devices and by the development of an

improved feed formula obtainable at a lesser cost than the commercial formulas formerly used. The new feed formula was produced through the cooperation of the Extension Division of the University of Idaho and the Idaho Egg Producers Association, and has been found to be an improvement over old formulas.

By holding a larger brood stock, it was not only possible to produce a larger hatch of sturdier chicks, but to release the adult birds during the latter part of May each year during the height of the laying season, permitting the hens to hatch and raise a brood of chicks after being released in the field. Careful observation of the birds released, all of which were banded at the farm prior to release, indicates that in practically all instances the hens nested again and raised a brood of chicks that season.

Young birds were released in the lower elevations at from ten to twelve weeks of age, when they were fully feathered, able to fly, and still retaining their natural wildness. Plantings made at this age during the mid-summer months have proven to be successful from the standpoint of producing gamier birds and reducing the loss from natural enemies. Birds held too long at the game farms are inclined to become semi-domesticated and considerable loss is sustained in planting these birds late in the season.

In those counties having deeper snow and more severe weather conditions during the winter months, the pheasants are held in holding pens constructed by sportsmen's associations and the feed is provided for them by the association. In supplying birds for these holding pens, a large percentage of the numbers delivered are hens, which, upon being planted in the spring months, provide a nucleus brood stock in those counties.

Additional holding pens were constructed at the Eagle fish hatchery during the biennium to which the birds are moved from the Jerome farm, raised to planting age and released in the surrounding counties. A new holding pen was constructed at the N. Y. A. Regional Vocational School at Weiser where the birds are cared for by the students interested in game management under the supervision of their instructor.

Chukar partridges have been successfully propagated during the past two years and released in locations having a suitable habitat for these birds. Reports on the 1939 plantings indicate that a majority of the birds survived and raised broods during the 1940 season.

General improvements to the farms, including the painting of the buildings are being carried on and will be completed before the spring hatching period begins.

The number of birds planted by each hatchery in the various counties of the state is shown in the following tabulation:

LAPWAI GAME FARM

County Planted	Chukar Partridges		Young Pheasants		Brood Pheasants	
	1939	1940	1939	1940	1939	1940
Boundary	.....	.....	450	300	.....	200
Bonner	.....	.....	250	100	.....	40
Benewah	.....	.....	250	100	.....	221
Kootenai	35	.....	500	200	152	192
Shoshone	.....	.....	100	101	100	59
Latah	.....	.....	1500	1000	.....	200
Nez Perce	35	.....	2140	2300	.....	45
Lewis	35	.....	700	600	51	100
Idaho	.....	.....	1100	600	.....	95
Clearwater	.....	.....	500	400	151	50
	105	.....	7490	5701	454	1202

Total Chukar Partridges planted..... 105(a)
Total Young Pheasants planted.....13,191
Total Brood Pheasants planted..... 1,656

Total Birds planted during biennium.....14,952
Brood Stock on hand as of December 31, 1940, ... 1,500
(a) Transferred from Jerome Game Farm.

JEROME GAME FARM

County Planted	Chukar Partridges		Young Pheasants		Brood Pheasants	
	1939	1940	1939	1940	1939	1940
Ada	.....	.....	1100	1416	100	84
Adams	.....	.....	250	250	.....	50
Butte	.....	30	250	200	.....	100
Boise	.....	.....	100	903	50	56
Bingham	.....	.....	1000	1000	100	150
Bonneville	98	.....	1044	1000	152	150
Blaine	.....	.....	275	.....	.....	.....
Bannock	.....	60	1002	1000	.....	150
Bear Lake	.....	.....	250	300	.....	.....
Clark	.....	90	.....	.....	.....	.....
Camas	.....	.....	.....	.....	27	.....
Caribou	.....	30	.....	.....	.....	.....
Canyon	.....	.....	1251	1701	101	50
Cassia	.....	150	1000	1029(a)	150	75
Custer	.....	.....	350	.....	.....	.....
Elmore	.....	.....	400	560	101	.....
Franklin	.....	.....	650	900	.....	101

County Planted	Chukar Partridges		Young Pheasants		Brood Pheasants	
	1939	1940	1939	1940	1939	1940
Fremont	.....	.....	199	450	.....	50
Gem	75	.....	1013	1270	50	74
Gooding	.....	.....	580	500	.....	.....
Jerome	300	.....	308	700	159	95
Jefferson	.....	60	382	200	.....	75
Lemhi	.....	.....	300	.....	152	.....
Lincoln	.....	.....	602	500	100	75
Minidoka	.....	.....	300	700	100	75
Madison	.....	.....	448	550	.....	50
Owyhee	75	.....	400	428	.....	.....
Oneida	90	.....	750	800	.....	100
Payette	.....	.....	750	1037	49	65
Power	.....	.....	350	400	.....	.....
Twin Falls	.....	.....	1008	1115	150	101
Washington	.....	.....	750	2480(b)	50	70
Hagerman Refuge	.....	.....	.....	300	.....	.....
Lapwai Game Farm	105	.....	.....	.....	.....	.....
	743	420	17,062	21,689	1,591	1,846

Total Chukar Partridges planted..... 1,163
Total Young Pheasants planted.....38,751
Total Brood Pheasants planted..... 3,437(c)

Total Birds planted during biennium.....43,351
Brood Stock on hand as of December 31, 1940, ... 2,144

(a) Includes 29 Reeves.
(b) In cooperation with N. Y. A. School.
(c) Planted in the spring in time to hatch in the fields.

Wildlife Restoration Division

In 1937, Congress passed a bill known as the Pittman-Robertson Act, providing for Federal aid to the states in wildlife restoration. Under the terms of this act, Congress appropriates annually an amount not to exceed the total revenue received from the 10% excise tax on arms and ammunitions. Each state was required to match such Federal funds in an amount of 25% to avail itself of the Federal appropriation. On March 4, 1939 the Idaho State Legislature passed an enabling act authorizing the Fish and Game Department to participate in this program.

Federal funds are allocated on the basis of the relative land area of the state as compared to the total land area of the United States and the total number of fishing and hunting licenses sold by the state as compared to the total number of licenses sold throughout the United States. These funds must be expended by the state within a period of two years from the beginning of the Federal fiscal year in which the allocations were made. Any unobligated balances remaining in the fund at the end of the two-year period revert to the United States Fish and Wildlife Service for use in administering the Migratory Bird Conservation Act program.

Funds may be expended under rules and regulations established by the Secretary of the Interior for the restoration of native game species, which may include general surveys of game conditions, research projects, acquisition and development of lands. None of these funds can be expended in the development of the state's fisheries program.

Federal funds allocated to date are as follows: 1938, $17,840.74; 1939, $28,060.09; 1940, $48,742.02, making a total of $94,646.85. With the addition of the 25% required from the state, totaling $31,548.95, total funds available for wildlife restoration purposes in Idaho for the three-year period were $126,195.80.

During the summer period of 1939, only one project had been placed in operation—a live-trapping and transplanting project for beaver. Faced with the probability of losing the 1938 appropriation, and impressed with the need of trained personnel to administer this program in the future, a project was prepared by the Department and approved by the U. S. Fish and Wildlife Service authorizing the employment of a supervisor of projects, leader of state-wide survey project, leader of beaver survey project, and leader and assistant leader of a mountain sheep survey project. The Commission felt that this department should also be on a civil service basis, and in November, 1940, the completed registers were submitted and appointments made in accordance with the established regulations on personnel.

To provide information to the commission on the factors affecting big game, game birds and fur-bearing animals of the state as a basis for instituting projects to improve local environmental conditions, bring about a better distribution of wildlife populations and remove conflicts between agricultural interests and wildlife in certain sections, a state-wide survey project has been set up under the guidance of the supervisor and the leader of survey projects.

To remove excessive grazing by domestic livestock on the winter deer range near St. Maries, privately owned lands in the winter range area were purchased, and through the cooperation of the Forest Service and the State Forester, grazing was removed from Federal and State-owned lands within the area coming under their supervision. This will insure ample winter forage for the deer and provide an opportunity to carry larger numbers of deer in this locality.

The limiting factor affecting the Chinese pheasant population throughout north central Idaho is the lack of food and cover due to the intensive farming and close grazing practices in the area. To improve conditions for these birds, small tracts have been purchased which will be fenced and planted with species of plants providing food and cover. Other areas have been acquired on a cooperative basis with the owners, and under the terms of the agreements the State is given the management of wildlife on the areas. To date purchases of land have been made in Idaho, Clearwater, Lewis and Benewah counties. Others are in the process of acquisition in other counties in this district. This program will be continued until sufficient areas have been established to provide escape areas in all the heavily hunted sections in this part of the state.

A project has recently been approved for the re-establishment of the dam at the Elk River mill pond in Clearwater county to insure the maintenance of this lake as a resting place for migratory waterfowl and a continued source of recreational enjoyment to people of this section.

