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IDAHO FISH & GAME DEPARTMENT

Annual Report

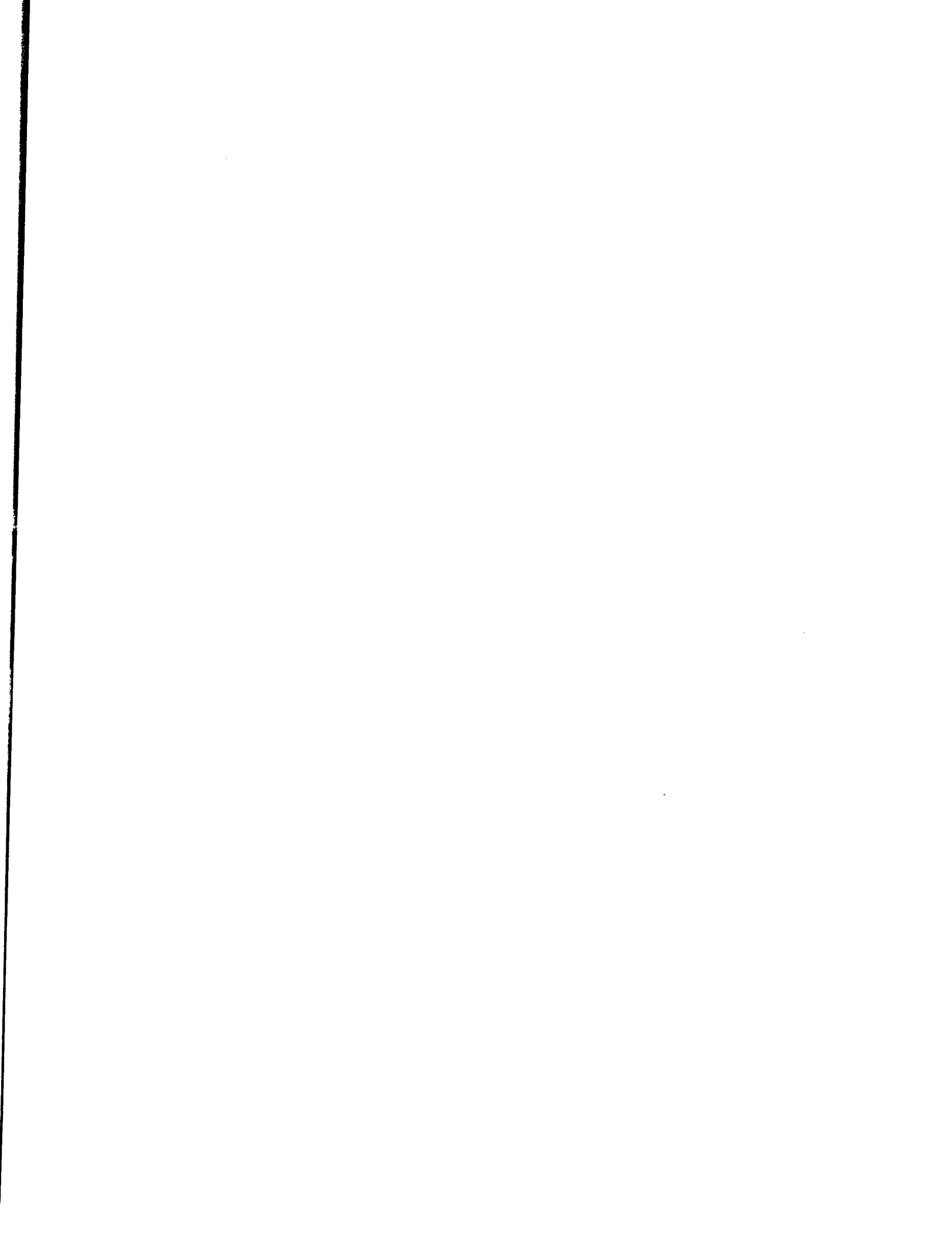
1969

1969
ANNUAL REPORT
of the
IDAHO FISH and GAME DEPARTMENT



MEMBERS OF THE COMMISSION

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Glenn Stanger Idaho Falls



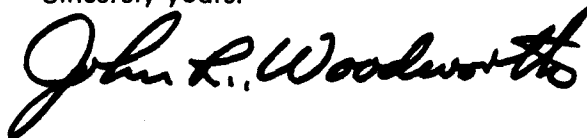
August 1, 1970

Honorable Don Samuelson
Governor, State of Idaho
Statehouse
Boise, Idaho

Dear Governor Samuelson:

We are pleased to submit to you, in compliance with Section 36-116, Idaho Code, this Annual Report of activities and operations of the Idaho Fish and Game Department.

Sincerely yours.

A handwritten signature in black ink that reads "John R. Woodworth". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

IDAHO FISH AND GAME DEPARTMENT
John R. Woodworth, *Director*

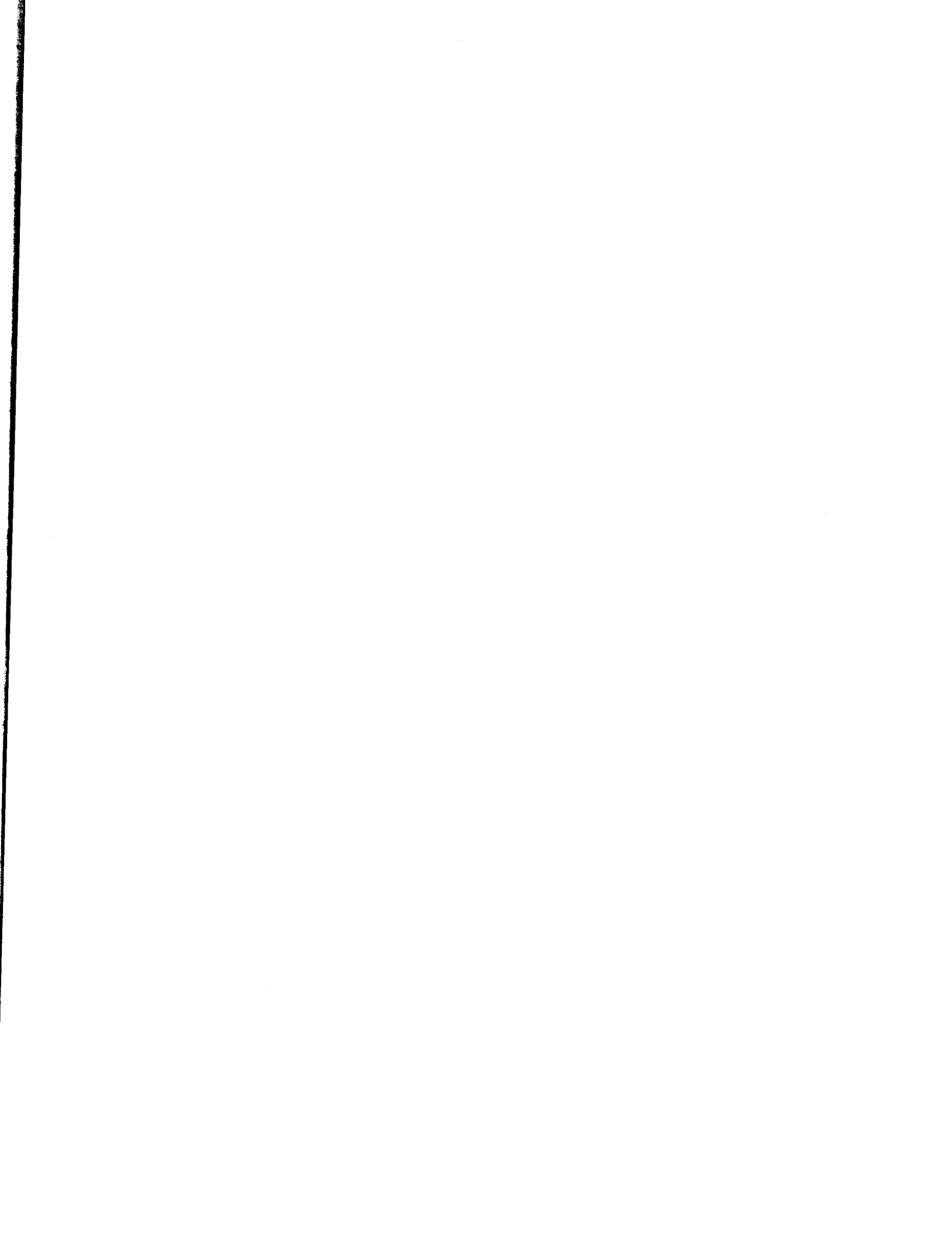
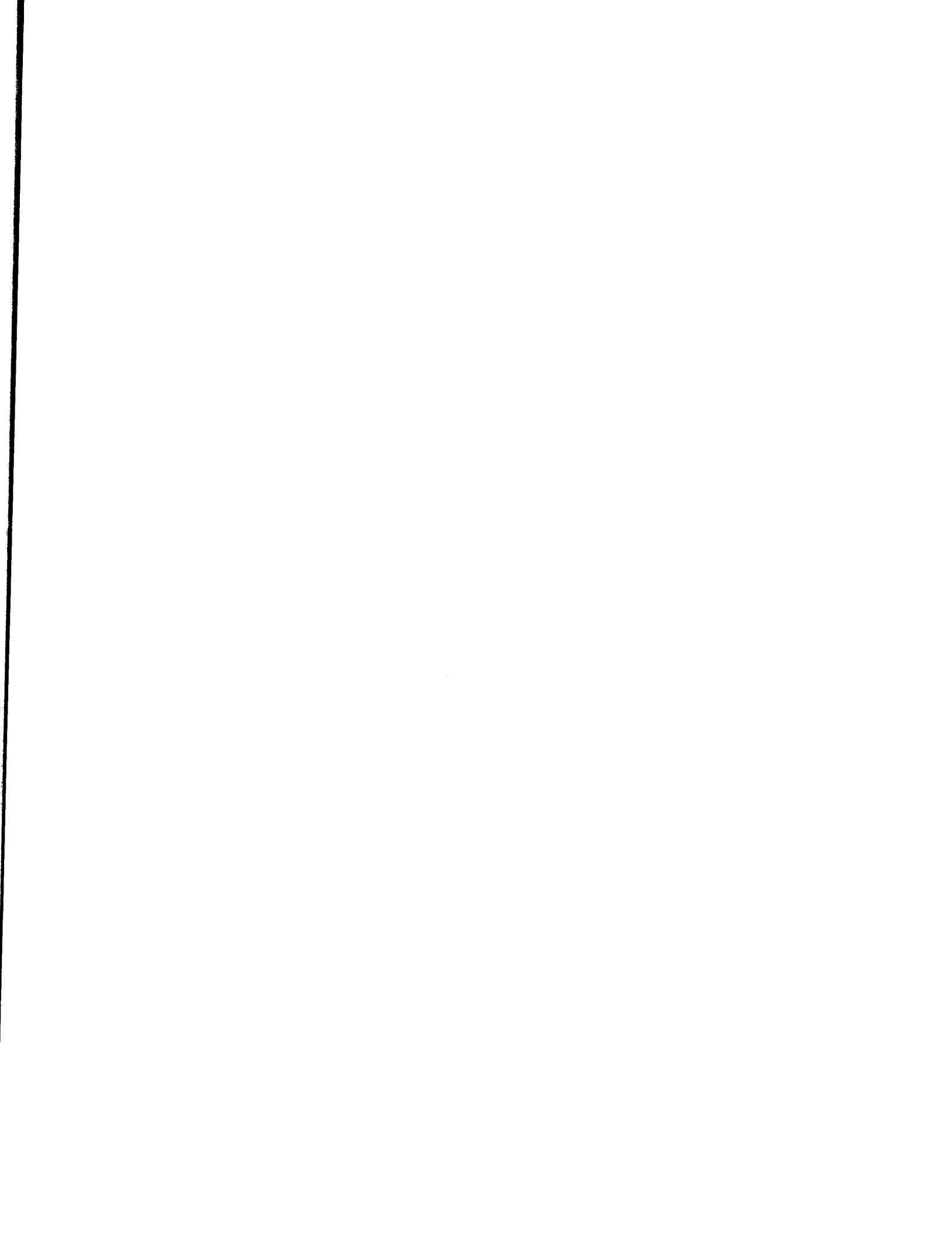
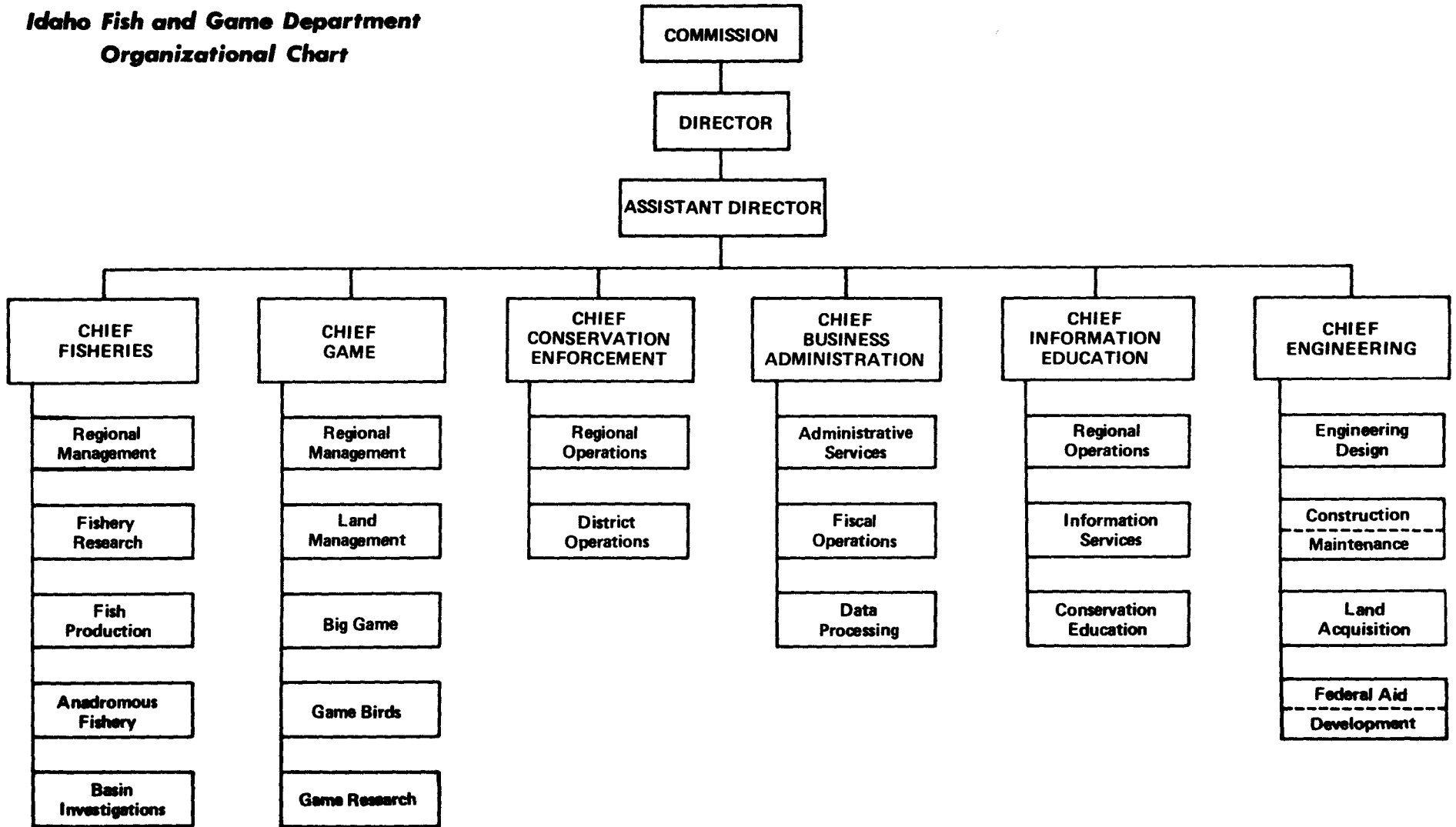