Following several years of drouth in the semi-arid desert and foothill sections of the state, many of the springs which had formerly provided water for domestic livestock and wildlife were reduced to a very small flow, and in most instances dried up completely during the hot summer months. As a result of this reduction in the number of watering holes, the range used by livestock and wildlife was greatly reduced. The species suffering most was the sage grouse, which were concentrated around the remaining water holes where the interference of livestock and natural enemies made it difficult for them to maintain themselves in large numbers. To correct this condition, through the cooperation of the U. S. Grazing Service in

supplying CCC labor, and with materials furnished by this department from Pittman-Robertson funds, seventeen small seeps and springs have been developed and several dams have been constructed to impound flood waters. In each instance tracts of at least forty acres have been enclosed, including the spring and in the case of dams the upper portion of the dam and the drainage basin, to provide a place for the birds to nest and obtain water without the interference of livestock. Spring water has been piped outside of the enclosure to troughs to provide watering places for domestic livestock. The distribution of both livestock and game life over the entire range by the establishment of these scattered watering holes has tended to improve the general condition of the range materially. It is proposed to continue this development during the coming year to provide a larger number of these areas.

One of the most ideal acquisition and development projects inaugurated to date was the purchase and development of a tract of land in Hagerman valley adjoining the Federal hatchery grounds. This area supplies a need for a nesting and escape area for migratory waterfowl, Chinese pheasants, and quail within the center of one of the most heavily hunted sections in the state. The large creek which flows through the property and the swamp land will produce large numbers of furbearing animals for restocking of adjacent waters. The one-hundred-thirty acres of farm land will produce grain and hay for the feeding of game birds and big game during severe winters when such feeding is necessary to carry them through these periods. The pasture land will be planted to shrubs, plants and trees providing food and cover for the bird life on the area. In addition to the 640 acres purchased, the U. S. Fish and Wildlife Service has offered to turn over the management of wildlife on the adjoining 400-acre tract owned by them on which their largest hatchery is located. Through an agreement with this same agency, a modern bass hatchery has been constructed on the state-owned property to provide bass for the stocking of the warm waters of the state.

The U. S. Grazing Service is providing CCC labor for the construction of fences, improvement of existing dwelling, and improvement and development of the entire tract. This project when completed will be one of the most desirable small refuges for fish, fur and feathers in the entire state.

The purchase of the land surrounding North Lake in Jefferson County has been recently completed. This lake is used as nesting area for migratory waterfowl and a summer watering hole for sage grouse and antelope. Chinese pheasants are increasing in this locality. Hungarian partridges and chukar partridges have been planted there during the past year. The muskrat population, now at a low ebb, can with proper protection be increased to the point that the overflow will assist in stocking nearby waters. All species

of game life will be protected in the area with the exception of migratory waterfowl. North Lake has in past years been the popular shooting ground for the sportsmen in that section of the state, and with this acquisition the sportsmen can be assured of its remaining a public shooting ground. It is planned to acquire additional lands adjoining this unit to provide a sanctuary for the abundant game life which can be produced and which will use this area at certain periods each year.

In order to avoid unintentional trespass by hunters during the open season on state game preserves, signs were purchased as part of a Pittman-Robertson project to provide adequate posting of all game preserves in the state. Posting the preserves has been carried on under the leadership of the survey project through assistance provided by the Conservation Officers.

To provide a nucleus stock of Hungarian partridges in the southeastern portion of the state where there are relatively few of these birds at the present time, a project was undertaken during the winter period of 1939-40 to trap these birds in the northern part of the state and to transplant them to the southeastern counties. Due to unfavorable weather conditions for trapping, this project was not too successful, only one hundred eighty-three being taken. It is being resumed this coming winter, however, and if conditions are favorable we can be reasonably sure of obtaining sufficient number of these birds to make plantings in those locations with suitable habitat for their propagation.

A project for the trapping of Chinese pheasants from the Lewiston Orchards game preserve was carried out during the winter period of 1939-40 to provide a larger number of brood stock in the fields for the coming year. Six hundred eighteen birds were trapped and redistributed. This project will be repeated this coming winter and will be enlarged to include the trapping of these birds from the Camas National Wildlife Refuge near Hamer. In each instance the birds will be distributed in the surrounding counties to replenish the brood stock. Some of the wild cocks obtained from the Camas Refuge will be transferred to the Jerome Game Farm to provide new wild blood for the birds produced there next year.

Beginning August 1, 1939, and again this year on the first of July, projects for the live-trapping of beaver in agricultural areas where they were a source of damage and transplanting them to mountain streams where they are an aid in soil and wildlife conservation were inaugurated. These projects were closed on September 30th in order to provide ample time for the beaver to establish themselves in their new locations before the coming of winter. In 1939, four hundred twenty-six beaver were trapped and transplanted under the supervision of the leader of the beaver survey project and with

the cooperation of the Conservation Officers, Forest Service and Grazing Service, eleven hundred eighty beaver were live-trapped and transplanted in 1940. According to information obtained from representatives of the U. S. Fish and Wildlife Service, who have compiled data on costs of live-trapping and transplanting operations in other states, Idaho's program is one of the most efficient from the standpoint of cost per beaver and number of beaver trapped and transplanted. We have touched on the advantages of this program in the section devoted to furbearing animals in the general report, and refer you to that section for further information on this project.

To establish a workable plan for the management of the beaver in the state, a project was approved for the employment of trained workers to make a complete survey of the distribution of beaver throughout the State and acquire information on their life habits, rate of increase, and other pertinent data as the foundation for establishing a management plan. Further information on beaver management will be found in the general report.

For many years the mountain sheep population of Idaho has shown no substantial increase and in some localities has decreased. There has been much controversial discussion during the past several years among sportsmen and those engaged in game management as to the reasons for this decline in numbers, but no one was actually in a position to prove any theory he might have. To provide a scientific approach to the problem with the hope of obtaining an answer, the Commission submitted a project, which was approved, for the employment of two trained biologists who, through the cooperation of the U. S. Forest Service, established a camp on Stoddard Creek above the mouth of the Middle Fork of the Salmon River on January 3, 1940, in an area where one of the few remaining bands of mountain sheep ranged. There were nineteen rams, twenty lambs, five yearlings, and twenty-nine ewes in this band at the time the study started; in October, 1939, there were eighteen lambs on the area, which would indicate that thirteen of these disappeared during the fall months. At the present time, the men on the project report that seventy-five per cent of the adult ewes on the area still have their lambs with them, and no losses have been observed so far this year.

Attention has been given by the men on the study to the various factors which might in any way affect the sheep population, including the relationship of predators, poaching, forage conditions, diseases and parasites, inbreeding, competition with other game animals, and life history. No definite conclusions can be drawn at the present time since all indications point to an increase in the population this year. However, further study between now and spring may yield information which will be of value in solving this problem.

Similar studies are being conducted by the Wyoming and Colorado state fish and game departments and by the U. S. Forest Service and

the National Park Service in those states. Notes on observations made are exchanged to coordinate the efforts of those taking an active part in research directed toward the solution of this problem.

In addition to the development of local projects and studies on specific and general game problems the personnel of the Federal Aid in Wildlife Section have rendered valuable assistance in all phases of the game program, including taking an active part in the enforcement of the fish and game laws.

WILDLIFE RESTORATION PROJECTS

January 1, 1939 to December 31, 1940.

Administration	Expended or Pledged
Salaries	$ 4,128.39
Office Equipment, Field Equipment and Supplies	3,017.77
Wildlife Surveys	3,551.86
Mountain Sheep Survey	5,053.93
Beaver Survey	3,126.58
Beaver Livetrapping (1940)	3,631.02
Posting State Game Preserves	2,211.69
Hagerman Land Acquisitions	22,624.85
Hagerman Development	2,738.42
Idaho County Land Acquisition	1,000.00
Idaho County Development	391.47
Nezperce Land Acquisitions	1,602.90
Nezperce Development	1,782.55
Three Creek (U. S. G. S. Coop.) Development	663.27
Givens Springs (U. S. G. S. Coop.) Development	1,271.43
South Owyhee (U. S. G. S. Coop.) Development	699.34
Kimama (U. S. G. S. Coop.) Development	2,007.23
Beaver Transplanting (1939)	3,409.44
Pheasant Redistribution (1939-40)	2,210.55
Hungarian Partridge Redistribution (1939-40)	696.82
North Lake Land Acquisition	5,005.00
St. Maries Land Acquisition	3,605.00
Grangeville Land Acquisition	3,535.00
Elk River Development	2,882.69
Benewah Refuges—Development	178.99
Partridge Redistribution (1940-41)	1,574.43
Chinese Pheasant Redistribution (1940-41)	2,346.02
TOTAL	$84,946.64

SUMMARY

Federal Funds Received	$ 94,646.85
State Proportion	31,548.95
TOTAL	$126,195.80
Expenditures (per detail)	84,946.64
BALANCE UNEXPENDED	$ 41,249.16

Fisheries Division

Increased interest in fishing on the part of residents of the State and the influx of non-resident fishermen, coupled with the construction of more roads into mountainous areas, making even the headwater streams accessible for fishing, have increased the problems of supplying this continued demand for more and better fishing. The problem involves not only the production and distribution of more fish, but is further complicated by problems brought about by industrial developments and the resultant pollution, change in character of streams as a result of construction of dams, forest fires and erosion, and the loss of large numbers of fish through irrigation systems.

From the administrative standpoint, the production and planting of fish involves three more or less separate operations. First the taking of spawn, the hatching and rearing of fish in the hatcheries, and finally the distribution of the fish from the hatcheries to the streams.

The mechanics of hatching and rearing fish have been studied by fish culturists for years and answers have been provided for most of the problems involved in this phase of the fisheries program. By providing information to hatchery superintendents, they have been able to keep abreast of the more recent developments in this field. However, to carry out the policy of the commission in providing more fish in the streams for the fishermen, and to stay within the budget, it has been necessary to reduce costs of rearing fish in the hatcheries and provide better facilities for the handling of fish.

HATCHERY IMPROVEMENT

Due to the lack of facilities at the hatcheries for maintaining supplies of cheaper fish food of a perishable nature, one of the first steps in the program has been the installation of cold storage plants at the Mackay, Ashton, American Falls, Hayspur and McCall hatcheries this year. At key locations where fish foods can be obtained at lower prices and where trash fish are readily available, sharp freeze rooms have been installed to permit quick freezing of fresh meats and fish. Larger storage rooms have been provided to permit the holding of adequate supplies for distribution to the more isolated hatcheries in the district. At other hatcheries, smaller units have been or will be constructed with smaller capacities, thus reducing the total cost of operation of these plants. A large unit is now complete at American Falls, and plants of similar capacity will be located at Sandpoint and Eagle. WPA projects have been approved for the construction of these two units, and work will start shortly after the first of the year.

These cold storage plants make it possible to purchase a variety of fish foods in larger quantities at a time when the market for these products is dull, thus permitting us to obtain them at a large reduction in cost. Trash fish have been obtained at little or no cost to the Department and retained in a frozen state at the hatcheries where they can be used as a supplemental food for brood stock and fingerlings. By having available this variety of fish foods, it has been possible to use new feed formulas including the use of seal meal, grains, trash fish, and other items obtainable at a very reasonable price. In addition to the saving thus affected in the purchase of fish foods, a resultant saving has been made in the time and transportation costs involved in receiving small shipments of fish food. In the case of the more remote hatcheries, this required long trips to the railroad terminal every few days during the summer months, where oftentimes the foods had been improperly cared for by the shipper and were found to be unfit for use upon arrival. This program will be continued until all of the hatcheries are equipped with refrigeration units of the size necessary to meet the requirements of each individual hatchery.

An analysis of cost records during the year 1940 reveals that the cost of the cold storage units will be liquidated in a short time through savings effected in purchases of fish food and development of cheaper food formulas. For example, the superintendent of the Sandpoint Hatchery has been able to effect a saving of several hundred dollars through the use of buttermilk and blood as a supplemental diet for fish at that hatchery. At the Ashton Hatchery where the cold storage plant has been in operation for the past year, the hatchery superintendent reports a saving of approximately eight hundred dollars on food costs at that hatchery. At Ashton and American Falls tests are being run to determine the efficiency of an automatic fish-feeding device which was invented last summer. Indications are that fish fed small quantities at frequent intervals grow much more rapidly than those fed larger amounts less often. Should this device prove efficient, its use will be extended to all of our hatchery units.

FISH REARING PONDS

Sportsmen's groups and Federal agencies have given splendid cooperation in furthering this program by assisting in the construction of rearing ponds at strategic locations in the State which permits the moving of small fry from over-crowded hatcheries at a nominal transportation cost to these rearing ponds where in most instances they have been fed and cared for by interested sportsmen and sometimes by CCC enrollees who were given a course of training in the care of fish at one of the State hatcheries. The fish, after having been reared to a size in some cases of from six to seven inches, were

then planted in adjacent streams. To permit the increased production of fish at the hatcheries and to prevent over-crowding, rearing ponds were constructed in the following locations:

Fernwood (Benewah County)	28
Cold Springs (Clearwater County)	8
Powell Ranger Station (Idaho County)	4
Lava Hot Springs (Bannock County)	5
Glenns Ferry (Elmore County)	1
Ashton Hatchery (Fremont County)	16
Twin Falls Hatchery (Twin Falls County)	3
Hagerman Bass Hatchery (Gooding County)	11

In order to provide better working conditions for hatchery employees, dwellings have been remodeled and modernized during the past biennium; labor-saving devices have been installed to permit employees to give closer attention to the more important features of the program. Landscaping and general improvements of hatchery grounds, including the painting of new and existing structures, have been done.

IMPROVEMENTS TO WATER SUPPLIES

One of the prime requisites for the successful propagation of trout is an adequate water supply, free from foreign matter and with a more or less constant temperature. Each hatchery presented a little different problem in this connection, and it was found that suitable water conditions existed at only a few of the hatcheries. The most acute problem existed at the McCall and Boyd Creek hatcheries, where the temperature during the hot summer months ranged upward to a point where heavy losses were experienced each year, necessitating the planting of the fish while they were very small to prevent this loss.

McCall Hatchery—At the McCall Hatchery the water supply was formerly taken from the Payette River below its outlet from Payette Lakes. During the summer months tests were made at varying depths in the lake to determine the point from which water could be taken to insure a more constant temperature suitable for trout propagation. After this had been determined, through the cooperation of the State Forester CCC labor was obtained and a twenty-inch pipeline 2,200 feet long was laid from the old intake, up the river channel, beneath the dam at the outlet, extended 1100 feet into the lake, and then lowered so that the intake is now approximately forty feet beneath the surface. This will insure a volume of water of a suitable temperature sufficient to permit a material increase in the productive capacity of this hatchery.

Boyd Creek Hatchery—The Boyd Creek Hatchery on the Selway River drainage was complete in 1938. However, as a result of the forest fire of 1934, practically the entire watershed of Boyd Creek was burned over; and it was found that during the early part of the season the stream carried an excessive amount of silt, making the hatching of eggs almost impossible. During the late summer months the supply was so reduced and the tempeature of the water raised to a point at which it is impossible to hold trout without excessive loss. We were faced with the problem either of abandoning the hatchery or of locating a new water supply. With the cooperation of the Forest Service in providing CCC labor, a project is now in operation to construct a wooden flume approximately one and one-quarter miles long, around the rough mountainside on the opposite side of the river and across the river through a suspended siphon through which the water from Island Creek will be carried to the hatchery to provide a new silt-free water supply of a proper temperature.

Sandpoint Hatchery—The water supply at Sandpoint was inadequate and of too cold a temperature to permit the production of a sufficient number of trout at this hatchery to stock the surrounding waters. To augment the supply and raise the temperature, a WPA project has been approved whereby a pipeline will be laid from the hatchery for a distance of 650 feet into Pend D'Oreille Lake through which surface waters will be pumped.

Grangeville Hatchery—At the Grangeville Hatchery a flume was constructed carrying the water from the spring to augment the present inadequate supply of water. Plans have been developed to construct an earthen dam with a concrete core to impound the creek water supply and thus permit removal of the silt, raise the temperature and increase the flow of water at the hatchery at times when a larger supply of water is needed.

Cascade Hatchery—At the Cascade Hatchery, the existing flow of water permits only a limited production of trout. In order to increase this supply, plans have been completed for the construction of a tunnel to tap sub-surface water in the drainage basin immediately above the hatchery. When this is done, production can be increased to supply the needs of the large territory which the hatchery is intended to serve.

Evergreen Hatchery—No solution has been found for the Evergreen Hatchery, which takes its water supply from a stream several miles in length with a driveway for livestock crossing it. This makes the elimination of the silting problem practically impossible in this particular case.

Eagle Hatchery—Additional wells will be drilled at the Eagle Hatchery to provide an increased water supply, thus increasing the

production capacity of the hatchery and the capacity of the holding and rearing ponds.

Mackay Hatchery—The spring supplying the Mackay Hatchery was unprotected from seasonal floods and freshets which at times filled the hatchery with an excessive amount of silt. Through the cooperation of the U. S. Grazing Service in providing CCC labor, a rock wall has been built around the spring, thus insuring a continuous supply of clear water. The CCC enrollees have also graded the hatchery grounds which were damaged by a cloudburst during the past summer. In addition to this, they will landscape the grounds and paint the buildings, repair fences and put this hatchery in excellent operating condition.

SPAWN-TAKING STATIONS

In order to supply larger numbers of fish for the streams of the State, it is obvious that we must obtain increasing quantities of spawn to keep the hatcheries operating at maximum production. Without the development of natural locations for the taking of spawn, it will be necessary to purchase eggs from private hatcheries, the supply of which is not always dependable. New spawn-taking stations were established on the North Fork of the Snake River, on the headwaters of the Blackfoot River, and at Lost Valley Reservoir. Improvements were made to the fish trap on Wood River and improvements are now being made to the station on upper Priest Lake, eliminating faults in these traps to prevent the escape of a large number of spawners. These traps can also be used in controlling the numbers of trash fish in these streams.

Additional holding ponds have been constructed at the American Falls, Hayspur and Ashton hatcheries to permit the holding of larger numbers of fall-spawning rainbow trout which will materially increase the amount of spawn in the near future. By careful culling the average production of eggs taken from these spawners has been substantially increased and the quality has been improved. It is anticipated that in the future sufficient spawn will be available to permit maximum production of trout at all of the hatcheries.