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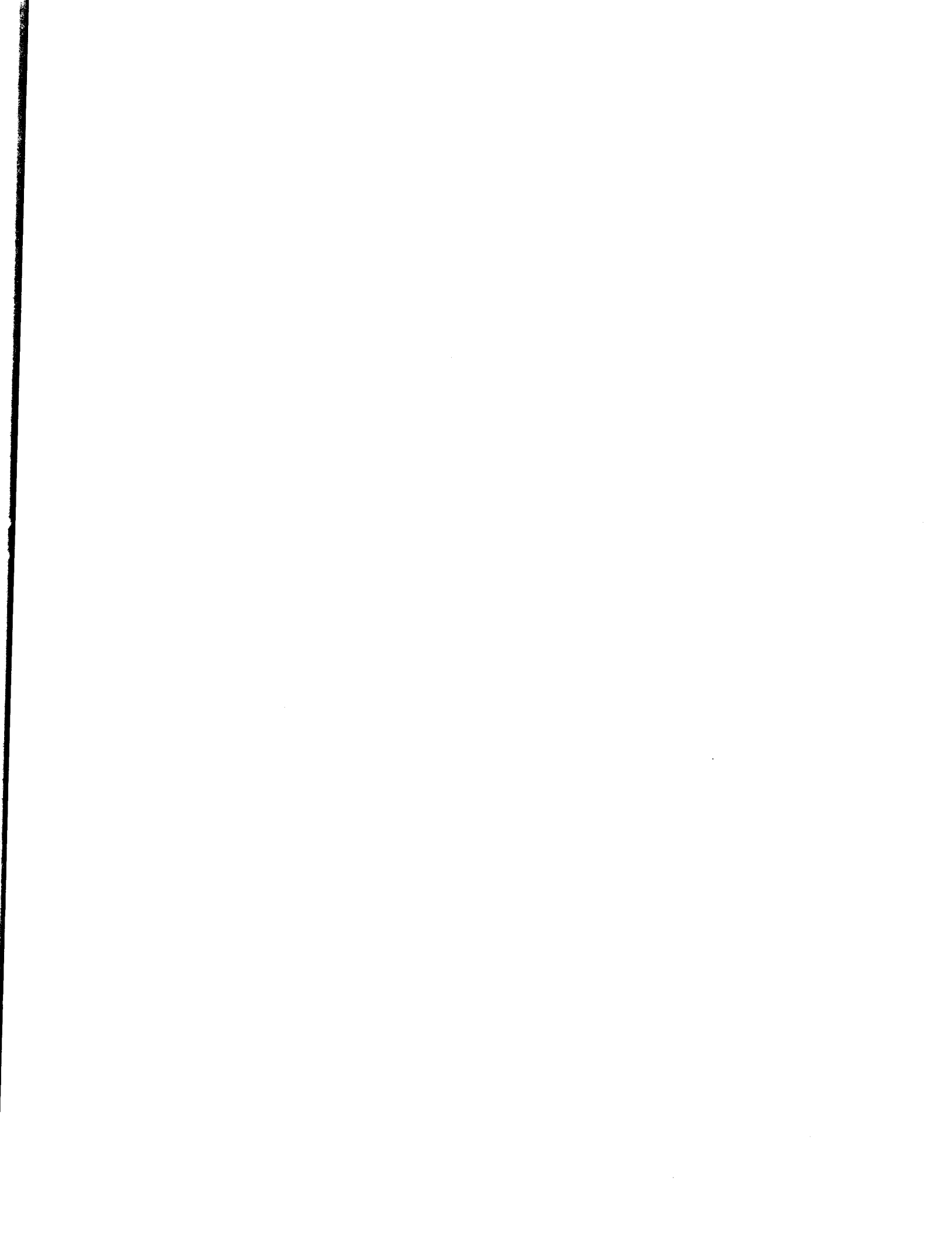
**Idaho Fish and Game Department
Organizational Chart**







Conservation
Enforcement



CONSERVATION ENFORCEMENT

GENERAL

Each year more sportsmen with more affluent means and more leisure time are making heavier, competitive demands on a limited wildlife resource which, conversely, is dependent on a constantly diminishing habitat. This brings about a gradual and proportionate increase in the scope of the wildlife law enforcement job required of the Conservation Enforcement Division, both as to the prevention of violations and the apprehension of violators.

The eight-region organizational arrangement, adopted in 1965, provides a reasonably adequate ratio of supervisor personnel and makes it possible to use the Department force of 64 District Conservation Officers in the most flexible and effective manner and to the highest potential.

The number of vendorships for which each Idaho District Conservation Officer is responsible continues to average about ten. The average number of license sales of all classes per Conservation Officer District (excluding additional day tourist fishing licenses) has increased to about 6,700 as compared to 4,676 ten years earlier, a 43.3 percent hike. An average of about 1,200, or slightly under 18%, of these licenses are field checked annually in each officer district. Of the overall total of license sales (again excluding additional day tourist fishing licenses), about 63% are of resident classes and the applications for all such licenses must be checked out individually as to unqualified or fraudulent purchases. To provide information needed to better cope with this problem, a project was initiated in late 1969 to determine the extent, character and effect of such violations.

The officer's primary responsibility for enforcing wildlife laws occupied 62% of his time in 1969. His contributions to game and fisheries management activities took up 13% of his hours on the job and slightly over 6% was spent on information and education work. Better than 5% of his work was devoted to improvements. Primarily this relates to the repair and maintenance of department facilities, buildings, installations and equipment.

Administrative activities took up 14% of his time. This work category includes supervision of license vendors, search and rescue work, civil defense, public access planning, attendance at

training schools and conferences, ordering supplies, collecting delinquent fine monies and routine office work plus those administrative and miscellaneous enforcement duties which relate to licensing and other requirements for fur buyers, taxidermists, commercial fishing and seining permits, private game farm and park licenses and senior citizens, military, falconry, dog training, field trial, scientific collecting or banding and various types of special permits.

MISCELLANEOUS PERMITS ISSUED IN 1969

1. Dog Field Trial Permits	21
2. Individual Dog Training Permits	8
3. Bait Minnow Selling Permits	6
4. Rough Fish Seining Permits	9
5. Semi-private and Private (non-commercial) Fish Pond Permits	15
6. Private Game Animal Park	2
7. Private Game Bird Park	33
8. Falconry Permits	31
9. Scientific Collecting and Banding Permits	78
10. Special Permits (captive, killing, mounted specimens, etc.)	38

All of the types of permits listed above are issued without charge. However, a royalty payment is required on all fish taken and sold under seining (rough fish) and minnow selling permits.

During the year three officers transferred to jobs in other divisions, two left the Department to take higher paying federal employment and one left to resume his previous vocation. Five new officers were hired, four as replacements and one representing an increase in our overall force. Kenneth Mackenzie received the annual Shikar-Safari International Award as Conservation Officer of the Year and the Idaho Peace Officers' Association presented Conservation Officer Don McMullen with the Outstanding State Officer of the Year award. Other awards of regional scope were received by division personnel.

ENFORCEMENT

The ultimate objective of a wildlife law enforcement program is to bring about the best possible public compliance with existing laws and regulations.

For many years our wildlife law enforcement program consisted of making arrests on an "after the fact" basis. More recently increased emphasis has been directed toward preventive enforcement

programs. Starting in 1965, written warnings for lesser or inadvertent violations were adopted as a segment of our enforcement program. This was done following a thorough study of the use of this tool by wildlife agencies in adjoining states and by other law enforcement agencies in Idaho. Our use of warnings puts the violator on written notice and the violation on record. We are also now gaining additional violation information of value by recording data from detected violation "incidents" wherein a violation is definitely known to have been committed, but the violator is unknown or other facts and evidence available are insufficient for prosecution.

We have long needed a better basic foundation for planning, programming and implementing a broader and more effective wildlife law enforcement program. This is now provided in part by our complete program of reporting, recording and using violation data from all of the three sources mentioned — citations, written warnings and incidents.

Converted to machine processing and subjected to thorough analysis, useful information of this quantity and diversity, so recorded, stored and available when needed, is now furnishing us with the basic beginning of such a foundation.

Such violation data is also of value in adjusting temporary or seasonal workloads and assignments. In the future it will aid in designing conservation officer districts and determining the placement of personnel, plus possible future innovations as to types of duty and responsibility assignments — all of this to match changing patterns of resource use.

Violation data of recent years is shown in Table 1.

TABLE I

VIOLATION SITUATIONS

Year	Arrests	Warnings	Incidents	Annual Total of Violation Situations Detected And Recorded
1966	1,590	874	420	2,884
1967	1,330	923	538	2,791
1968	1,641	1,062	663	3,366
1969	1,729	1,076	715	3,520

The ten-year annual average, prior to 1965 of 1,310 arrests, reflecting single phase enforcement with limited information collected and recorded, compares graphically with the three-way 1966, 1967, 1968 and 1969 annual total figures of 2,884, 2,791, 3,366, and 3,520, respectively. It is felt that increased vigilance and investigative effort are among the several factors accounting for the

increases shown in all three categories as to the number of violations detected.

Concurrently with our three-way program regarding violation data, we have continued our previously established practice of collecting information concerning the unorthodox harvest of wildlife by Indians on the basis of their treaty rights. It is highly probable that some big game and anadromous fish violations listed as incidents would be shown as Indian harvest — if the ethnic origin of the taker were known.

As a result of improved planning and organization of work, the increase in the effectiveness of our combined program of preventive and active enforcement has been obtained without any significant increase in the number of District Conservation Officers. Furthermore, each officer is now working a more reasonable average number of hours per month (179 in 1969, as compared to 225 in 1968 and 232 in 1967) and has reduced operating costs by driving a relatively conservative average monthly mileage of 1,725 (1,858 in 1967, 1,979 in 1966 and 2,049 in 1965).

The graphic reduction in hours worked and miles driven for 1969 is partly attributable to the "overtime law" which was in effect during the last seven months of the year. However, the effect of the "overtime law" in this regard only accelerated a trend established early in the decade. Another influencing factor adding to this downward trend is the increasing overnight use of camping gear, patrol cabins and field located trailer houses. This substantially reduces time and mileage spent in going to and from areas where hunting and fishing activity is of timely concern.

One of the principal elements of our preventive law enforcement program has continued to be the dissemination of information on laws and regulations to the public by means of the various news media, by distributing leaflets and making mail enclosures with controlled hunt permits, as well as through the use of posters in school, community and field locations. Special appeals were also made to the citizen owners of the wildlife resource, asking their help in curbing violations and reporting violators. Articles of this type have appeared in the *Wildlife Review* and other publications, accompanied by a statewide listing of conservation officers with their telephone numbers. A number of affirmative results were directly attributable to cooperative response to this effort.

As a major part of the Department's overall program of prevention and apprehension, constant patrol pressure in identifiable vehicles was maintained. District Conservation Officers traveled a total of 1,321,189 miles in their endeavor to maintain reasonable enforcement control.

Of the 1,729 arrests in 1969, 185 (10.7%) were concerned with licenses and permits; 588 (34%) related to resident fish, 61 (3.5%) anadromous fish; 441 (25.5%) big game; 97 (5.6%) upland birds; 19 (1.1%) small game; 205 (12%) migratory birds; 48 (2.8%) furbearers, and the miscellaneous column comprised 82 (4.8%). See Table IV.

On the basis of type of violation committed, the 1,729 total breaks down into subtotals of 172 (10%) relating to license violations, principally purchase or possession of the wrong class; 384 (22.2%) were for hunting or fishing without a license; 56 (3.2%) related to areas or species for which there were no open general seasons at any time of the year; 410 (23.8%) involved taking wildlife during closed seasons; 103 (5.9%) dealt with overlimits of various kinds; 83 (4.8%) concerned the use of illegal gear and 521 (30.1%) had to do with unlawful procedure or methods.