FISH DISTRIBUTION

The matter of a coordinated and intelligently planned method of distributing fish necessitated a general state-wide survey of all the waters of the State to determine the numbers, size and species of fish for each stream. Such surveys were initiated this year and will be developed in the future into comprehensive programs of a long-range nature. Consideration is given to the width, depth, length and amount of available natural fish food. Information is obtained on the relative numbers of fishermen using the stream and the

species of fish best suited to the particular types of streams. To prevent omissions and duplications in plantings and to correlate the plantings from State hatcheries, Federal hatcheries and rearing ponds managed by sportsmen's groups or through the cooperation of Federal agencies, conferences were held with sportsmen, conservation officers and hatchery superintendents to outline districts for which each hatchery would be responsible. In general the plan worked very well and a great deal of interest was evidenced by sportsmen, the personnel of the Department, and cooperating agencies in its operation. The Forest Service has detailed a stream technician to assist in the preparation of this program, and the U. S. Fish and Wildlife Service has cooperated splendidly in merging their propagation and distribution plans to fit into the Department's schedules. Records have been established showing the number of fish planted in each stream and lake, together with the size and species of all plantings to be maintained as a permanent office record. These are listed according to the hatchery which produced and planted the fish and also according to the county in which the fish were planted. A careful analysis of these records will be helpful in preparing future fish distribution programs.

FISH DISTRIBUTION TANKS

The Department was equipped with but three tanks for the transportation of fish at the beginning of the biennium. With this inadequate equipment it was impossible to meet the problem of distributing fish to all the waters of the State in a manner that would insure the best rates of survival. To fill this need of distribution units, the Department constructed four smaller fish tanks which could be handled by half-ton pick-up automobiles. These have been used by hatchery superintendents and conservation officers in distributing small loads of fish to local streams during the summer.

Three sportsmen's associations have each constructed fish distribution tanks during the past year. The Grazing Service felt an interest in stocking streams in lands coming under their jurisdiction and faced the need of some method of hauling water for the control of grass and brush fires. They have combined these two ideas in one and have constructed one of the smaller fish tanks of a size suited for the pick-up cars. The Fish and Wildlife Service at the Hagerman Hatchery now has a large fish distribution unit capable of hauling large numbers of fish for longer distances. In addition to these fish tanks, the Forest Service now has six outfits of this type which are used to distribute fish to back country points. The improvements made by the Department, coupled with the valuable assistance rendered by sportsmen's organizations and Federal agencies, places the Department in a position to handle the distribution of fish more efficiently.

POLLUTION

In an impartial review of the problem of the pollution of the streams of this State, it is apparent that many interests are involved, not only the lumbering and mining interests, but also many of the towns and cities using streams for sewage disposal. The elimination of the practice of dumping sewage and industrial wastes into streams will entail, in many instances, the expenditure of large sums of money on the part of those responsible; but only through the efforts of municipalities in constructing sewage disposal plants and the installation of improved settling ponds and other devices for disposal of wastes of mining and lumbering operations will the solution to this problem be found. It is encouraging to note that several of the towns in the State are making plans for the construction of more modern sewage disposal plants. Mining companies and sawmill operators have recently expressed a realization of the seriousness of this problem and have made efforts to follow out the plans recommended by the Department for improved methods of impounding the wastes from their operations to prevent their escape into the streams. In cases where flagrant violations have been in progress, the Department has taken steps to enforce the provisions of the State law.

We feel that a plan coordinating the efforts of the Public Health Service and other interests vitally concerned in pollution should be worked out to obtain factual information on the effects of pollution and formulate more practical and effective means of controlling it. Our efforts will be directed to this end.

FISH SCREENS

It is well-established that large numbers of game fish are lost from the streams of Idaho by following the irrigation systems and becoming stranded in the fields or in deep holes in the canals at the time the water is shut off. Much time and thought have been given to this problem with the view of obtaining the most practical type of fish screen for use in screening irrigation ditches and canals. The problem has been approached through experimental installation of various types of fish screens. This work has been done largely through the cooperation of interested sportsmen's organizations in the southern part of the State. It is hoped by careful observation of the screens at present installed that it will be possible to determine the best type of screen. With the cooperation of sportsmen's associations, irrigation companies and other interested agencies, a coperative program will be carried out to check this serious drain on our game fish.

SALMON SURVEY

To put into practice a firm belief that the scientific approach to fisheries problems is highly important, the Commission has, in cooperation with the Fish and Wildlife Service, sponsored investigational work designed to map out the spawning grounds of the Pacific Coast salmon and steelhead. Through this study, the places to be set aside for spawning of salmon were definitely located and adjustments made which would permit perpetuation of the salmon run without undue interference with the supplies of other native fish desired by the residents of Idaho.

WARM WATER FISH

A program was inaugurated by the Fish and Game Commission to stock the warmer waters of the State, which are unsuitable for the propagation of trout, with species of fish adaptable to these waters. Most of the waters are adjacent to larger centers of population and will provide fishing to large numbers of individuals who are unable to travel long distances to the more removed trout streams.

Following the policy of the Commission, studies have been made of these waters to determine the species best adapted to each particular body of water. These species,—largemouth bass, crappie, perch, bluegills—were found to be present in a few of the sloughs and reservoirs, and by seining and transplanting it was possible to introduce these species at low cost into other suitable locations. However. to provide a species of warm water fish adapted to the flowing streams with higher temperatures, it was necessaray to import smallmouth bass from our neighboring State of Washington and to construct a hatchery in which to propagate them. After careful investigation, it was found that the Department had in its possession one of the finest bass hatchery sites west of the Missippi, located on the Hagerman valley wildlife refuge, which was acquired through funds received under the terms of the Federal Aid in Wildlife Restoration Act. Permission was granted by the U. S. Fish and Wildlife Service for the establishment of this hatchery on refuge lands. Eleven ponds have been developed, providing twelve acres of ideal water for the production of smallmouth bass. This hatchery will be used for the propagation of other species of warm water fish as well as bass. By spring the plant will be complete including superintendent's dwelling, service building and equipment, and production will be under way. The operation of this hatchery, coupled with the administration of the wildlife refuge, makes it an economically operated project.

Extreme care will be exercised in the planting of bass to prevent their migration into trout-producing waters. In this manner the introduction and propagation of desirable warm water species will

be accomplished, using the most up-to-date methods available, and through the operation of the Hagerman plant, continuous supplies of these fish will be made possible.

SUMMARY

We feel that beyond question several forward steps have been taken by the Division of Fisheries, making possible important savings which will be reflected in the total of fish produced for the enjoyment of the public. This was accomplished first, through more effecient hatchery operation and resultant increased production at lower cost; second, by initiating intelligently planned distribution of the products of hatcheries; and third, by inaugurating conservation practices which will, if carried forward, create an immediate effect upon the available surplus of fish to be harvested by fishermen in all walks of life.

No program, however efficiently projected, can be eminently successful without the full, wholehearted help of outside organizations. This has been particularly important during the past biennium, and it is gratifying to acknowledge the important help received from these organizations and agencies.

STATE OF IDAHO

SUMMARY OF FISH PLANTED—1939

By

The State Fish and Game Department, Assisted by the U. S. Fish and Wildlife Service, U. S. Forest Service, U. S. Grazing Service, and Sportsmen's Organizations.

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
ADA	Rainbow	28,000		Eagle
	Crappie	53,000	81,000	
ADAMS	Rainbow	208,105		Eagle
	Eastern Brook	45,940		Evergreen
	Cutthroat	156,200	410,245	McCall
BANNOCK	Rainbow	174,220		Laketown
	Eastern Brook	55,600		American Falls
	Cutthroat	596,400		
	Chum Salmon	94,080	920,300	
BENEWAH	Eastern Brook	70,050		Ruby Creek
	Cutthroat	50,000	120,050	Crystal Creek
BINGHAM	Rainbow	133,000		American Falls
	Cutthroat	22,860	155,860	Ashton
BLAINE	Rainbow	445,150		Hayspur
	Eastern Brook	2,500		Hagerman
	Cutthroat	46,900		Twin Falls
	Blueb'k Salmon	176,200	670,750	
BOISE	Rainbow	518,127		Eagle
	Cutthroat	197,000		Hagerman
	Perch	5,000		Twin Falls
	Crappie	5,000		
	Bullheads	5,000	730,127	
BONNER	Rainbow	55,784		Clarks Fork
	Eastern Brook	46,401		Sandpoint
	Blueb'k Salmon	218,588		Ruby Creek
	Cutthroat	1,064,299	1,385,072	
BONNEVILLE	Rainbow	80,100		Idaho Falls
	Cutthroat	112,322		Ashton
	Bull Frogs	10,000	202,422	
BOUNDARY	Rainbow	84,869	84,869	Mackay