The 384 prosecutions for hunting or fishing without a license were the product of 75,016 licenses field checked during the year. This means a "no license" violation warranting prosecution for every 196 (1:263 in 1968; 1:238 in 1967) fishermen and hunters checked and indicates that an increasing number of people were going hunting or fishing without a license — with most probably doing so on a calculated risk basis. This is a matter for real basic concern, in view of the relationship to the Department's primary source of revenue.

The liberalization of some regulations has reduced the probability of some kinds of out of season, over the bag limit and illegal gear violations, accordingly. As an example, more waters are now open to longer or year-around fishing seasons. Spearing is now allowed on rough fish during open seasons and there is no limitation as to the number of outfits used while ice fishing. Bag limits have been removed from several of our principal species of game fish. Many of our hunting seasons have been longer in recent years.

On the other hand, some of the liberalizations mentioned, particularly longer seasons, tend to

increase those types of violations which are associated with open seasons or permissible activity. Various kinds of "in season" violations make up a sizeable percentage of each year's grand total.

Emphasis has been continued on obtaining greater flexibility, variation and diversification in our law enforcement effort, particularly as to type of field patrol. Results demonstrated by one region, for example, showed that 19.9% of all arrests made were the direct result of boat patrols, 44.2% by vehicular patrol and 8.3% of the total arrests related directly to foot patrol. A further breakdown showed that 12.2% were based on information supplied by the public, 4.5% were the result of short term, impromptu check stations and 10.9% stemmed from license application investigations concerning unlawful purchases. As an incidental observation it was noted that in one region, out of a total of 46 spotlighting incidents or arrests, four involved livestock with 4 domestic cows and one hereford bull being killed.

A close watch has been maintained statewide in regard to potential or actual problems associated with the increasing numbers and activity of snow-mobilers. This may become a matter of more concern as time passes.

Table II gives a record of arrests, warnings and incidents by counties and regions. Table III shows arrest totals and average fine figures on a county-region basis. In actual fact, portions of some counties lie in two or more regions. However, for the purpose of these tables such counties have, of necessity, been placed entirely in one region or the other.

County averages of fines varied from a high of \$82.14 in Bear Lake County to a low of \$16.40 in the adjoining county of Franklin. The statewide average fine for convictions was \$34.09. This compares to \$32.39 in 1968 and the average for the previous five years of \$29.14. When convictions which did not result in fines are included, the 1969 average figures become \$28.61, compared to \$27.63 in 1968 and the five-year average of \$24.39. Fifty percent of such fine monies go to the school and general funds of the county of jurisdiction. One hundred per cent of the monetary penalties that result from bond forfeitures, violations of the Youth Rehabilitation Act and failure to answer to a citation remain with the county where the violation occurred, as do all court costs. None of these 100% county monies are included in the

Table III figures. Of the violators appearing in court, 16.1% (14.7% in 1968) were not assessed a fine. Of this group, 31.6% were juveniles.

Light fines do little to discourage violations and actually seem at times to result in violations being committed on a "calculated risk" basis. Many violators conclude that the chances of detection and arrest are in their favor and, even if caught, they feel a light fine will sting very little anyhow. The problem of light fines for wildlife offenses is not limited to Idaho, being common throughout the West and, as a matter of fact, the entire country.

Low though it is, the average fine assessed in Idaho has increased by 13.8% in the last three years and presently ranks among the highest in the western states. It is felt that this increase is partly attributable to the adoption and use of warnings in those instances when circumstances so indicate. This not only reduces the number of marginal cases (low fines) in the court but also increases the confidence of the magistrate in the judgment and decision making of our conservation officers relative to those apprehensions which result in citations.

Table V furnishes a breakdown for those 1969 arrests which did not result in fines. It is noteworthy that of the statewide total of 1,729 arrests made in 1969 less than 1% resulted in acquittals, and 1.4% in dismissals. The combined conviction and bond forfeiture rate was 97.63%.

Again in 1969 more prosecuted violations involved resident fish (Table IV) than any other kind of wildlife with big game, migratory birds, wrong class of license purchases, upland birds and sea-run fish following in that order. Wrongful procedure or methods while hunting or fishing was the most frequent unlawful type of activity involved, with closed season violations second and hunting or fishing without a license third.

Slightly less than one out of every six persons arrested in 1969 was a nonresident. California and Washington led the list with Utah, Montana and Oregon following in that order (Table VI). Making up the miscellaneous group of 1969 arrests of nonresidents were 1 to 4 people from each of 20 additional states, 2 from Canada and 1 from Singapore.

Confirmed Indian harvest incidents during 1969 in Idaho numbered 49, a 16.9% decrease from the number registered in 1968.

TRAINING

The division was represented at both the Basic and Advanced Sessions of the Idaho Law Enforcement Academy held at Idaho State University. In addition, each month District Conservation Officers attended regional one-day conferences where department programs, operating procedures, policies, enforcement problems and training items were reviewed. Division personnel also took part in other training schools and conferences, of both law enforcement and general types.

WILDLIFE DEPREDATIONS

The number of wildlife depredation complaints reported for 1969 decreased somewhat compared to the previous year (433 compared to 531) and expenditures for servicing complaints showed a slight decrease also (\$15,877.31 compared to \$16,858.50). The number of service trips were down about 26% from a year earlier (935 compared to 1,260).

Included in the \$15,877.31 servicing costs were 39,813 vehicle miles and 2,586 manhours by conservation officers (48,606 and 4,085, respectively, in 1968). Temporary help, supplies and miscellaneous services resulted in an expenditure of \$3,192.61.

Beaver continued to lead all wildlife species in accounting for 32% of all complaints; followed by pheasants 16%, deer 12%, bear 9%, ducks and geese 7%, other migratory birds 4%, elk 5%, other furbearers 3%, non-game birds 2%, with predators and other mammals at less than 1% each.

Recent years have shown a rising trend in depredation complaints regarding greater sandhill cranes, particularly in Bear Lake, Caribou and Teton Counties.

All regions having a significant number of problem bears are now equipped with mobile live traps for use in relocating such animals to trouble free locations.

EQUIPMENT AND BUILDINGS

Additional shallow draft boats equipped with outboard motor jet adapters were put in service on waters not suitable for propellor driven craft. Included as a major item of this type was a custom built boat for use on the Salmon River down-

stream from Salmon as well as upstream into the Challis area. In addition, a larger custom made jet boat with twin inboard motors and jet pumps was purchased as a replacement item for use on the lower Salmon River and on the Snake River upstream from Lewiston.

An outdated, wooden trailer house was installed permanently on a block foundation at Kalispel Creek (Priest Lake) to serve as a patrol cabin.

Additional and/or replacement trailer houses, snowmobiles, trail machines and conventional boats were purchased for sundry, appropriate locations and uses throughout the state.

SEARCH AND RESCUE

Search and rescue work was continued at a high level of participation with other cooperating agencies. Eighty-two missions were undertaken at an approximate cost of \$3,130.45. Over \$18,759.54 has been contributed to search and rescue efforts during the past seven years.

Worthy of note is the fact that 44% and 67% of such efforts by our agency in 1968 and 1969, respectively, were on behalf of people or problems not directly related to hunting or fishing.

Of the 82 missions in 1969, only 27 were for hunters and fishermen. The balance of missions related to such miscellaneous activities as assisting at traffic accidents in remote areas, with situations involving lost hikers, swimmers, pleasure boaters, stranded motorists, downed airplanes, and missing cycle riders and snowmobilers, etc.

LEGISLATION

Enactments of the 1969 Legislature affecting the Idaho Fish and Game Department's programs are as follows:

(1) Amended Section 36-429 by specifically giving the courts, instead of the Director of the Fish and Game Department, discretionary power to revoke the hunting and fishing license privileges of a fish and game law violator for such period of time as the magistrates may determine — up to 12 months. For a second offense, the revocation is mandatory, with a minimum of 6 months and a maximum of 12 months.

(2) Amended Sections 36-115, 201, 205, 209, 601, 802 and repealed Section 36-605, 606, 607 and 608 thereby eliminating shipping permits and substituting a provision that all shipments of fish and wildlife (except commercial fur) must be plainly marked on the outside of the package as to the number and kinds of fish, game or furbearer pelts and also requiring the enclosure of a written statement as to the taker's name, address, and hunting, fishing or trapping license number.

(3) Amended Title 19, Chapter 47 by repealing existing laws and provided a new method for distribution of fish and game fine monies — 10% to State General Fund, 45% to Fish and Game Fund, 22.5% to county current expenses fund, and 22.5% to county general school fund. This also specifically provides that bond forfeiture monies shall be divided and distributed in the same manner as fines. (Effective January 11, 1971.)

(4) Added Section 36-1412 prohibiting the hunting of big game with dogs, except as authorized by the Fish and Game Commission; making it unlawful to allow a dog to run loose and pursue big game animals, and permitting a peace or conservation officer to destroy, without criminal or civil liability, a dog found pursuing, harassing, attacking or killing deer or any other big game animals.

(5) Amended Section 36-5601 providing flexibility as to state membership in the Pacific Marine Fisheries Compact, and changing the membership contribution rate for Idaho's share to 5% of the Pacific Marine Fisheries Commission's annual budget.

(6) Amended the present Columbia River Compact (Title 42, Chapter 34, Idaho Code) to define the joint responsibility of Washington, Oregon and Idaho in the conservation and management of anadromous fish in the Columbia River drainage, and to provide for voting procedure — each state having one vote, but with Idaho voting only on fish which are destined for Idaho waters. (This law will have to be passed, also, by Washington and Oregon and then ratified by Congress to be effective — this has not yet been done.)

(7) Amended Sections 36-503, 504, repealed 505, 506, 507, amended 36-5501, 5502, 5503, and 5504 thereby eliminating the present laws which require a bill of lading to be sent to the Director of the Fish and Game Department for

each shipment of fish or game birds from a private pond or farm. The amendments provide a shipping record shall be kept by the private pond or farm operator for two years, showing the date, number or weight, and species of each shipment of fish, birds or game. These records are to be shown to Department representatives on request. All kinds of game are now brought under the "game farm" law. Formerly it related only to "game birds."

(8) Amended Sections 36-703, 704, repealed 705 and 707, and amended 708 concerning taxidermists, thereby eliminating the need to make monthly reports to the Director. It provides that the taxidermist will keep records on all fish and game received for preserving and shipping, including the taker's name and address, the date taken, and the number and kind of fish and game. These records must be kept for two years and made available to a department representative on request.

(9) Amended Section 36-302A to allow the Fish and Game Commission to establish closed seasons and otherwise regulate the taking of mountain lions, for the purpose of a scientific research project, in those parts of Idaho and Valley counties lying in the drainage of Big Creek, a tributary of the Middle Fork of the Salmon River. Authority extends to July 1, 1972.

(10) Amended Section 36-2310 to provide that, regardless of which county the violation was committed in, a violator of fish and game laws may be taken before any magistrate in any county who has jurisdiction over such offenses when it is agreed to be more convenient by both the officer and the defendant. This applies also for the purpose of posting bail bonds, cash bail, waivers of trial, or entering pleas of guilty. (Effective January 11, 1971.)

(11) Amended Chapter 13 of Title 47 (Idaho Dredge Mining Act) by (1) including placer mining; (2) adding the requirement of installing filtration processes to the use of settling ponds in clarifying water from a dredge or placer mining operation; (3) providing for the State Land Board to make investigations and conduct hearings; (4) requiring that a dredge permit cannot be issued except on such terms and royalty as the State Board of Land Commissioners shall determine; (5) requiring that whenever a dredge or placer mining permittee removes a substantial amount of topsoil, as determined by the State Land Board, the permittee must restore the land to its original condition by

the addition of topsoil and the planting of grass, trees and other vegetation insofar as is reasonably possible after the conclusion of the dredging operation; and (6) providing that the Idaho State Board of Land Commissioners shall have the power to deny an application for a dredge mining permit if it is determined that the operation would not be in the public interest.

(12) Added Section 36-440 requiring fishermen to have a steelhead trout permit at a fee of \$1, to fish for steelhead, and an anadromous salmon permit, at \$1, to fish for anadromous salmon. Any licensed resident angler can purchase one or both of these permits and nonresidents with a full season fishing or combination license may purchase the permits. Residents exempt from buying a fishing license, such as those under 14 years of age or 70 years of age or over, may optionally purchase their own permit or may fish for steelhead and salmon without a permit if they accompany a permit holder and their catch is included in the permit holder's limit. Unlicensed nonresidents under 14 years of age may take steelhead and salmon only by fishing with the holder of a valid license and permit and including their catch with the permit holder's bag limit. (Effective January 1, 1970.)

(13) Amended Section 36-408 by deleting the additional day tourist fishing license at \$1 and by allowing both residents and nonresidents to buy the \$2 one-day fishing license. House Bill 10, amended the same section by eliminating the \$25 nonresident restricted deer license and setting up a new nonresident \$50 deer license which is good anywhere in the state. The \$25 nonresident bear license was left as is. (Effective January 1, 1970.)

(14) Passed a new law (Chapter 26, Title 49) providing for the numbering and licensing of snowmobiles at \$5, with 50% of the funds to go to the counties for the development of snowmobile activities and 40% to the State Treasurer as a search and rescue fund to reimburse state and local authorities for such costs up to \$1,000 per mission. The remaining 10% goes to the state motor vehicle fund. This law prohibits the use of snowmobiles on public highways, except for crossing or when the highway is snowbound; prohibits harassment of game, birds or domestic animals; requires machines to be operated in a safe manner; requires reporting of accidents which result in injuries or property damages estimated at \$100 or more; and provides for fine and/or imprisonment for violation of the law.