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
CAMAS	Rainbow	70,000		Hayspur
	Cutthroat	10,000		Hagerman
	Crappie	2,000		
	Bullheads	5,000		
	Bull Frogs	4,800	91,800	
CANYON	Rainbow	127,750		Hayspur
	Channel Catfish	59	127,809	Hagerman
CARIBOU	Rainbow	164,700		Eagle
	Eastern Brook	30,000		Twin Falls
	Cutthroat	91,510	286,210	
CASSIA	Rainbow	86,000		Twin Falls
	Eastern Brook	8,000		American Falls
	Cutthroat	87,000		Hagerman
	Perch	15,050		
	Lge. Mouth Bass	500		
	Crappie	15,000	211,550	
CLARK	Rainbow	85,110		Idaho Falls
	Cutthroat	24,120	109,230	Ashton
CLEARWATER	Rainbow	220,611		Boyd Creek
	Eastern Brook	83,476		Coeur d'Alene
	Cutthroat	125,888		Crystal Creek
	Steelhead	14,508		
	Whitefish	1,000,000		
	Sm. Mouth Bass	2,250	1,446,733	
CUSTER	Rainbow	816,252		Mackay
	Eastern Brook	60,000		Salmon
	Golden Trout	54,400		Hayspur
	Cutthroat	26,550	957,202	Hagerman
ELMORE	Rainbow	254,500		Eagle
	Eastern Brook	22,000		Twin Falls
	Cutthroat	28,000	144,800	Hagerman
FREMONT	Rainbow	302,235		Ashton
	Eastern Brook	72,900		
	Cutthroat	1,411,976		
	Grayling	36,000	1,823,111	

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
GEM	Rainbow	71,550		Eagle
	Crappie	20,000		Hagerman
	Bullheads	5,000	96,550	
GOODING	Rainbow	114,545		Hagerman
	Blueb'k Salmon	93,000	207,545	
IDAHO	Rainbow	440,160		Grangeville
	Eastern Brook	19,671		Evergreen
	Golden Trout	5,248		Boyd Creek
	Grayling	23,480		Cascade,McCall
	Cutthroat	600,000	1,088,581	Bozeman,Mont.
JEFFERSON	Lge. Mouth Bass	7,100		Eagle
	Crappie	11,000		
	Perch	5,000	23,100	
JEROME	Lge. Mouth Bass	27,500		Eagle
	Bullheads	3,550		
	Perch	15,000		
	Sunfish	500		
	Channel Catfish	50	46,600	
KOOTENAI	Rainbow	28,875		Coeur d'Alene
	Eastern Brook	37,654		Clarks Fork
	Cutthroat	398,101		Sandpoint
	Blueb'k Salmon	892,150		Crystal Creek
	Whitefish	2,500,000	3,856,780	
LATAH	Eastern Brook	10,000		Crystal Creek
	Bluegills	125		
	Lge. Mouth Bass	3,000		
	Crappie	7,500	20,625	
LEMHI	Rainbow	534,014		Mackay
	Cutthroat	60,810		Salmon
	Golden Trout	11,140	605,964	
LEWIS	Crappie	3,600		Eagle
	Perch	2,800		
	Sm. Mouth Bass	2,250	8,650	
				Idaho Falls
MADISON	Rainbow	31,530		Ashton
	Cutthroat	82,832	114,362	

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
MINIDOKA	Lge. Mouth Bass	500		Eagle
	Bullheads	2,000	2,500	
NEZ PERCE	Rainbow	41,000		Grangeville
	Eastern Brook	20,700		Coeur d'Alene
	Cutthroat	21,000		
	Crappie	19,000		
	Perch	27,600		
	Sm. Mouth Bass	26,000	155,300	
ONEIDA	Rainbow	96,900		American Falls
	Cutthroat	20,700		
	Perch	20,000	137,600	
OWYHEE	Rainbow	86,000		Eagle, Hager-
	Cutthroat	111,900	197,900	man, Twin Falls
POWER	Rainbow	266,500	266,500	Twin Falls
				American Falls
SHOSHONE	Rainbow	73,000		Crystal Creek
	Eastern Brook	93,025		Coeur d'Alene
	Cutthroat	444,516	610,541	Mullan
TETON	Rainbow	71,254		Ashton
	Eastern Brook	22,496		Idaho Falls
	Cutthroat	111,612	205,362	
TWIN FALLS	Rainbow	478,750		Idaho Falls
	Crappie	20,000		Ashton
	Perch	20,000		
	Bullheads	15,163		
	Lge. Mouth Bass	3,121		
	Bluegills	3,000	540,034	
VALLEY	Rainbow	226,750		McCall, Eagle
	Cutthroat	320,326		Evergreen
	Blueb'k Salmon	532,305	1,079,381	Hagerman
WASHINGTON	Rainbow	8,100		Eagle
	Eastern Brook	5,100		Evergreen
	Cutthroat	5,280	18,480	

1939
SUMMARY OF FISH PLANTED BY SPECIES
ALL SOURCES

Bass	74,221
Blueback Salmon	1,912,243
Bluegills	3,125
Bull Frogs	24,800
Bullheads	35,713
Channel Catfish	118
Chum Salmon	94,080
Crappie	156,100
Cutthroat Trout	6,543,995
Eastern Brook Trout	803,063
Golden Trout	70,786
Grayling	59,480
Perch	110,450
Rainbow Trout	7,208,141
Steelhead	14,508
Sunfish	500
Whitefish	3,500,000
TOTAL	20,609,323

SUMMARY OF HATCHERY PRODUCTION—1939

FISH PLANTED		FISH AND EGGS AT STATION		
Ashton Fish Hatchery				
Ashton				
				December 9, 1939
Rainbow	602,068	Rainbow Brood Stock	16,000	10-18"
Cutthroat	935,212	Eastern Brook	290,000	eggs
Eastern Brook	86,396	Rainbow	34,000	eggs
	1,623,676			
American Falls Fish Hatchery				
American Falls				
				December 10, 1939
Rainbow	1,218,200	Rainbow	503,000	eggs
Cutthroat	122,210	Rainbow Brood Stock	16,500	
		Rainbow	100,000	2-4"
	1,340,410	Cutthroat	70,000	2-3"
		Eastern Brook)		
		Rainbow)	287,000	fry
Boyd Creek Fish Hatchery				
Lowell				
Rainbow	489,271	(Hatchery closed down until spring of 1940.)		
Cutthroat	255,410			
Eastern Brook	13,621			
Steelhead	14,508			
Grayling	8,480			
	781,290			
Cascade Fish Hatchery				
Cascade				
Rainbow	95,754	(Hatchery closed down until spring of 1940)		
Cutthroat	287,966			
Golden Trout	5,248			
	388,968			
Coeur d'Alene Fish Hatchery				
Coeur d'Alene				
				December 10, 1939
Rainbow	28,875	Cutthroat	80,000	2-3"
Cutthroat	857,287	Eastern Brook	449,000	eggs
Eastern Brook	467,026	Eastern Brook	13,500	2-3"
Blueback Salmon	259,000			
	1,612,188			

FISH PLANTED		FISH AND EGGS AT STATION		

Evergreen Fish Hatchery
Tamarack

				December 10, 1939
Rainbow	204,095	Cutthroat	85,000	1-3"
Cutthroat	162,480	Eastern Brook	330,000	fry
Eastern Brook	57,120			
Blueback Salmon	232,500			
	656,195			

Eagle Fish Hatchery
Eagle Island

				December 10, 1939
Rainbow	910,167	Rainbow	77,000	2-3"
Cutthroat	363,200	Cutthroat	70,000	2-3"
		Eastern Brook	139,000	eggs
	1,273,367			and fry
		Rainbow	87,000	eggs
		Largemouth Bass	200	adult

Grangeville Fish Hatchery
Grangeville

Rainbow	140,000	(Hatchery closed down until spring of
Cutthroat	467,000	1940)
	607,000	

Gold Creek Fish Hatchery
Priest Lake
(Operated under supervision of Sandpoint Fish Hatchery.)

Cutthroat	335,960	(Hatchery closed down until spring of 1940)

Hayspur Fish Hatchery
Gannett

				December 10, 1939
Rainbow	395,860	Rainbow Brood Stock	10,000	
		Rainbow Brood Stock	5,000	Yearlings
		Cutthroat	50,000	1-2"
		Golden Trout	500	6-7"
		Eastern Brook	98,000	fry
		Rainbow	100,000	eggs

Henry's Lake Fish Hatchery
Lake

Cutthroat	807,510	Eastern Brook	2,500,000	eggs

FISH PLANTED		FISH AND EGGS AT STATION		

Mackay Fish Hatchery
Mackay

				December 9, 1939
Rainbow	725,286	Rainbow	460,000	2-3″
Golden Trout	20,400	Golden Trout	2,000	1-2″
		Eastern Brook	218,000	eggs
	745,686			

McCall Fish Hatchery
McCall

				December 9, 1939
Rainbow	176,496	Rainbow	8,000	2-3″
Cutthroat	45,860	Golden Trout	10,000	2-3″
Eastern Brook	59,850	Eastern Brook	109,000	eggs
Blueback Salmon	309,805	Blueback Salmon	260,000	eggs
	592,011			

Sandpoint Fish Hatchery
Sandpoint

				December 10, 1939
Cutthroat	486,236	Cutthroat	120,788	1-2″
Eastern Brook	12,504	Eastern Brook	9,870	2-3″
Whitefish	3,500,000	Eastern Brook	298,000	eggs
Blueback Salmon	414,350	Blueback Salmon	537,700	eggs
		Whitefish	27,000,000	eggs
	4,413,090			

Twin Falls Fish Hatchery
Twin Falls

				December 10, 1939
Rainbow	811,250	Rainbow	185,000	eggs
Cutthroat	77,000	Eastern Brook	75,000	eggs
	888,250			