TABLE II
TOTAL ARRESTS, WARNINGS AND INCIDENTS
BY COUNTY AND REGION
1967 - 1969

County and Region	1967				1968				1969			
	Arrests	Warnings	Incidents	Total	Arrests	Warnings	Incidents	Total	Arrests	Warnings	Incidents	Total
Panhandle Region												
Benewah	5	2	2	9	19	0	3	22	9	5	3	17
Bonner	26	10	10	46	21	9	5	35	34	11	12	57
Boundary	9	4	10	23	24	2	1	27	18	12	1	31
Kootenai	72	46	11	129	53	28	15	96	42	32	18	92
Shoshone	32	23	34	89	35	38	23	96	52	29	31	112
Totals	144	85	67	296	152	77	47	276	155	89	65	309
Clearwater Region												
Clearwater	30	12	19	61	57	37	30	124	69	32	28	129
Idaho	73	16	32	121	89	20	40	149	103	30	46	179
Latah	46	11	19	76	59	24	6	89	23	20	12	55
Lewis	0	0	1	1	5	2	0	7	6	3	2	11
Nev Perce	15	10	8	33	43	23	11	77	39	16	11	66
Totals	164	49	79	292	253	106	87	446	240	101	99	440
McCall Region												
Adams	17	8	7	32	37	8	4	49	38	12	4	54
Valley	35	37	16	88	31	45	19	95	29	26	35	90
Totals	52	45	23	120	68	53	23	144	67	38	39	144
Western Region												
Ada	16	36	10	62	41	35	9	85	63	54	41	158
Boise	39	18	11	68	77	58	2	137	25	14	11	50
Canyon	50	36	38	124	43	48	4	95	68	68	14	150
Elmore	24	27	10	61	55	77	54	186	50	46	37	133
Gem	14	6	7	27	27	16	6	49	24	6	1	31
Owyhee	18	27	5	50	18	14	11	43	41	50	22	113
Payette	6	2	3	11	13	8	1	22	9	2	0	11
Washington	13	4	0	17	8	2	1	11	8	11	1	20
Totals	180	156	84	420	282	258	88	628	288	251	127	666
Magic Valley Region												
Blaine	54	39	28	121	77	33	38	148	60	38	26	124
Camas	17	14	8	39	13	8	20	41	16	14	11	41
Cassia	37	17	5	59	35	28	11	74	31	24	5	60
Gooding	47	46	59	152	69	41	67	177	48	47	42	137
Jerome	6	6	5	17	3	9	7	19	22	29	4	55
Lincoln	3	9	1	13	14	12	3	29	19	9	5	33
Minidoka	18	13	5	36	15	11	1	27	15	13	5	33
Twin Falls	24	22	11	57	54	37	8	99	63	82	11	156
Totals	206	166	122	494	280	179	155	614	274	256	109	639
Eastern Region												
Bannock	44	8	10	62	62	17	16	95	38	16	19	73
Bear Lake	18	8	5	31	7	8	2	17	7	3	7	17
Bingham	29	7	11	47	15	7	18	40	22	13	18	53
Caribou	62	18	6	86	68	32	26	126	47	20	31	98
Franklin	13	4	0	17	13	4	0	17	7	6	4	17
Oneida	38	7	0	45	43	15	7	65	28	8	7	43
Power	29	9	1	39	19	10	5	34	71	6	2	79
Totals	233	61	33	327	227	93	74	394	220	72	88	380
Upper Snake River Region												
Bonneville	67	82	14	163	85	45	17	147	76	55	20	151
Butte	9	9	6	24	27	14	9	50	21	12	11	44
Clark	25	23	4	52	20	11	3	34	15	5	5	25
Fremont	71	119	39	229	114	76	52	242	139	98	54	291
Jefferson	36	29	11	76	72	58	27	157	57	21	22	100
Madison	7	2	2	11	19	11	0	30	13	8	0	21
Teton	8	20	7	35	8	10	18	36	14	4	13	31
Totals	223	284	83	590	345	225	126	696	335	203	125	663
Salmon Region												
Custer	93	56	29	178	39	55	37	131	64	44	38	146
Lemhi	35	21	18	74	47	16	26	89	86	22	25	133
Totals	128	77	47	252	86	71	63	220	150	66	63	279
TOTALS	1,330	923	538	2,791	1,693	1,062	663	3,418	1,729	1,076	715	3,520

TABLE III
NUMBER OF ARRESTS, FINES AND AVERAGE AMOUNT OF FINES
BY COUNTY AND REGION
January 1 – December 31, 1969

Region and County	Total Arrests	Arrests With Fines	Total Money	Average Fine
Panhandle Region				
Benewah	9	9	\$ 410.00	\$45.55
Bonner	34	31	885.00	28.54
Boundary	18	9	180.00	20.00
Kootenai	42	40	1,365.00	34.12
Shoshone	52	36	1,650.00	45.83
Totals	155	125	\$4,490.00	\$35.92
Clearwater Region				
Clearwater	69	46	\$1,505.00	\$32.71
Idaho	103	76	4,275.00	56.25
Latah	23	19	455.00	23.94
Lewis	6	5	330.00	66.00
Nez Perce	39	23	510.00	22.17
Totals	240	169	\$7,075.00	\$41.86
McCall Region				
Adams	38	37	\$1,275.00	\$34.45
Valley	29	25	830.00	33.20
Totals	67	62	\$2,105.00	\$33.95
Western Region				
Ada	63	61	\$1,790.00	\$29.34
Boise	25	23	1,255.00	54.56
Canyon	68	63	1,415.00	22.46
Elmore	50	45	915.00	20.33
Gem	24	15	349.00	23.26
Owyhee	41	36	1,615.00	44.86
Payette	9	9	340.00	37.77
Washington	8	6	155.00	25.83
Totals	288	258	\$7,834.00	\$30.36
Magic Valley Region				
Blaine	60	55	\$1,805.00	\$32.81
Camas	16	16	840.00	52.50
Cassia	31	27	605.00	22.40
Gooding	48	47	1,370.00	29.14
Jerome	22	21	580.00	27.61
Lincoln	19	16	420.00	26.25
Minidoka	15	13	335.00	25.76
Twin Falls	63	55	1,645.00	29.90
Totals	274	250	\$7,600.00	\$30.40
Eastern Region				
Bannock	38	33	\$1,000.00	\$30.30
Bear Lake	7	7	575.00	82.14
Bingham	22	15	542.00	36.13
Caribou	47	40	1,760.00	44.00
Franklin	7	5	82.00	16.40
Oneida	28	21	600.00	28.57
Power	71	46	1,465.00	31.84
Totals	220	167	\$6,024.00	\$36.07
Upper Snake River Region				
Bonneville	76	67	\$2,275.00	\$33.95
Butte	21	19	500.00	26.31
Clark	15	14	355.00	25.35
Fremont	139	128	4,460.00	34.84
Jefferson	57	52	1,415.00	27.21
Madison	13	11	630.00	57.27
Teton	14	13	322.00	24.76
Totals	335	304	\$9,957.00	\$32.75
Salmon Region				
Custer	64	41	\$1,120.00	\$27.31
Lemhi	86	75	3,267.50	43.56
Totals	150	116	\$4,387.50	\$37.82
Statewide Totals	1,729	1,451	\$49,472.50	\$34.09

TABLE IV
BREAKDOWN OF ARRESTS BY TYPE OF VIOLATION
AND KIND OF WILDLIFE

	License	Resident Fish	Anadr. Fish	Big Game	Upland Birds	Small Game	Migra. Birds	Furbearers Other Wild Animals	Misc.	Total
(L) License	172									172
(NL) No License		272	3	17	5	14	14	37	22	384
(NS) No Season		9	5	15	1	1	18	6	1	56
(CS) Closed Season		117	12	97	72	4	105	1	2	410
(OL) Over Limit		62	4	16	13		8			103
(IG) Illegal Gear	6	47	7	3			19	1		83
(UP) Unlawful Procedure	7	81	30	293	6		44	3	57	521
Total	185	588	61	441	97	19	208	48	82	1,729

TABLE V
DISPOSITION OF CASES BY REGION

Region	Entire Fine Suspended	Dismissed	Acquitted	Forfeiture	Juvenile	Jail In Lieu	Total
Panhandle	6	3	0	7	14	0	30
Clearwater	21	9	4	20	12	0	66
McCall	0	1	3	4	1	1	10
Western	7	4	2	1	15	1	30
Magic Valley	11	0	2	7	4	0	24
Eastern	3	2	5	14	29	0	53
Upper Snake	9	2	0	17	11	0	39
Salmon	8	4	0	12	2	0	26
Total	65	25	16	82	88	2	278
Percent of Arrests							
Without Fines	23%	9%	6%	30%	32%	1%	100%
Percent of Total Arrests.							
	4%	1.4%	1%	5%	5%	.1%	16.5%

TABLE VI
DEPREDATION COMPLAINTS BY
KIND OF WILDLIFE

Kind	Number
Big Game	119 (27.5%)
Birds	158 (36.5%)
Furbearers	150 (34.6%)
Predators	2 (.5%)
Miscellaneous	4 (.9%)
Total	433 (100%)

(Reporting period is now on a calendar year basis rather than fiscal year.)



Game



GAME

MANAGEMENT OPERATIONS

The primary responsibility of the game management section is to plan and coordinate the collection of management data on big game animals, upland birds, migratory waterfowl and furbearing animals. This information is then compiled and analyzed for use in preparing recommendations for hunting and trapping seasons. This work is the responsibility of eight Regional Game Managers and five assistants assigned to the eight regions in the State. During the year, these individuals worked an average of 169 hours per month.

In 1969, due to the untimely death of Game Management Supervisor Charles Haynes, a promotional transfer was made to fill this position. Also during the year one man left the Department to return to school to obtain his Master's degree. These changes resulted in two regional game manager vacancies at Salmon and Jerome. These field positions were filled by an Assistant Regional Game Manager and a District Conservation Officer. The vacancy created by the promotion of the Assistant Regional Game Manager was filled by a District Conservation Officer.

Field Activities

Twenty-eight percent of the game manager's time was spent in the field coordinating and collecting management data.

Surveys of wildlife population and production trends are conducted throughout the year. Personnel from other divisions in the Department assist in the collection of this data. This work includes big game aerial surveys, herd composition counts, big game winter distributions, pheasant sex ratios and crowing counts, sage grouse booming ground counts, goose nest checks, ruffed grouse drumming routes, dove coo call routes, game bird brood counts, beaver colony trend counts and check station operations.

An important aspect of game management is collection of data on the game harvested during the hunting season. In addition to the hunter questionnaire and the hunter report cards, checking stations were operated in key areas throughout the

State. During the year, 65 checking stations were operated with 10,042 deer, 2,328 elk, 9,278 pheasants and 13,331 grouse being checked. Other game species such as antelope, mountain goat, moose, bear, quail and partridge were also checked, but in lesser numbers. A total of 98,342 hunter trips were recorded through these stations.

During the winter and spring months, aerial surveys are conducted in many of the management units. In 1969, 307 hours of helicopter flying time and 87 hours of fixed-wing flying time was employed in counting 38,401 deer, 8,143 elk, 2,904 antelope, 340 moose, 230 mountain goat, and 101 bighorn sheep. In addition to counting numbers of animals, observations as to sex and age classifications of the various herds were also made.

The continual loss of game habitat poses the greatest threat to the reduction of wildlife populations. Considerable time during the year was devoted to evaluating land use and habitat changes and their effects on game birds and animals.

Browse transects and range utilization surveys were made on key big game winter ranges. The evaluation of streams for beaver habitat was continued. Wildlife areas were inspected for possible acquisition. Close coordination was maintained with land management organizations such as the Bureau of Land Management, U.S. Forest Service and State Land Department in an effort to further enhance and develop quality wildlife habitat. During the year, 39 land treatment projects, mostly dealing with the removal of vegetation, were investigated and recommendations submitted as to their effects upon the wildlife using the area. The Department objected to two of these projects and recommended modifications on seven others.

Office and Laboratory

Twenty-six percent of the game manager's time was spent in the office or laboratory analyzing field data collected, assembling it into reports, and preparing recommendations for management objectives. Many of their reports and records were prepared and submitted to various agencies and to the headquarters office for compiling and recording.

Meetings and Public Relations

Keeping the public informed on game management programs and exchanging information with related groups is an important function. Groups interested in wildlife matters were kept informed through attendance at meetings where Department programs were explained. Releases were made to news media on information of interest to the public. Show-me trips for interested individuals and groups were conducted in many of the regions.

During 1969, 8 percent of the game manager's time was spent attending 371 meetings that required 335 man days.

Equipment

Four percent of the game manager's time was spent on the care and maintenance of equipment. This equipment includes, trucks, snow machines of various types, trail machines, equipment, house and horse trailers, generators, signs, traps, boats and motors.

Cooperation with Other Divisions

In addition to their primary responsibility, Game Managers also assist other divisions of the Department with their activities. They assist in creel checks on streams and reservoirs, fish eradication and salvage programs, hunter safety training classes and wildlife law enforcement.

LAND MANAGEMENT

Wildlife Land Management personnel administer all Department lands that are owned and controlled for wildlife and the hunting and fishing public. They also participate in land acquisition and they develop wildlife habitat on federal and private lands where possible.

The growing season of 1969 was favorable to vegetation planted on project lands and in habitat developments. Game bird and waterfowl hunting on the management areas was fair to good. The hunting and fishing pressure was light to moderate on most areas but heavy and increasing in those in southwestern Idaho.

HABITAT IMPROVEMENT

The Mountain Home Job Corps provided 125 metal framed goose nesting platforms. Most of these were installed in and adjacent to waters near Bruneau, Glenns Ferry, in Black Canyon Reservoir,

Smiths Ferry and in Garden Valley. Platforms, installed earlier, were checked and most had been used.

Twenty-five hundred trees and shrubs of various species were planted in test plots in granitic soils near Boise.

Considerable project time was spent acquiring land in various portions of the State for public access, critical big game winter range, and public waterfowl and upland game bird hunting.

WILDLIFE MANAGEMENT AREAS

Panhandle Wildlife Management Area

A small impoundment for waterfowl and fur-bearer habitat on the Shepherd Lake Wildlife Management Area was enlarged to three acres through the construction of a small earth fill dam with a water control structure.

Access roads at Johnson Creek and Shepherd Lake were gravelled and maintained. Dock walkways were installed and access areas were serviced weekly or as required.

Grazing of 80 head of cattle was permitted on the Boundary County Wildlife Management Area to make goose pastures. Fences on the area were repaired prior to entry of the stock.

Clipping of clover on the Clark Fork segment, to provide goose pastures, was accomplished by a sharecrop agreement with a local farmer.

Boundary markers were installed or replaced on the Boundary County Wildlife Management Area and at Morton Slough.

Control of grasses and noxious weeds on project lands was accomplished through mowing.

A total of 67 wood duck nest boxes were constructed during the year. These will be installed in suitable locations at a later date.

Clearwater Wildlife Management Area

To provide game habitat and soil erosion protection, trees and shrubs were planted at Spring Valley Reservoir. On the St. Maries Game Range clover was planted on timber clear-cuts and roadways for grouse and big game, and property boundaries were surveyed and cleared of vegetation. Three miles of primary roadways were graded and improved. Project personnel removed a total

of 873 head of trespass livestock from the St. Maries Game Range during the year. Wood duck nest boxes were installed on the Killarney Wildlife Management Area. Access areas throughout the work area were serviced and maintained.

Fort Boise Management Area

This popular hunting and fishing area near Parma includes major units at the mouth of the Boise River and along the lower Payette River. It also includes scattered small access areas along the Boise, Snake and Payette Rivers. Almost a mile of concrete lined ditch was installed on the Weilmunster Segment near Headquarters for better water control for impoundments and irrigation. After completion of the lined ditch, an area of approximately 100 acres of shallow impoundment was constructed by building a few low dikes. This impoundment has attracted large numbers of waterfowl and shore birds. Water levels in all impoundments were maintained until frozen over. Ample crops of corn, grain and legumes were raised on the area and left standing through the hunting seasons. The hunting pressure on pheasants increased but pressure on waterfowl decreased some. The "bluebird" weather continued throughout most of the waterfowl season contributing to the poor waterfowl hunting. The two grass legume pastures on the Payette River segment continued to be grazed by livestock to keep them close cropped and attractive for Canada geese.

The fishing pressure continued to be light and fishing was rather poor. The high water and the flooding of the Boise River into Sand Hollow Drain reduced the early fishing pressures and success.

Boise River Management Area

The deer winter range rehabilitation program was continued on this area. On the Boise Front Segment 30,000 bitterbrush seedlings were planted. Also approximately 500 acres on the Boise Front and Charcoal Creek Segments were seeded to bitterbrush. Several miles of new access roads were built in the latter segment for increased hunter access. Existing roads were repaired and improved. With this new access more hunters used the area and had some excellent deer and chukar hunting. More springs were developed on the Boise Front to increase the distribution of upland game birds, to provide additional water for mule deer and to prepare for a rest-rotation grazing program.

Snake River Wildlife Management Areas

This complex includes three units: Carey Lake, Hagerman and C. J. Strike Management Areas. Crops of corn, grain and legumes were grown on all units to provide hunting coverts and feed for upland game birds and waterfowl. At C. J. Strike 2,400 feet of concrete lined ditch was installed for better water control and more efficient irrigation of wildlife crops. The impoundments near the Bruneau Bridge continued to provide nesting and brooding areas for many species of waterfowl and shorebirds. An aquatic weed problem developed in the channel used for pumping to maintain water levels in the impoundments. Plans were made to move the pumps out to the river. A sizable inlet on the Snake River Arm of the reservoir known as the "Cove Arm" was diked off from the main river with porous material to form a lake. Cove Arm Lake was treated and planted to trout. Crane Falls Lake, nearby, became so saline that it would not support fish life and trout plantings were discontinued.

Plans were intensified for the construction of several impoundments on the Billingsley Creek property near Hagerman for waterfowl habitat and fishing.

Upland game bird hunting was fair on the Hagerman and C. J. Strike Management Areas. Waterfowl hunting, at times, was good to very good on most of the management units. Trout fishing was often excellent at the Hagerman and C. J. Strike Management Areas. Crappie and perch fishing also was excellent at times at C. J. Strike. Bass and bluegill fishing was fair to good at all three management units.

Market Lake Wildlife Management Area

This large waterfowl area is located near the town of Roberts in Jefferson County. There was less spring waterfowl use this year due to ice on the marsh during migration. Fall waterfowl hunting was better than usual. Three hundred antelope used the area in mid-winter. A dike, needed to build a large marsh area on the east side, was started. The dike, when finished, will be approximately three miles long, and will utilize water from the Poitiven Springs. During the past year, there was a 47 percent increase of public use on the area. The Area Land Manager of this area is in charge of maintaining public access areas in the Eastern Region.

Crowing Counts

In order to arrive at a breeding index for pheasants, crowing counts are made each spring. When combined with the winter sex ratio information, these counts are converted into a breeding index which can then be compared by regions and by years.

In the Clearwater region, the breeding index was up slightly from the previous year but still far below the previous 5-year average (Table III). The slight decline in southwestern Idaho and the increase in southeastern Idaho gave an early indication of hunting prospects for these areas.

Table II
Pheasant Winter Sex Ratios

Year	Statewide Sample Size (Pheasants)	Statewide Sex Ratio	
		M:100F	Hens Per Cock
1950	15,834	52	1.93
1951	18,168	58	1.74
1952	47,444	50	2.01
1953	16,564	55	1.82
1954	18,283	45	2.24
1955	46,640	41	2.41
1956	25,828	41	2.46
1957	22,414	52	1.91
1958	18,479	51	1.96
1959	30,896	55	1.83
1960	31,010	43	2.83
1961	16,047	46	2.18
1962	29,183	41	2.44
1963	18,067	47	2.13
1964	34,919	47	2.14
1965	16,242	57	1.77
1966	11,535	58	1.72
1967	9,575	50	1.98

Brood Production

To obtain complete information on the current status of the various pheasant populations, brood

production information is gathered by regions during the late summer period. This information combined with the breeding index data results in an index of the size of the various populations.

Although this index was up dramatically in the Clearwater region (Table IV), over last year, it should be noted that this index is below that of the other regions listed and helps document the fact that pheasant numbers in the lower Clearwater area are far below those of southern Idaho. Loss of habitat has had an extremely adverse effect on pheasant numbers in that area. For southern Idaho, 1969 was also an excellent production year surpassing 1968 and largely equalling the previous 5-year average.

Table IV
Pheasant Fall Population Index Comparisons

Region	1964-68 Average	1968	1969	Percent Change	
				From 5-Yr. Ave.	From 1968
Clearwater	42	17	43	+ 02	+ 153
Western	211	158	213	+ 01	+ 35
Magic Valley*	306	—	—	—	—
Eastern	235	214	231	- 2	+ 8
Upper Snake**	207	170	218	+ 5	+ 28

*Three-year average 1964-66

**Three-year average 1966-68

Pheasant Harvest

Two methods of gathering pheasant harvest information are used in Idaho. One of these is the opening weekend check station survey, which gives trend information at an early date for major pheasant producing areas and allows managers to collect needed biological specimens. Comparative opening weekend information is recorded by region (Table V). The opening weekend harvest informa-

TABLE III
PHEASANT BREEDING POPULATION TREND

Region	No. Crowing Count Routes	Breeding Population Index				Percent Change	
		1964-68 Total	1964-68 Average	1968	1969	From 5-Yr. Ave.	From 1968
Clearwater	1	60	12	6	7	- 42	+ 17
Western	10	265	53	50	49	- 8	- 2
Magic Valley	3	319	64	—	81	—	—
Eastern	4	283	57	55	62	+ 9	+ 13
Upper Snake	3	140	28	41	51	+ 81	+ 24

TABLE V
COMPARISON OF PHEASANT CHECK STATION RESULTS OPENING WEEKEND
1965-1969

Region	No. Hunters	No. Birds	Gun Hours	Birds Per Hunter	Hours Per Bird
Clearwater					
1965	420	353	1,488	0.84	4.2
1966	519	325	1,697	0.63	5.2
1967	284	157	944	0.55	6.0
1968*	317	237	908	0.75	2.8
1969	269	148	748	0.55	5.1
16-year Totals and Averages (53-68)	10,432	8,443	33,737	0.81	4.0
Western					
1965	2,771	3,362	10,826	1.21	3.2
1966	2,712	2,613	9,571	0.96	3.7
1967	2,847	2,833	10,084	1.00	3.6
1968	2,721	2,615	9,714	0.96	3.7
1969	2,452	2,396	8,824	0.98	3.7
17-year Totals and Averages (52-68)	51,412	56,416	182,618	1.10	3.2
Magic Valley					
1965	1,904	1,728	6,739	0.91	3.9
1966	1,833	1,812	5,884	0.99	3.2
1967	1,729	1,714	6,556	0.99	3.8
1968	1,968	2,793	9,157	1.42	2.3
1969	1,989	2,708	7,567	1.37	2.8
17-year Totals and Averages (52-68)	33,356	35,739	103,183	1.07	2.9
Eastern					
1965	2,435	2,570	10,955	1.06	4.2
1966	2,625	2,614	10,906	1.00	4.2
1967	1,967	1,888	9,317	0.96	4.9
1968	2,368	3,530	10,915	1.49	3.1
1969	2,427	2,680	10,722	1.10	4.0
16-year Totals and Averages (53-68)	37,051	40,391	163,860	1.09	4.1
Upper Snake					
1965	1,040	999	4,124	0.98	4.1
1966	727	596	2,499	0.82	4.2
1967	916	980	3,254	1.08	3.3
1968	834	1,031	2,931	1.24	2.8
1969	1,204	1,346	4,079	1.12	3.0
18-year Totals and Averages (51-68)	17,964	21,011	73,717	1.17	3.5
Statewide					
1965	8,570	9,012	34,132	1.05	3.8
1966	8,416	7,960	30,557	0.95	3.8
1967	7,743	7,572	30,155	0.98	4.0
1968	8,208**	10,206	31,024	1.24	3.0
1969	8,341	9,278	31,940	1.11	3.4
16-year Totals and Averages (53-68)	143,439	154,134	530,395	1.07	3.4

*One check station only.

**Data corrected from last year.

tion is compared by years in terms of birds per hunter and hours per bird harvested. This information does not reflect the upturn in the harvest that the hunter questionnaire does. This latter method samples hunters by mail after the close of the hunting season. These data are listed in Table VI. The questionnaire information indicates that the pheasant hunting in 1969 was slightly better statewide than in 1968 and 11 percent above the previous five-year average.

SAGE GROUSE

The spring booming ground counts of male sage grouse give game managers the first indication of the carry over of these birds and possible production for the year. This information is compared in Table VII – for the 1968 and 1969 season. These data indicate that there was an excellent carry over of spring breeders in 1969 and gave an early indication that Idaho hunters would enjoy another good sage grouse season. Brood production was generally better than four birds per adult female (Table VIII). This resulted in excellent sage grouse numbers.

The harvest of sage grouse is checked by means of opening weekend check station surveys and by the hunter questionnaire. The check station information (Table IX) indicates that the harvest in 1969 was one of the best on record, with an average

of 1.30 birds being taken by hunters for all areas. This increased harvest is substantiated by the hunter questionnaire information which indicates an increase in the harvest of 56 percent from last year and a 125 percent over the previous 5-year average.

Table VII
Sage Grouse Strutting Ground Counts – 1968-69

Region	No. of Strutting Grounds	Average Number Males Observed		Percent Change
		1968	1969	
Western*	5	19	27	+ 42
Magic Valley	25	47	53	+ 13
Eastern	13	33	42	+ 27
Upper Snake	52	46	54	+ 17

*Includes booming ground count numbers BG-17, BG-28, BG-34 (Owyhee complex BG-42-48 and BG-51).

Table VIII
Sage Grouse Production Success – 1969

Region	Number Harvest Areas Sampled	Number of Birds In Sample		Young Per Adult Female
		Adults	Juveniles	
Western	3	354	1,370	3.8
Magic Valley	–	96	406	4.2
Upper Snake	6	49	222	4.5
Eastern	1*	9	48	5.3

*Random count information.

TABLE VI
IDAHO UPLAND GAME AND WATERFOWL HARVEST – 1954-1969
Based on Annual Hunter Questionnaire Survey**

Species	1954-1958 Average	1959-1963 Average	1964-1968 Average	1968	1969	1969 Percent Change	
						From 1964-1968 Average	From 1968
Pheasant	545,600	532,200*	491,300	522,600	544,500	+ 11	+ 4
Mourning Dove	125,000	155,600	196,500	195,600	220,200	+ 12	+ 23
Forest Grouse	99,400	132,800	117,900	118,800	132,200	+ 12	+ 21
Hungarian Partridge	54,900	52,100	86,700	95,000	64,700	– 15	– 22
Chukar Partridge	18,000	69,600	151,100	177,000	171,200	+ 13	– 3
Quail	47,500	59,200	105,000	147,600	105,600	+ 1	– 18
Sage Grouse	19,000	21,200	38,000	52,400	81,700	+ 125	+ 56
Duck	542,800	405,600	405,200	328,300	529,000	+ 31	+ 61
Canada Goose	17,900	20,200	24,000	25,700	26,100	+ 9	+ 2
Snow Goose	1,000	600	900	900	300	– 67	– 67
Coot	16,200	10,300	19,100	20,800	27,000	+ 41	+ 30
Cottontail	80,600	85,500	71,300	154,700	159,000	+ 123	+ 3
Turkey***	–	–	–	0	63	–	–

1960 – 500,500 cocks; 25,100 hens 1963 – 602,700 cocks; 112,900 hens 1966 – 411,700 cocks; 3,200 hens
 1961 – 495,400 cocks; 39,600 hens 1964 – 603,700 cocks; 153,500 hens
 1962 – 494,900 cocks; 59,300 hens 1965 – 483,900 cocks; 139,500 hens

*These figures do not include hen portion of harvest.
 **Figures rounded to nearest hundred.
 ***Questionnaire data distorted due to small samples involved. The kill in 1968 and 1969 was 9 and 28 birds, respectively.