U. S. BUREAU OF FISHERIES HATCHERIES

Hagerman

				November 30, 1939
Rainbow	370,160	Rainbow	286,899	1-3″
Cutthroat	104,000	Cutthroat	271,887	1-3″
Eastern Brook	98,045	Eastern Brook	2,600	1-8″
Blueback Salmon	269,200	Eastern Brook	392,000	eggs
	841,405			

U. S. BUREAU OF FISHERIES, Continued

FISH PLANTED		FISH AND EGGS AT STATION		
Laketown, Utah				
Rainbow	63,220			
Cutthroat	496,400			
Eastern Brook	101,600			
Chum Salmon	94,080			
	755,300			
Bozeman, Montana				
Cutthroat	23,000			
Eastern Brook	9,000			
Grayling	51,000			
	83,000			
Mullan, Idaho				
		November 1, 1939		
Rainbow	73,000	Rainbow	14,875	2-4″
Cutthroat	317,925	Rainbow Brood Stock	476	
Eastern Brook	25	Cutthroat	47,480	2-3″
		Cutthroat	289,275	1-3″
	390,950			
Salmon, Idaho				
		November 30, 1939		
Rainbow	301,990	Rainbow	39,390	2-3″
Cutthroat	86,360	Cutthroat	48,250	1-3″
Golden Trout	11,140			
	399,490			
Clarksfork, Idaho				
Rainbow	5,784			
Cutthroat	177,711			
Eastern Brook	4,401			
Blueback Salmon	560,348			
	748,244			

1939 PRODUCTION OF REARING PONDS

Crystal Creek Rearing Ponds

(Operated by State Fish and Game Department).

FISH PLANTED		FISH AT STATION December 10, 1939		
Cutthroat	136,925	Rainbow	14,000	2-3"
Eastern Brook	51,000	Cutthroat	135,000	2-3"
		Eastern Brook	3,000	5-9"
	187,925	Eastern Brook	40,000	3-4"

Idaho Falls Rearing Ponds

(Operated by Bonneville Fish and Game Association).

Rainbow	143,550	Rainbow	20,000	4-5"

Lava Hot Springs Rearing Ponds

(Operated by Portneuf Valley Sportsmen's Association).

Rainbow ..... 194,000 No Fish in Rearing ponds at present.

Marsing Rearing Ponds

(Operated by Marsing Rod and Gun Club).

Rainbow 10,000

Redfish Rearing Ponds—Stanley

(Operated by State Fish and Game Department).

Rainbow 60,000

Ruby Creek Rearing Ponds

(Operated by State Fish and Game Department).

Rainbow	165,000
Cutthroat	217,585
Eastern Brook	168,600
	551,185

Weiser Rearing Ponds

(Operated by Washington County Rod and Gun Club).

Rainbow 15,000

Grace Rearing Ponds

(Operated by Gem Valley Rod and Gun Club).

Rainbow 15,000

SPAWN TAKING STATIONS

STATE OF IDAHO

EGGS TAKEN—1939

SITE	SPECIES	NUMBER
American Falls Brood Stock	Rainbow	2,677,240
Ashton Brood Stock	Rainbow	804,000
Blackfoot River	Cutthroat	265,000
Bull River, Montana	Blueback Salmon	2,409,720
Chamberlain's Lake	Golden Trout	125,000
Crystal Creek	Eastern Brook	111,000
Elk River	Eastern Brook	47,000
Gedney Creek	Steelhead	52,000
Gold Creek	Cutthroat	603,415
Granite Creek	Cutthroat	1,435,446
Hayden Lake	Cutthroat	548,500
Hayden Lake	Rainbow	110,000
Hayspur Brood Stock	Rainbow	714,000
Henry's Lake	Eastern Brook	2,222,728
Henry's Lake	Cutthroat	5,045,000
Mackay Reservoir	Rainbow	2,414,035
Payette Lake	Blueback Salmon	319,842
Railroad Ranch	Eastern Brook	2,078,000
St. Charles Creek	Rainbow	75,000
Williams Lake (operated in cooperation with U.S.B.F.)	Rainbow	2,520,000
Wolf Lodge	Cutthroat	1,548,970
Wood River	Rainbow	959,000
TOTAL SPECIES		27,087,896

RAINBOW	10,273,275
CUTTHROAT	9,449,331
BLUEBACK SALMON	2,729,562
GOLDEN TROUT	125,000
EASTERN BROOK	4,458,728
STEELHEAD	52,000
	27,087,896

SUMMARY OF FISH PLANTED—1940

By

U. S. Fish and Wildlife Service, U. S. Forest Service, Sportsmen's Organizations and the Fish and Game Department.

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
ADA	Rainbow	41,200		Eagle, Evergreen,
	Eastern Brook..	48,500		& U.S. Hatchery
	Lge. Mouth Bass	4,075		at Hagerman
	Bluegill	12		
	Crappie	17,000		
	Perch	11,000	121,787	
ADAMS	Rainbow	202,850		Cascade,
	Golden Trout	1,425		McCall, and
	Cutthroat	309,420		Evergreen
	Eastern Brook..	117,560		
	Blueb'k Salmon	3,120	634,375	
BANNOCK	Rainbow	346,145		American Falls
	Cutthroat	20,000	366,145	
BEAR LAKE	Rainbow	203,030		U.S. Hatchery,
	Mackinaw	415,844		Laketown,
	Cutthroat	435,888	1,054,762	American Falls
BENEWAH	Eastern Brook..	13,894		Crystal Creek
	Cutthroat	9,000	22,894	Rearing Ponds
BINGHAM	Cutthroat	471,026		Ashton, American
	Rainbow	99,288		Falls, & U.S.
	Eastern Brook..	30,000	600,314	Hatchery at Hagerman
BLAINE	Cutthroat	221,500		Mackay, Twin
	Rainbow	1,047,939		Falls, Hayspur, &
	Blueb'k Salmon	394,860		U.S. Hatchery
	Eastern Brook..	183,000	1,847,299	at Hagerman
BOISE	Rainbow	569,000		Eagle
	Cutthroat	330,470		
	Eastern Brook..	90,000		
	Crappie	5,250	994,720	

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
BONNER	Cutthroat	673,859		Sandpoint, Gold
	Rainbow	147,181		Cr'k, Ruby Cr'k
	Eastern Brook	244,297		Rearing Ponds, U.
	Dolly Varden	33,000		S. Bureau of Fish-
	White Fish	24,250,000		eries, Clarks Fork
	Grayling	474,000		
	Lge. Mouth Bass	7,235		
	Crappie	1,456		
	Perch	126	25,831,154	
BONNEVILLE	Cutthroat	232,488		U.S. Hatchery at
	Rainbow	195,219	427,707	Hagerman, American Falls, & Ashton
BOUNDARY	Cutthroat	490,534		Sandpoint, Ruby
	Eastern Brook	128,533		Cr'k, Gold Cr'k, &
	Rainbow	93,761	712,828	U.S. Hatchery at Clarks Fork
BUTTE	Rainbow	5,240	5,240	Mackay
CAMAS	Rainbow	14,000		Eagle, U.S. Hatch-
	Cutthroat	15,000		ery at Hagerman,
	Eastern Brook	98,000		Hayspur, &
	Crappie	10,000		Twin Falls
	Perch	11,000	148,000	
CANYON	Rainbow	129,400		Eagle &
	Channel Catfish	875		Nebraska
	Lge. Mouth Bass	1,050	131,325	
CARIBOU	Rainbow	128,705		American Falls &
	Cutthroat	170,500		U.S. Hatchery at
	Eastern Brook	99,200	398,405	Laketown
CASSIA	Rainbow	136,924		American Falls,
	Eastern Brook	7,120		Hayspur, Twin
	Channel Catfish	300		Falls, Blue Lakes
	Lge. Mouth Bass	5,080	149,404	Ranch, & Nebraska
CLARK	Rainbow	31,056		Ashton
	Cutthroat	29,036		
	Eastern Brook	69,750	127,842	
CLEARWATER	Rainbow	129,496		Boyd Cr'k &
	Cutthroat	66,200		Sandpoint
	Eastern Brook	89,535		
	Whitefish	1,500,000	1,785,231	

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
CUSTER	Cutthroat	436,000		Hayspur, Mackay
	Rainbow	1,032,571		& U.S. Hatchery
	Blueb'k Salmon	194,120		at Hagerman
	Golden Trout	170		
	Eastern Brook	108,665	1,771,526	
ELMORE	Rainbow	340,200		Eagle, Twin Falls
	Cutthroat	130,030		& U.S. Hatchery
	Eastern Brook	55,500	525,730	at Hagerman
FRANKLIN	Rainbow	111,750		American Falls,
	Lge. Mouth Bass	4,000		Twin Falls
	Crappie	4,500	120,250	
FREMONT	Eastern Brook	72,630		Ashton, Henry's
	Rainbow	343,954		Lake, U.S.
	Cutthroat	1,647,946		Hatchery at
	Grayling	60,000	2,124,530	Warm River
GEM	Cutthroat	31,000		Eagle
	Rainbow	97,400		
	Lge. Mouth Bass	36		
	Crappie	21,000	149,436	
GOODING	Rainbow	357,350		U.S. Hatchery at
	Cutthroat	42,000	399,350	Hagerman,
				Twin Falls
IDAHO	Cutthroat	976,514		Coeur d'Alene,
	Rainbow	376,355		Cascade, Grange-
	Eastern Brook	161,323		ville, McCall, Ev-
	Grayling	40,400	1,554,592	ergreen, Boyd
				Cr'k, U.S. Hatch-
				eries at Salmon,
				& Bozeman, Mont.
JEFFERSON	Cutthroat	165,260		American Falls,
	Perch	24,000	189,260	U.S. Hatcheries
				at Hagerman,
				Ashton
JEROME	Lge. Mouth Bass	5,080		Blue Lakes Ranch
	Bullheads	5,000	10,080	& Eagle
KOOTENAI	Rainbow	409,245		Sandpoint, Ruby
	Cutthroat	581,180		Cr'k, Coeur d'-
	Eastern Brook	70,940	1,061,365	Alene, & Crystal
				Cr'k

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
LATAH	Cutthroat	19,050		Crystal Cr'k
	Eastern Brook	11,572	31,622	
LEMHI	Rainbow	201,285		Ashton & U.S.
	Cutthroat	70,336		Hatchery at
	Eastern Brook	84,440	356,061	Salmon
LEWIS	Cutthroat	50,384	50,384	Eagle, Grangeville
LINCOLN	Rainbow	48,000		U.S. Hatchery at
	Cutthroat	12,000	60,000	Hagerman
MADISON	Rainbow	18,945		Ashton & U.S.
	Cutthroat	194,620	213,565	Hatchery at Hagerman
MINIDOKA	Lge. Mouth Bass	5,080	5,080	Twin Falls & Blue Lakes Ranch
NEZ PERCE	Eastern Brook	57,109		Boyd Cr'k, Eagle,
	Whitefish	1,500,000		Coeur d'Alene &
	Perch	8,000		Sandpoint
	Crappie	8,000	1,573,109	
ONEIDA	Rainbow	155,850	155,850	American Falls
OWYHEE	Rainbow	110,400		Twin Falls,
	Cutthroat	149,000		Eagle
	Crappie	10,000		
	Perch	10,000	279,400	
PAYETTE	Lge. Mouth Bass	5,000	5,000	Eagle
POWER	Rainbow	178,525		American Falls
	Eastern Brook	25,550	204,075	
SHOSHONE	Cutthroat	436,715		U.S. Hatchery at
	Eastern Brook	202.191		Mullan, Crystal
	Rainbow	327,230	966,136	Cr'k, & Coeur d'Alene
TETON	Eastern Brook	18,600		Ashton, U.S.B.F.
	Rainbow	64,033		at Hagerman &
	Cutthroat	459,552	542,185	U.S. Hatchery at Warm River

COUNTY	SPECIES	NUMBER	TOTAL	HATCHERY
TWIN FALLS	Rainbow	927,884		U.S. Hatchery at
	Cutthroat	33,650		Hagerman, Twin
	Blueb'k Salmon	60,000		Falls, Eagle, &
	Mackinaw	2,500		Nebraska
	Eastern Brook	10,400		
	Channel Catfish	660		
	Lge. Mouth Bass	11,980		
	Crappie	46,900		
	Perch	84,000		
	Bullheads	5,000	1,182,974	
VALLEY	Blueb'k Salmon	445,220		Cascade, McCall
	Eastern Brook	171,575		Evergreen, &
	Rainbow	542,840		Eagle
	Golden Trout	1,710		
	Cutthroat	295,826	1,457,171	
WASHINGTON	Eastern Brook	26,470		Evergreen
	Rainbow	15,000	41,470	

SUMMARY OF FISH PLANTED BY SPECIES—1940

ALL SOURCES

Bass	48,616
Blueback Salmon	1,097,320
Bluegills	12
Bullheads	10,000
Channel Catfish	1,835
Crappie	124,106
Cutthroat Trout	9,205,984
Dolly Varden	33,000
Eastern Brook Trout	2,296,354
Golden Trout	3,305
Grayling	574,400
Mackinaw	418,344
Perch	148,126
Rainbow Trout	9,179,251
Whitefish	27,250,000
TOTAL	50,390,653

Total for Biennium

Total fish planted 1939	20,609,323
Total fish planted 1940	50,390,653
	70,999,976

SUMMARY OF HATCHERY PRODUCTION—1940

FISH PLANTED		EGGS AND FISH ON HAND DEC. 15, 1940	

American Falls Hatchery

Rainbow	1,143,582	Rainbow Brood Stock	30,582
Cutthroat	119,250*	Cutthroat 2-3"	111,895
Eastern Brook	25,550		
	1,288,382		

*152,250 Cutthroat were planted from American Falls in addition to the total shown as they were transferred from Twin Falls. These are included in the total shown for Twin Falls.

Ashton Hatchery

Rainbow	667,842	Rainbow Brood Stock	16,000
Eastern Brook	160,980	Cutthroat 2-4"	35,000
Cutthroat	617,014	Eastern Brook (fry)	140,000
	1,445,836		

Boyd Creek Hatchery

Rainbow	250,639	Closed until spring 1941.
Eastern Brook	107,610	
Cutthroat	268,015	
	626,264	

Cascade Hatchery

Rainbow	213,100	Closed until spring 1941.
Cutthroat	195,004	
	408,104*	

*70,000 Cutthroat and 54,272 Eastern Brook were transplanted from Eagle and Evergreen, but were planted from Cascade in addition to the total shown. These two lots are included in the totals for Eagle and Evergreen respectively.

Coeur d'Alene Hatchery

Rainbow	278,575	Closed until spring 1941.
Eastern Brook	410,346	
Cutthroat	880,220	
	1,569,141	

FISH PLANTED		EGGS AND FISH ON HAND DEC. 15, 1940	
Eagle Hatchery			
Rainbow	1,283,500	Rainbow eggs	170,000
Eastern Brook	90,000	Rainbow 2-3"	99,760
Cutthroat	847,500	Cutthroat 2-3"	30,365
	2,221,000	Eastern Brook eggs	515,000
Evergreen Hatchery			
Rainbow	207,350	Blueback Salmon eggs	66,196
Eastern Brook	265,842		
Cutthroat	288,980		
Blueback Salmon	168,720		
	930,892		
Gold Creek Hatchery			
Cutthroat	700,224	Closed until spring 1941.	
Grangeville Hatchery			
Rainbow	177,232	Closed until spring 1941.	
Eastern Brook	52,802		
Cutthroat	530,623		
	760,657*		

*55,000 Eastern Brook were transferred from Coeur d'Alene and planted out from Grangeville Hatchery. These are included in total shown for Coeur d'Alene.

Hayspur Hatchery			
Rainbow	960,749	Rainbow adult	5,500
Eastern Brook	28,000	Rainbow eggs	80,000
Cutthroat	231,320		
Blueback Salmon	266,980		
	1,487,049*		

*98,680 Cutthroat were transferred from Twin Falls and planted out from Hayspur Hatchery. These are included in the total for Twin Falls Hatchery.

Henry's Lake Hatchery			
Cutthroat	941,000	Closed until spring 1941.	
Mackay Hatchery			
Rainbow	857,651	Rainbow 3"	299,000
Eastern Brook	113,665		
Cutthroat	266,000		
Golden Trout	170		
	1,237,486		

FISH PLANTED

EGGS AND FISH ON HAND DEC. 15, 1940

McCall Hatchery

Rainbow	240,980
Eastern Brook	82,819
Cutthroat	58,722
Golden Trout	3,135
Blueback Salmon	279,620
	665,276*

*40,300 Eastern Brook were transferred from Evergreen Hatchery and planted out from McCall Hatchery. These are included in the total shown for Evergreen.

Sandpoint Hatchery

Rainbow	308,970
Eastern Brook	261,396
Cutthroat	197,750
Dolly Varden	33,000
	801,116*

Rainbow 4½"	60,320
Cutthroat 1½"	41,319
White Fish eggs	3,692,650
Blueback Salmon eggs	803,304
Kamloops 1½"	90,551

*152,000 Cutthroat were transferred from Eagle Hatchery to Sandpoint Hatchery. These are included in the total shown for Eagle Hatchery.

Twin Falls Hatchery

Rainbow	1,190,704
Eastern Brook	50,020
Cutthroat	284,580
Mackinaw	2,500
	1,527,804

Bullheads 2-3"	1,500
Channel Catfish 2-7 lbs.	10

Hagerman Bass Farm

Large Mouth Bass 1½-6 lbs.	325
Small Mouth Bass 8-14"	875
Small Mouth Bass 3-4"	737

U. S. FISH AND WILDLIFE HATCHERIES

Clarks Fork Hatchery

Rainbow	45,840
Eastern Brook	111,434
Cutthroat	191,119
	348,393

FISH PLANTED EGGS AND FISH ON HAND DEC. 15, 1940

Hagerman Hatchery

Rainbow	771,800
Eastern Brook	343,500
Cutthroat	1,041,450
Blueback Salmon	382,000
	2,538,750

Laketown, Utah

Rainbow	5,180
Eastern Brook	99,200
Cutthroat	435,888
Mackinaw	415,844
	956,112

Mullan Hatchery

Rainbow	137,900	Rainbow fingerlings	48,861
Cutthroat	191,025	Rainbow adults	463
	328,925*		

*64,125 Eastern Brook were transferred from Coeur d'Alene Hatchery to Mullan. These are included in the total shown for Coeur d'Alene Hatchery.