**TABLE XIII
JEROME GAME FARM PHEASANT DISTRIBUTION – 1969**

Region		Spring Breeders	Used Brood Stock	Summer Hens	Fall Cocks	Total
Region I –	Greens	199*	515		466	1,180
	Ringnecks	168		10	2,517	2,695
Region II –	Ringnecks	355		2,310	2,100	4,765
Region III –	Ringnecks		NONE			
Region IV –	Ringnecks	175**		150**	625	1,025
				75		
Region V –	Ringnecks		150**	100**		
			150	1,050		1,450
Region VI –	Ringnecks		252	504	400	1,156
Region VII –	Ringnecks		175**			
			200	900	1,310	2,585
Region VIII –	Ringnecks		225	255		480

*Green pheasants.
**Field trial birds.

WATERFOWL

Waterfowl production in the Canadian prairie provinces was up substantially in 1969 due to excellent water conditions in the main prairie pothole areas. In addition, an unexpectedly large flight of spring breeders went north and was able to take advantage of the increased amount of habitat.

As a result of the increased waterfowl production, the fall flight of these birds into Idaho was also up somewhat (Table XIV). Extremely mild, fall weather conditions over much of the Pacific Northwest and in western Canada, however, allowed large numbers of waterfowl to remain in Canada until late in the season. Thus, good hunting conditions

did not become a reality until the latter part of December.

The increase in production of waterfowl also resulted in a substantially increased harvest (Table VI). The harvest of ducks, particularly, was up substantially and the harvest of Canada geese was up slightly over the previous year and over the long-term average.

**Table XIV
Cumulative Fall Duck Traffic – Idaho Water Area**

Year	Number of Ducks	American Falls Reservoir
1959	3,474,600	
1960	4,189,500	
1961	3,736,000	
1962	3,273,900	
1963	3,233,900	
1964	2,917,800	
1965	2,085,700	260,400
1966	3,308,600	1,083,552
1967	2,507,500	2,454,840
1968	2,391,000	501,800
1969	2,584,173	994,505



BIG GAME

DEER AND ELK HARVEST

The calculated statewide harvest for 1969 was 71,433 deer and 15,900 elk. Harvest of deer was down 9 percent from the record high in 1968 and the elk kill was down 7 percent. This season's harvest for deer is 4 percent above the previous ten-year average and for elk the harvest is 7 percent higher. (Table I).

Hunter success based on tags issued was 43 percent for deer and 20 percent for elk. Hunting pressure as measured by tags issued was up 8 percent for deer and 9 percent for elk over 1968.

A total of 10,042 deer and 2,328 elk taken by 79,626 hunters were brought through 29 checking stations during 507 days of operation. (Table II).

More deer and elk were taken during the month of October than any other month during the hunting season. (Table III).

Big Game Management Unit 39 contributed by far the largest harvest of deer and Unit 10 provided the most elk. (Table IV).

SPECIAL DEER TAGS

Hunters could take two deer by purchasing both the "extra" deer tag, valid only in certain units, and the "regular" deer tag which may be used statewide. Designated units were open to the taking of one deer by holders of the "Nonresident Restricted" tag. Nonresident Restricted deer tag sales in 1969 were up 21 percent from one year ago. The bulk of the deer harvest is obtained by use of the "regular" tag, but the other tags are important in local areas. (Tables V and VI).

CONTROLLED DEER AND ELK HUNTS

There was one controlled deer hunt for 550 permits and 17 controlled elk hunts for 3,210 permits. This was an increase of two elk hunts and 175 elk permits over the previous season. Hunter report cards were received from 111 deer permittees taking 96 deer and 1,210 elk permittees killing 550 elk. (Table VII).

Controlled elk hunts are summarized in Table IX.

Comparisons with previous years are summarized in Tables VIII and IX.

BLACK BEAR

The calculated bear harvest of 3,085 was up 19 percent from the 1968 kill and 5 percent above the ten-year average. (Table I).

PRONGHORN ANTELOPE

There were 1,472 antelope taken on 1,976 permits issued in 1969, including archers. (Table X).

Pronghorn antelope are harvested under controlled hunts for rifle hunters. There were 25 hunt units for several years, 27 hunts in 1968 and 28 in 1969. Permits were increased 8 percent over 1968. The harvest was up 14 percent over a year ago, and up 65 percent over the ten-year average. (Table XI).

MOUNTAIN GOAT

There were 168 mountain goats taken by 311 permits issued in 1969, including archers. (Table XII). Forty-three controlled goat hunts were authorized this year compared to 42 a year ago. This is the third season that all mountain goat hunting (except archery) was on a controlled hunt basis. The harvest this year was up 4 percent from last year and 16 percent above the ten-year average. (Table XIII).

MOOSE

Moose hunting was again restricted to controlled hunts for antlered bulls. Twenty-eight hunts were held in 1968 and 1969 with 19 additional permits issued this year. The 102 permittees killed 74 animals. (Table XIV). The harvest was up 40 percent from last year and 45 percent above the ten-year average. (Table XV).

GENERAL SHEEP HUNTS

A total of 585 general hunt sheep tags were sold and 43 trophy rams reported taken by hunters for a success of 7 percent. (Table XVI).

CONTROLLED BIGHORN SHEEP HUNTS

Hunter success based on permits issued was 43 percent. As in the previous season, two controlled hunts of one permit each were held in the East Fork of the Salmon River drainage. One of the permittees was successful in taking a trophy ram. In addition, the first controlled hunt was held in Unit 41. Two of the five permittees were successful in taking a trophy ram. This herd is a result of transplants from British Columbia. (Table XVI).

TABLE IV

INDICATED DEER AND ELK HARVEST, BY UNIT, 1967 THROUGH 1969

(Based on Hunter Questionnaire and Report Cards)

UNIT		DEER HARVEST			ELK HARVEST		
Number	Area (Sq. Miles)	1967	1968	1969	1967	1968	1969
1	2,306	1,515	1,698	1,186	70	77	46
2	666	722	720	492	22	16	7
3	517	765	841	549	115	121	96
4	1,440	851	1,037	966	515	698	867
5	582	741	767	365	50	96	50
6	884	692	860	581	578	896	770
7	539	116	143	149	304	627	538
8	1,679	1,692	2,101	1,055	540	814	551
9	475	193	211	198	496	498	647
10	1,863	796	804	694	1,340	1,443	1,560
10A	652	685	956	754	217	346	226
11	739	1,114	860	1,441	28***	17**	21**
11A	648	487	534	492	10	16	23
11B	273	*	*	*	*	*	*
12	1,216	159	189	184	555	638	684
13	351	1,845	661	1,023	7	16	23
14	353	428	512	687	25	74	76
15	929	364	419	510	426	640	727
16	518	208	233	312	341	401	418
16A	228	40	99	71	207	322	325
17	1,440	413	481	414	941	1,168	857
18	295	1,521	596	782	77	63	73
19	323	502	472	460	204	311	212
19A	593	193	497	315	82	107	80
20	447	202	211	188	361	418	438
20A	801	113	245	248	244	333	322
21	477	909	854	843	481	448	369
21A	184	924	820	644	164	286	186
22	811	1,255	1,462	1,515	95	71	56
23	556	615	723	722	72	104	106
24	956	379	295	347	110	118	129
25	885	251	351	290	110	176	133
26	566	392	559	712	207	291	212
27	903	762	807	1,133	134	179	183
27A	823	404	646	570	115	148	176
28	1,085	936	1,006	1,002	269	289	329
29	729	688	1,049	956	10**	11**	5***
30	453	771	941	949	90	126	46
30A	243	272	436	382	4**	10**	7**
31	597	477	506	549	7	3	0
32	1,911	1,432	574	531	67	27	10
32A	*	*	1,180	775	*	49	13
33	794	1,181	1,819	800	184	162	133
34	488	236	267	276	179	181	196
35	366	450	562	400	120	165	143
36	1,016	682	624	867	120	126	166
36A	781	1,291	1,953	1,724	15**	3**	13**
36B	637	817	857	2,474	65	93	110
37	536	254	382	202	CLOSED	CLOSED	CLOSED
37A	370	1,114	1,754	867	CLOSED	CLOSED	CLOSED
38	2,142	58	47	57	CLOSED	CLOSED	CLOSED
39	2,615	6,028	8,124	7,926	553	646	694
40	1,402	921	1,105	1,207	10	14	7
41	3,029	823	792	701	5	0	0

INDICATED DEER AND ELK HARVEST, BY UNIT, 1967 THROUGH 1969 (Continued)

(Based on Hunter Questionnaire and Report Cards)

UNIT		DEER HARVEST			ELK HARVEST		
Number	Area (Sq. Miles)	1967	1968	1969	1967	1968	1969
42	419	288	394	503	CLOSED	CLOSED	CLOSED
43	804	731	816	917	84**	81**	42**
44	283	107**	348	240	50**	38**	28**
45	1,348	444	667	520	2**	0**	1**
46	3,665	294	236	223	CLOSED	CLOSED	CLOSED
47	321	401	345	241	CLOSED	CLOSED	CLOSED
48	878	930	950	736	35**	56**	33**
49	539	441	379	520	23***	15**	11**
50	1,543	1,273	1,518	1,058	(Included with 36A)	14**	9**
51	994	438	577	942	CLOSED	CLOSED	1**
52	2,428	138	661	156	CLOSED	CLOSED	6***
53	1,569	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
54	1,357	1,778	1,990	1,593	CLOSED	CLOSED	CLOSED
55	1,004	462	593	673	CLOSED	CLOSED	CLOSED
56	878	930	1,077	1,221	CLOSED	CLOSED	CLOSED
57	565	165	248	266	CLOSED	CLOSED	CLOSED
58	692	196	267	297	15	8	3
59	1,201	814	816	797	30	49	0
60	1,431	373	888	400	114**	110**	93***
61	987	612	549	365	321	316	173
62	563	266	397	400	85	198	398
63	1,106	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
63A	304	6	0	25	CLOSED	CLOSED	CLOSED
64	512	95	140	138	13**	12**	27***
65	246	67	65	135	(Included with 64)	3**	3**
66	1,082	1,744	1,850	1,766	225***	102**	183***
67	278	961	2,154	1,051	107	124	159
68	1,684	34	37	42	CLOSED	CLOSED	CLOSED
68A	258	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
69	685	499	677	662	(Included with 66)	4**	7***
70	261	242	258	234	3***	1**	7
71	337	407	444	368	CLOSED	CLOSED	CLOSED
72	392	245	307	623	CLOSED	CLOSED	CLOSED
73	600	1,502	928	1,044	(Included with 70 & 73A)	0	7
73A	650	1,016	1,298	1,395	(Included with 70 & 73)	3	0
74	1,693	753	748	673	CLOSED	CLOSED	CLOSED
75	650	759	1,080	1,674	CLOSED	14	17
76	1,431	3,348	4,439	4,230	182***	149**	152**
77	275	288	292	244	2	0	0
78	227	679	503	676	27	19	27
Unknown		1,775	2,819	743	339	745	199

*Unit did not exist during this season.

**Hunter card return only.

***Combined hunter report card return and special follow-up letter.

TABLE VII
RESULTS OF CONTROLLED HUNTS FOR DEER AND ELK – 1969
(Data from Hunter Report Cards)

Hunt	Unit or Part	Permits	Male	Female	Total	Did Not Kill	Total Number Hunters
Deer							
144	44	550	58	38	96	15	111
Total		550	58	38	96	15	111
Elk							
211	11	75	7	14	21	19	40
229	29	50	0	0	0	12	12
230A	30A	50	5	2	7	5	12
236A		50	6	7	13	8	21
243	43	1,000	20	22	42	69	111
244	44	275	9	19	28	27	55
245	45	30	0	1	1	4	5
248	48	300	16	17	33	32	65
249	49	55	6	5	11	5	16
250	50	40	5	4	9	7	16
251		20	1	0	1	3	4
252		15	0	2	2	3	5
260*	60	275	52	25	77	78	155
264*	64 & 65	75	18	1	19	13	32
266*	66 & 69	450	87	47	134	128	262
276-1*	76	300	109	43	152	247	399
276-2*	76	150					
Total		3,210	341	209	550	660	1,210

*Includes general post season antlered elk hunt.

TABLE VIII
SUMMARY OF CONTROLLED DEER HUNTS – 1965 THROUGH 1969
(Data from Hunter Report Cards)

Year	No of Hunts	Permits	Applications	HARVEST		
				Male	Female	Total
1965	1	550	649	78	30	108
1966	1	550	859	74	53	127
1967	1	550	892	68	39	107
1968	1	550	1,226	82	30	112
1969	1	550	1,460	58	38	96

TABLE IX
SUMMARY OF CONTROLLED ELK HUNTS – 1965 THROUGH 1969
(Data from Hunter Report Cards)

Year	No. of Hunts	Permits	Applications	HARVEST		
				Male	Female	Total
1965	16	3,074	11,094	262	261	493
1966	16	2,970	12,414	265	255	520
1967	15	3,155	14,414	336	299	635
1968	15	3,035	17,160	370	255	625
1969*	17	3,210	19,011	341	209	550

*Includes general post season antlered elk hunt in six controlled hunts between hunts 260 and 276-2.