Salmon Hatchery

Rainbow	437,657
Eastern Brook	93,190
Cutthroat	171,300
	702,147

Warm River Hatchery

Cutthroat	749,000

(Figures on fish being held at the Federal Hatcheries over the winter are not available.)

1940 PRODUCTION OF REARING PONDS

Caldwell Rearing Pond

(Built and maintained by Caldwell sportsmen.))

Rainbow	35,000

Crystal Creek Rearing Pond

(State operated.)

Rainbow	256,575
Cutthroat	128,220
Eastern Brook	120,972
	505,767

Glenns Ferry Rearing Pond

(Operated by Glenns Ferry sportsmen.)

Rainbow	56,000

Hayden Lake Rearing Ponds

(Built by Hayden Lake sportsmen.)

Cutthroat	100,000

Idaho Falls Rearing Ponds

(Built by Bonneville County Sportsmen.)

Rainbow	195,204

Lava Hot Springs Rearing Ponds

(Built and operated by Portneuf Valley sportsmen.)

Rainbow	190,955
Cutthroat	10,000
	200,955

U. S. Forest Service Rearing Ponds

(Operated by Powell Creek Ranger Station.)

Cutthroat	102,000

Ruby Creek Rearing Ponds

(State operated.)

Rainbow	206,132
Cutthroat	142,000
Eastern Brook	16,000
	364,132

NOTE: Total productions of rearing ponds have been included in the productions of the hatcheries from which these fish were transferred.

SPAWN TAKING STATIONS
STATE OF IDAHO

EGGS TAKEN—1940

SITE	SPECIES	NUMBER
American Falls Brood Stock	Rainbow	1,168,000
American Falls River	Rainbow	220,000
Ashton Brood Stock	Rainbow	1,779,000
Blackfoot River	Cutthroat	96,000
Lake Pend D'Oreille	Blueback Salmon	1,250,000
Gold Creek	Cutthroat	386,720
Granite Creek	Cutthroat	1,543,150
Hayden Lake	Cutthroat	218,000
Hayden Lake	Rainbow	30,000
Hayspur Brood Stock	Rainbow	850,000
Henry's Lake	Eastern Brook	1,286,000
Henry's Lake	Cutthroat	5,052,000
Lost Valley Reservoir	Rainbow	311,000
Mackay Reservoir	Rainbow	2,514,894
Payette Lake	Blueback Salmon	80,000
Railroad Ranch	Eastern Brook	1,276,000
Springfield Lake	Rainbow	71,000
Williams Lake*	Rainbow	2,243,700
Wolf Lodge	Cutthroat	2,061,000
Wood River	Rainbow	700,000
Meader Trout Farm**	Rainbow	868,939
Canadian Government**	Kamloops	100,000

TOTALS

Blueback Salmon	1,330,000
Cutthroat	9,356,870
Eastern Brook	2,562,000
Rainbow	10,856,533
	24,105,403***
Biennium	51,193,299

* Operated in cooperation with Federal Fish and Wildlife Service.

** These eggs were secured by purchase.

***In addition to these, large numbers of eggs were furnished by the U. S. Fish and Wildlife Service.

SUMMARY OF HATCHERY PRODUCTION—1940

BY SPECIES OF FISH PLANTED

Blueback Salmon	1,097,320
Cutthroat Trout	9,205,984
Dolly Varden	33,000
Eastern Brook Trout	2,296,354
Golden Trout	3,305
Mackinaw	418,344
Rainbow Trout	9,179,251
	22,233,558

1939 Hatchery Production	16,538,228
1940 Hatchery Production	22,233,558
Total for Biennium	38,771,786

OFFICE PROCEDURE AND FINANCIAL REPORT

An effort has been made by the Fish and Game Department, with the suggestion and cooperation of the Bureau of Public Accounts, to modernize the records and office procedure of the department. These improvements were made with the thought that the department could be more intelligently administered with fiscal information which was not available with the previous office records in use. Following is a brief resume of the changes in office records made during this biennium.

The first improvement resulted from a law passed during the 1939 legislative session requiring all vendors of licenses for the State of Idaho to furnish the department a surety bond acceptable to the Director of the Fish and Game Department. Vendors were also required to report all sales and remit all moneys collected to the department not later than the fifteenth of the month following the month in which licenses were sold. This law has had the effect of guaranteeing the department against loss from failure of license vendors to remit funds from licenses sold, and has also stabilized the financial operation of the department by insuring a steady monthly flow of receipts into the fish and game fund.

A claim distribution register was set up by the Bureau of Public Accounts in which it is possible to keep the records of this department in agreement with state classification for disbursements and fill the needs of the department for necessary budget control of expenditures. As the Initiative Act of 1938 charged the Commission with fixing the budget for the department, it was felt that additional information on expenditures was necessary from the departmental standpoint. With the assistance of the Bureau of Public Accounts, a new expense ledger was set up in which the expenditures of the department are kept according to activities, such as Commissioners' expenses, administration, conservation officers, fish hatcheries, bird farms and rearing ponds.

A new vendors' ledger was set up this year to handle license accounts in a more satisfactory manner than was possible with the system in force. Under the previous system, vendors' accounts could not be reconciled until unsold licenses were turned back to the Auditor at the close of the year. The department now has current information on the status of each vendor's account and the sum of all vendors' accounts at all times. The above changes necessitated the purchase of a bookkeeping machine, the installation of which has enabled this additional work to be carried on without increase in the office personnel. The systems as installed have proven very satisfactory.

When the commission assumed administration of the department, it was learned that very little of the office furniture was the porperty

of the fish and game department. Most of the furniture and some of the office equipment in use was the property of the legislative departments of the state, resulting in its periodic removal from the office. This was corrected during the biennium by the purchase of necessary desks and other office furniture and equipment to carry on the work of this office.

It is the purpose of this department, beginning January 1, 1941, to install a property record for state property owned by this branch of state government. The purpose of this record is to account for all property issued to conservation officers and other department personnel and thereby reduce losses of state equipment. Each individual in the department using such equipment will be charged for it and must account for it annually by actual inventory. At the present time, a general ledger of the current accounts of the department is being compiled and will be maintained in the future. A daily itinerary report is now required from each conservation officer to be submitted monthly. This report contains such pertinent information as hours spent in the field, number of licenses checked, locality covered during each day and various other duties performed, together with a report on game conditions. These reports are found to be an excellent basis for comparison of the activities of the various officers. In addition to the above mentioned report, each person driving a department car is required to make a monthly report on car operations, containing the number of miles travelled, verified by speedometer readings, gasoline and oil used, repairs made, tires and tubes purchased and report on the condition of the car at the close of the month. It is the purpose of the department to compile a cost record sheet from these car reports in order to learn the actual cost of maintaining department cars in the field and to eliminate needless expense. It is felt that the above changes in records and office procedure will be a material benefit in the administration of the fish and game department.

The financial position of the department has been materially improved during this biennium, despite the increased expense involved in the installation of civil service for the department and other costs involved in changing to the commission form of management, the purchasing office furniture and equipment, the replacing of much of the department's car and truck equipment, the purchasing of new trucks for conservation officers, expansion of fish hatcheries and bird farms, and the cost of participating in the Federal Aid in Wildlife Restoration program. It must also be noted that nearly $35,000.00 in claims from the previous biennium were paid during this period. It has been the policy of the department, in the past two years, to pay all legitimate claims as soon as presented. This policy has been maintained up to the close of the biennium and will result in a much smaller carry-over of claims than previous reports

will show. Attention is further directed to the item of disbursements for the Wildlife Restoration Fund. This fund was created during this biennium and must be considered when comparing disbursements with previous years. Disbursements from this fund are offset in part by the 75% refund received from the Federal government which will be noted in the receipts for the period covered in this report.

Receipts in this biennium show a considerable increase over those of any previous comparable period. This is accounted for in part by larger license sales, resulting from better law enforcement, and the closer supervision of license vendors as required by the 1939 law regarding license sales. This law, requiring vendors to furnish surety bonds, has benefitted the department as previously mentioned, in a faster collection of money from license sales. Prompt collections, added to the natural carry-over from vendors of previous biennium license sales, created a cash revenue this period from license sales which will probably not be sustained in the future, unless the sales of licenses increase considerably. Other receipts for this period include refunds from the Federal gevernment for the Wildlife Restoration Projects, mentioned above, and which are new revenues to the department when comparisons are made with former reporting periods. Revenue from the sale of beaver pelts shows the greatest increase of any classification. With the steady decline of poaching, through more strict law enforcement, and the large increase from the management program, beaver have become a major problem of this department. It has been necessary to trap large numbers of them to satisfy complaints of land owners in irrigated tracts. The numbers taken, however, do not account in full for increased revenue from this source; all personnel engaged in trapping and handling pelts of beaver have received extensive instruction in proper methods of preparing pelts for market which has resulted in a much higher price per pelt than formerly obtained by the department.

A detailed report of receipts and disbursements covering the financial transactions of this department for the biennium follows.