TABLE X
PRONGHORN ANTELOPE HUNTS – 1969

Hunt	Number of Permits		Reported Kill			No Kill	No Hunt	Total No. Reports
	Authorized	Issued	Male	Female	Total			
429-1	80	79	42	14	56	17	5	78
429-2	100	95	30	37	67	15	10	92
430	125	115	63	33	96	14	2	112
430-A	100	98	44	37	81	12	5	98
436-A	50	46	27	9	36	8	2	46
436-B	50	49	13	7	20	23	5	48
437	125	121	66	41	107	8	6	121
437-A	225	212	100	63	163	37	11	211
440	35	35	23	4	27	7	1	35
441-1	55	54	14	7	21	30	3	54
441-2	20	20	6	2	8	6	5	19
447	35	32	16	7	23	8	1	32
449	75	71	33	21	54	16	1	71
450-1	140	138	100	30	130	5	1	136
450-2	90	84	51	18	69	7	8	84
451-1	90	80	47	23	70	5	5	80
451-2	60	59	42	7	49	7	3	59
452	35	33	19	6	25	8	0	33
456	25	24	7	7	14	9	1	24
458	100	97	50	29	79	10	5	94
459-1	100	98	35	34	69	15	14	98
459-2	35	30	20	6	26	1	0	27
460	60	53	25	16	41	11	1	53
461-1	100	95	54	27	81	9	5	95
461-2	35	34	16	2	18	8	8	34
463	15	14	9	3	12	1	0	13
468-1	15	15	8	2	10	4	1	15
468-2	20	20	9	2	11	7	2	20
Total	1,995	1,901	969	494	1,463	308	111	1,882
Archery		75*	6	3	9	56	6	71
Grand Total								
Antelope	1,995	1,976	975	497	1,472	364	117	1,953

*Five duplicate permits were also issued making a complete total of 80 permits issued.

TABLE XI
SUMMARY OF CONTROLLED PRONGHORN ANTELOPE HUNTS – 1965 THROUGH 1969
(Data from Hunter Report Cards)

Year	No. of Hunts	Permits	Applications	HARVEST		
				Male	Female	Total
1965	25	1,365	6,682	647	330	977
1966	25	1,690	7,213	692	406	1,098
1967	25	1,780	7,251	788	497	1,285
1968	27	1,910	8,279	842	447	1,289
1969	28	1,995	9,859	969	494	1,463

TABLE XII
MOUNTAIN GOAT HUNTS – 1969

Hunt	Number of Permits		Reported Kill			No Kill	No Hunt	Total No. Reports
	Authorized	Issued	Male	Female	Total			
Controlled								
601	5	5	2	0	2	3	0	5
609	15	15	7	3	10	5	0	15
610	5	5	1	1	2	3	0	5
612	15	15	3	3	6	7	2	15
616	5	5	1	1	2	2	1	5
617	3	3	1	1	2	1	0	3
620	10	10	4	1	5	4	1	10
620A-1	4	4	1	1	2	2	0	4
620A-2	4	4	0	0	0	4	0	4
620A-3	5	5	0	0	0	4	0	4
621	8	8	4	2	6	2	0	8
625	5	5	3	0	3	2	0	5
626-1	10	10	4	0	4	4	2	10
626-2	10	10	4	1	5	4	0	9
627-1	3	3	0	0	0	2	1	3
627-2	8	8	2	3	5	3	0	8
627-3	3	3	0	0	0	2	1	3
627A-1	8	8	2	2	4	3	1	8
627A-2	5	5	3	2	5	0	0	5
627A-3	5	5	3	1	4	1	0	5
627A-4	3	3	0	3	3	0	0	3
627A-5	3	3	1	2	3	0	0	3
628-1	4	4	1	0	1	3	0	4
628-2	3	3	2	0	2	1	0	3
630	8	8	3	2	5	1	1	7
635-1	10	10	4	4	8	2	0	10
635-2	5	5	2	1	3	1	1	5
636-1	4	4	3	0	3	0	1	4
636-2	4	4	0	1	1	0	3	4
636A	5	5	1	2	3	1	1	5
637A-1	5	5	2	2	4	1	0	5
637A-2	4	4	2	1	3	1	0	4
637A-3	4	4	1	1	2	2	0	4
637A-4	7	7*	2	2	4	2	0	6
639-1	10	10	3	5	8	2	0	10
639-2	5	5	3	2	5	0	0	5
643-1	8	8	4	2	6	1	1	8
643-2	6	6	3	1	4	1	1	6
648-1	14	14	5	3	8	4	1	13
648-2	15	15	4	3	7	6	2	15
650	15	15	6	2	8	5	2	15
651-1	10	10	4	3	7	3	0	10
651-2	2	2	0	0	0	2	0	2
Total	290	290	101	64	165	97	23	285
Archery								
29			1	0	1	2	0	3
30			1	0	1	0	0	1
35			0	0	0	9	0	9
Unknown			1	0	1	3	0	4
		21					3	3
Total		21	3	0	3	14	3	20
Grand Total		311	104	64	168	111	26	305

*Two duplicate permits issued for this hunt making a complete total of 292 permits issued.

TABLE XIII
SUMMARY OF CONTROLLED MOUNTAIN GOAT HUNTS – 1965 THROUGH 1969
(Data from Hunter Report Cards)

Year	No. of Hunts	Permits	Applications	HARVEST		
				Male	Female	Total
1965	28	199	439	54	43	97
1966	33	239	617	83	67	150
1967	38	285	833	77	47	124
1968	37	306	1,043	87	71	160
1969	43	290	1,193	101	64	165

TABLE XIV
MOOSE HUNTS – 1969

Hunt	No. of Permits Issued	REPORTED HARVEST			Total No. Reports
		Male	No Kill	No Hunt	
301	3	1	2	0	3
312-1	3	3	0	0	3
312-2	2	1	1	0	2
312-3	2	0	2	0	2
312-4	2	2	0	0	2
312-5	2	2	0	0	2
312-6	2	0	2	0	2
312-7	2	0	2	0	2
312-8	2	1	1	0	2
312-9	5	4	1	0	5
312-10	2	2	0	0	2
315-1	2	1	1	0	2
315-2	2	2	0	0	2
315-3	2	2	0	0	2
315-4	2	2	0	0	2
315-5	4	3	1	0	4
317-1	3	3	0	0	3
317-2	2	0	2	0	2
320-1	3	2	1	0	3
320-2	3	1	1	0	2
359	10	7	2	1	10
360	8	7	0	1	8
361	6	6	0	0	6
362-1	8	7	1	0	8
362-2	4	2	0	2	4
366	6	4	1	1	6
376-1	5	5	0	0	5
376-2	5	4	1	0	5
Total	102	74	22	5	101

TABLE XV
SUMMARY OF CONTROLLED MOOSE HUNTS – 1965 THROUGH 1969
(Data from Hunter Report Cards)

Year	No. of Hunts	Permits	Applications	Males Harvest
1965	28	86	949	51
1966	28	77	971	54
1967	28	83	1,261	50
1968	28	83	1,515	53
1969	28	102	1,963	74

TABLE XVI
BIGHORN SHEEP HUNTS – 1969

Hunt	No. of Permits Issued	Reported Kill	No Kill	No Hunt	Total No. Reports
Controlled					
536A-1	1	1	0	0	1
536A-2	1	0	1	0	1
541	5	2	3	0	5
Total	7	3	4	0	7
General					
S-20		12	44	0	56
S-20A		5	56	0	61
S-21		6	40	0	46
S-26		5	53	0	58
S-27-1		3	74	0	77
S-27-2		2	15	0	17
S-27A-1		3	35	0	38
S-27A-2		0	8	0	8
S-28		5	33	0	38
S-36B		0	19	0	19
Unknown		2	87	33	122
Total	585	43	464	33	540
Grand Total	592	46	468	33	547

TABLE XVII
SUMMARY OF BIGHORN SHEEP HUNTS – 1965 THROUGH 1969

Year	Controlled Hunts				General Hunts	
	Hunts	Permits	Applications	Kill	Tags	Kill
1965	1	5	24	0	451	53
1966	1	5	27	0	455	14
1967	0	0	0	0	517	32
1968	2	2	173	1	599	46
1969	8	7	269	3	585	43

TABLE XVIII
RESIDENCE OF LICENSEES PURCHASING ANTELOPE, BIGHORN SHEEP, MOUNTAIN GOAT
AND MOOSE TAGS – 1969

Hunt	Total Tags Sold	Resident	% of Tags	Nonresident	% of Tags
General					
Sheep	585	334	57	251	43
Goat (archery)	21	18	86	3	14
Antelope (archery)	75	75	100	0	0
Controlled					
Goat	290	218	75	72	25
Moose	102	82	80	20	20
Antelope	1,901	1,843	97	58	3
Sheep	7	7	100	0	0

FURBEARERS — PREDATORS

Annual Fur Catch

Total fur catch and revenue for the 1968-1969 trapping season exceeded that of the previous season. Of 14 species reported, the catch was up for all except marten over the previous season, while the average price per pelt increased for all species except weasel, skunk and civet. The statewide fur catch was up 16 percent from a year ago. Revenue was up 58 percent.

Fox pelts averaged an increase of \$4.28 for the highest increase per pelt for all species. Lynx was tops in price per pelt followed by bobcat. These two predators exceeded the otter (highest value per pelt of the protected furbearers) by over two dollars per pelt. A comparison of the fur catch and revenue derived is summarized in Table I.

BEAVER

Harvest

During the 1968-1969 trapping season 4,997 beaver were harvested by trappers. Extensive portions of several major watersheds remained closed to trapping of beaver. The statewide harvest is based on fur catch reported by licensed trappers.

Populations

The 1969 statewide beaver colony trend count indicates very little change from 1968. For 77 routes counted each year 212 colonies were counted on 423.5 stream miles in 1969 — compared to 221 colonies on 440.5 stream miles in 1968. Although all the same routes were not counted both years, the miles of stream per colony averaged the same — 2 miles per colony. One route on which the habitat had been destroyed by mining was replaced by a route on another stream. Plant utilization was heavy on 14 percent of the routes, moderate on 40 percent and light on 46 percent.

Colonies on streams in habitat classified as good averaged 1.4 miles per colony to 1.9 in fair habitats and 2.2 in poor habitat and 2.8 miles per colony in unsuitable habitat.

Population increases are indicated for routes in two regions and decreases for five. A comparison of 32 "long-term" routes counted since they were established in 1959 is included in Table II.

Beaver Damage Control

Approximately 67 percent of the stream miles in Idaho is not suitable for management of beaver. Cultural developments continue to require removal of beaver from extensive complaint areas. Beaver depredation complaints were down 30 percent from last year.

Beaver depredations by regions for the 1958-1959 through 1966-1967 fiscal years and the 1967 through 1969 calendar years are listed in Table III.

FISHER

The trapping season for this species has remained closed since the reintroduction of 39 adults and 3 kits from British Columbia in 1962-1963.

A minimum of 24 different fishers have been reported in Idaho since the releases. Most of the fishers have been observed in the vicinity of the three release areas.

WOLVERINE

The season remained closed for this very scarce furbearer. During the past two years reports have been received showing that four have been taken and one observed in the wild.

PREDATORS

Cooperative Predator Control Program

Predator control of the Department consisted of financial support in the amount of \$25,000 to the Cooperative Predator Control Program in which various federal, state and county agencies and livestock associations participate.

COUGAR

Annual kill estimates are compiled from Conservation Officers reporting for their respective districts. The reported 1968-1969 harvest was 164, and equals the 1961-1962 record kill.

The take in 1968-1969 is up 50 percent from the previous year as shown in Table IV.

Eighty-four percent of the cougar were taken this season by hunters making the trip in search of the cats. Harvest data for the past ten years is summarized by Districts in Table IV. In the West, the cougar is now listed as a game animal in Colorado, Nevada, Oregon, Washington, Utah and British Columbia.

WILDLIFE DEPREDATION CONTROL

Depredation complaints have declined from the high of 554 reported in 1962-63. The number of complaints received during the 1969 calendar year was down approximately 18 percent from the previous year (433 compared to 531).

Beaver continue to lead all wildlife species with 138 damage complaints recorded (32 percent of total), followed by pheasants (16 percent); deer (12 percent); bear (9 percent); ducks and geese (7 percent each); elk (5 percent); and other species less than four percent each.

Servicing costs for the 1969 calendar year of approximately \$15,877.31, include 2,586.3 man-hours, 39,813.5 vehicle miles by Conservation Officers and \$3,192.61 in materials and supplies.

TABLE I
COMPARISON OF THE 1968-69 AND 1967-68 TRAPPING SEASONS

Species	NUMBER CAUGHT		AVERAGE PRICES	
	1968-69	1967-68	1968-69	1967-68
Beaver	4,997	4,232	\$ 13.64	\$ 11.37
Muskrat	79,912	69,840	.79	.55
Mink	3,009	1,865	9.15	7.50
Marten	262	716	5.66	4.77
Otter	88	74	19.12	15.48
Raccoon	739	454	2.99	1.51
Fox	496	241	8.13	3.85
Bobcat	1,191	935	21.38	18.62
Weasel	388	153	.64	.94
Coyote	351	161	7.11	3.43
Skunk	318	175	.91	1.00
Civet	36	23	.39	.75
Badger	115	84	3.70	2.93
Nutria	0	0	.00	.00
Lynx	59	9	21.82	17.80
TOTAL (catch and value)	91,961	78,962	\$198,616.97	\$125,394.98

TABLE II
BEAVER COLONY COUNTS ON COMPARABLE TREND ROUTES
1959 THROUGH 1969

Region	No. of Routes	Stream Miles	Colonies Counted										
			1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
1.....	7	45.0	23	30	38	31	22	24	15	22	19	18	16
2.....	4	23.0	7	13	16	14	12	9*	9	12	8*	6	8
3.....	2	12.0	5	7	1*	5	5	2*	1*	2	3	5	4
4.....	2	11.0	2	5	7	4	2	1	1	2	2	0	0
5.....	9	42.0	40	31	46	44	36	34	12	26	25	25	24
6.....	2	8.0	5	3	5	8	10	5	4	7	7	4	9
7.....	6	30.5	34	40	32	27	21	18	15	15	11	11	10
8.....	0	0.0	0	0	0	0	0	0	0	0	0	0	0
State . .	32	171.5	116	129	145	133	108	93	57	86	75	69	71

*One route not counted.

TABLE III
BEAVER DAMAGE COMPLAINTS

Region	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1967*	1968*	1969*
1.....	66	61	84	47	37	35	42	45	33	45	21
2.....	13	19	9	11	5	6	6	14	9	1	9
3.....	13	4	8	4	3	4	2	4	0	9	2
4.....	34	59	50	56	42	30	17	18	18	15	16
5.....	48	41	64	38	37	19	15	18	20	24	17
6.....	145	241	196	160	99	33	18	20	36	53	23
7.....	80	66	82	63	51	41	33	20	37	32	33
8.....	49	39	53	19	24	22	16	14	24	18	17
TOTAL	448	530	546	398	298	190	149	153	177	197	138

*Totals for calendar years with previous totals on fiscal year basis.

TABLE IV
ANNUAL COUGAR KILL

District	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
I.....	15	9	14	23	18	13	20	27	12	17
II.....	36	34	79	39	87	86	53	63	48	60
III.....	26	25	39	19*	14	15	25	37	31	26
IV.....	41	14	27	16	40	8	8	25	18	57
V.....	1	1	5	1	3	5	2	4	0	4
TOTAL	119	83	164	98*	162	127	108	156	109	164

*Two Conservation Officer stations not included.

IDAHO COOPERATIVE WILDLIFE RESEARCH UNIT

Following are the highlights of research activities financed in whole or in part by the Idaho Fish and Game Commission and conducted by the Idaho Cooperative Wildlife Research Unit during 1969.

Population Characteristics and Behavior of Introduced Bighorn Sheep in Owyhee County

Historically bighorn sheep occurred in southwestern Idaho. Their numbers declined as the white man entered the region, first to mine, then to produce cattle and sheep. In the early 1900's bighorn sheep disappeared from Owyhee County.

Beginning in 1963 the Idaho Fish and Game Department began a program of introducing bighorn sheep into the area. These animals were of the subspecies *Ovis canadensis californiana*, and were trapped west of the Fraser River near Williams Lake, British Columbia, Canada. Nineteen bighorns were released in 1963, with subsequent releases of 9 in 1965 and 10 in 1966, bringing to 38 the total number of bighorns released into the east fork of the Owyhee River canyon just below the mouth of Battle Creek.

The purpose of this study was to determine the current status of the introduced herd.

A minimum of 80 bighorns of all classes were present in the area as of November 1969. In both 1968 and 1969 there were excellent lamb crops. Survival of the lambs through the winter of 1968-1969 was excellent. The population is expanding at the rate of about 20 animals per year. No factors appeared to be seriously restraining the population at the time of the study. Lung worm infested the entire herd with no apparent ill effects. Predation appeared to be insignificant. Cattle and mule deer utilized the range with the bighorns, but winter ranges were in good condition.

The wild sheep have dispersed a maximum of less than 15 miles in any direction from the release site. The animals concentrated somewhat during the winter but became well distributed over their total range through the summer. Behavior appeared to be typical of the species reported elsewhere.

Ecology and Herbivore Use of Five Mountain Meadows in the Idaho Primitive Area

Mountain vegetation produces a significant proportion of the total summer forage in most forested regions of Idaho. Increased demands on these lush forage areas point up a need for detailed ecological information on the effects of use by herbivores.

The objective of this research was to describe the physical characteristics, vegetation and herbivore use of mountain meadows representative of those found on the Big Creek Ranger District.

The nature of meadow vegetation is directly related to and controlled by the degree of soil moisture saturation. Plant physiognomy and species composition are stratified along the soil gradients. Of the four major cover types on the meadows, the "wet" type is most prevalent; it produced from one-half to two-thirds of all forage.

Much detailed information on vegetation trend and forage production from the various meadow types was recorded during the study as well as data on relative use by elk and livestock.

The study indicated that long term records of meadow moisture patterns would enable managers to follow the trend of meadow vegetation possibly through employing the airborne thermal infra-red sensor technique to sample many meadows within each geographical unit.

Behavior of White-tailed Deer Within Three Northern Idaho Plant Associations

The 880-acre Hatter Creek deer enclosure was the site for this study of basic deer behavior patterns. A wide assortment of techniques, including bells, neon blinkers and radio-tracking equipment was employed to follow the activities of the deer.

White-tails exhibited a rhythmic feeding and bedding pattern throughout the night, usually involving four feeding and three bedding periods. Weather changes had a decided influence on this pattern. Heavy rains and high winds caused the deer to seek cover and remain inactive for extended periods. Preferences for specific habitat types were documented.

Adaptability of Japanese Green Pheasants Introduced Into Northern Idaho

The ring-necked pheasant, once reasonably abundant in parts of north Idaho's Palouse prairie, has been reduced to low levels by adverse land use and farming practices. In an effort to find a pheasant species more adapted to reproduce and survive under north Idaho conditions, the Idaho Fish and Game Department is undertaking trial introductions of the Japanese northern green pheasant, utilizing game farm stock.

This research project was designed to provide follow-up and evaluation of trial releases of the northern Japanese green pheasant. The study area was located in Minaloosa Valley, Benewah county.

The first release of 192 birds in April received heavy exploitation by both avian and mammalian predators; 32 kills were found. Predation losses declined after spring growth provided ample ground cover. Four hundred used breeders from the Idaho Fish and Game Department Game farm were released in June. Intensive nest searches yielded 20 nests of which only 3 produced young. Nesting preference was for hayfields. Average breed size was 5.7 for 12 broods observed. Broods remained together for 8 to 10 weeks.

Radio-tracking and observation of marked birds showed that most birds remained within a mile radius of their release points. Maximum movement recorded was 9.5 air miles.

Forty birds were collected during the summer for food habits analysis. Plant items constituted 84% by volume; food items taken appeared to be related to availability in the cover types from which the birds were collected.

Survival was relatively poor. Of the 1,002 birds released from April to November 1969, an estimated 50 birds survived on the study area by the end of winter.

Elk Use of Spring and Calving Range During and After Controlled Logging

The purpose of this study was to assess the effects of controlled logging on the patterns of elk use.

The number of elk observed in the same number of trips and the number of pellet groups counted showed that there was no significant difference in the total elk use of the control and treated areas. The counts showed that the two control areas received significantly less use after logging, one of the treated areas received the same amount of use and one received more use. Calving occurred in the same area during both years.

Forage utilization showed less than 10% forage removal on the heaviest used areas on spring and summer range.

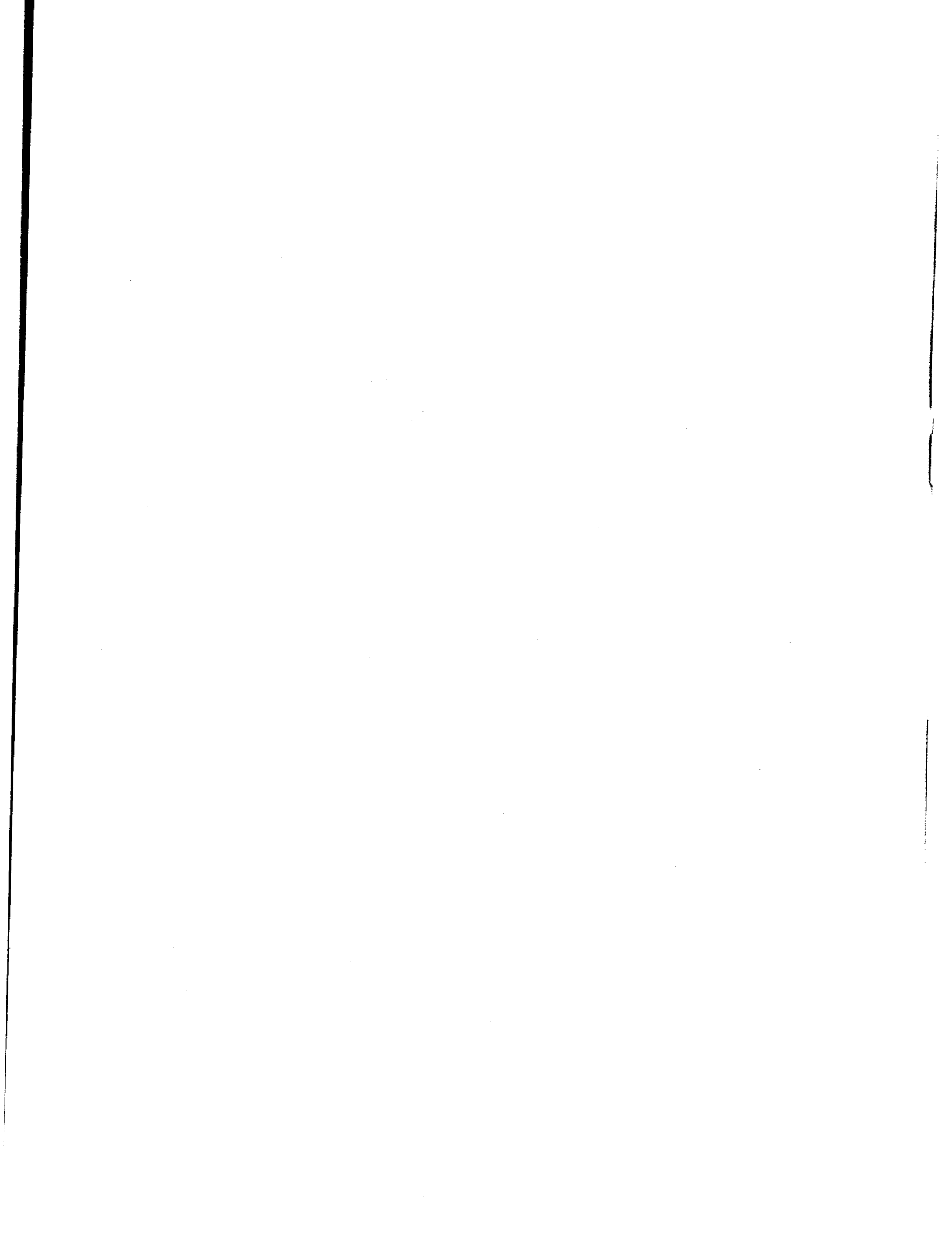
The Study pointed up the need for several years of pre-logging data before any further research of this type is attempted.

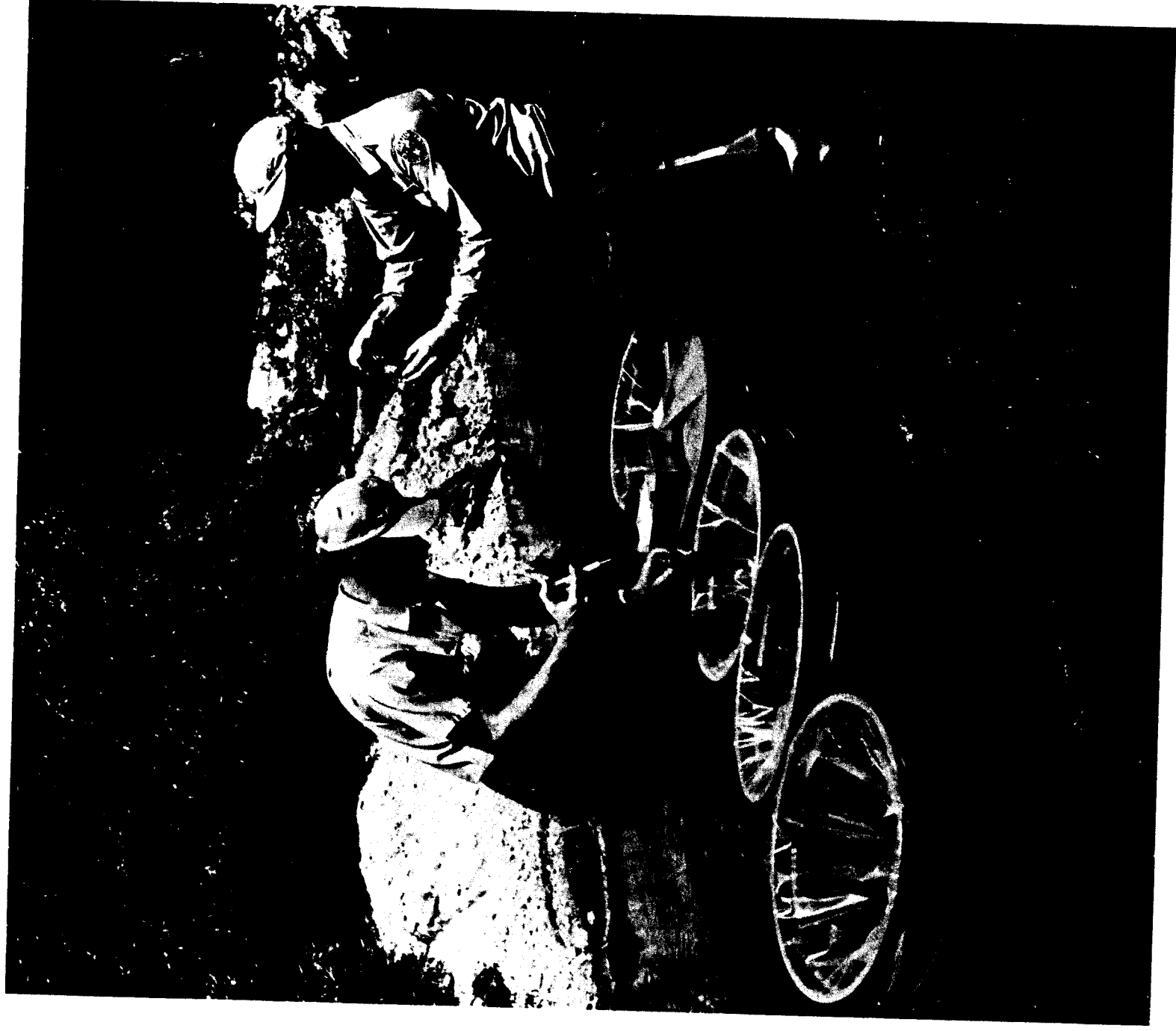
Maximum Sustained Yield of Enclosed White-tailed Deer in Northern Idaho

White-tailed deer, the most abundant big game animal in northern Idaho, will bear the brunt of increased recreational hunting in the future. Management plans for this species will require a knowledge of the amount of hunting pressure it can sustain without impairing its ability to maintain a productive population. Knowledge of optimum stocking rates, age structures and sex composition will also be required. The objectives of this in-progress study are to obtain such information on the white-tail herd in the 880-acre Hatter Creek enclosure.

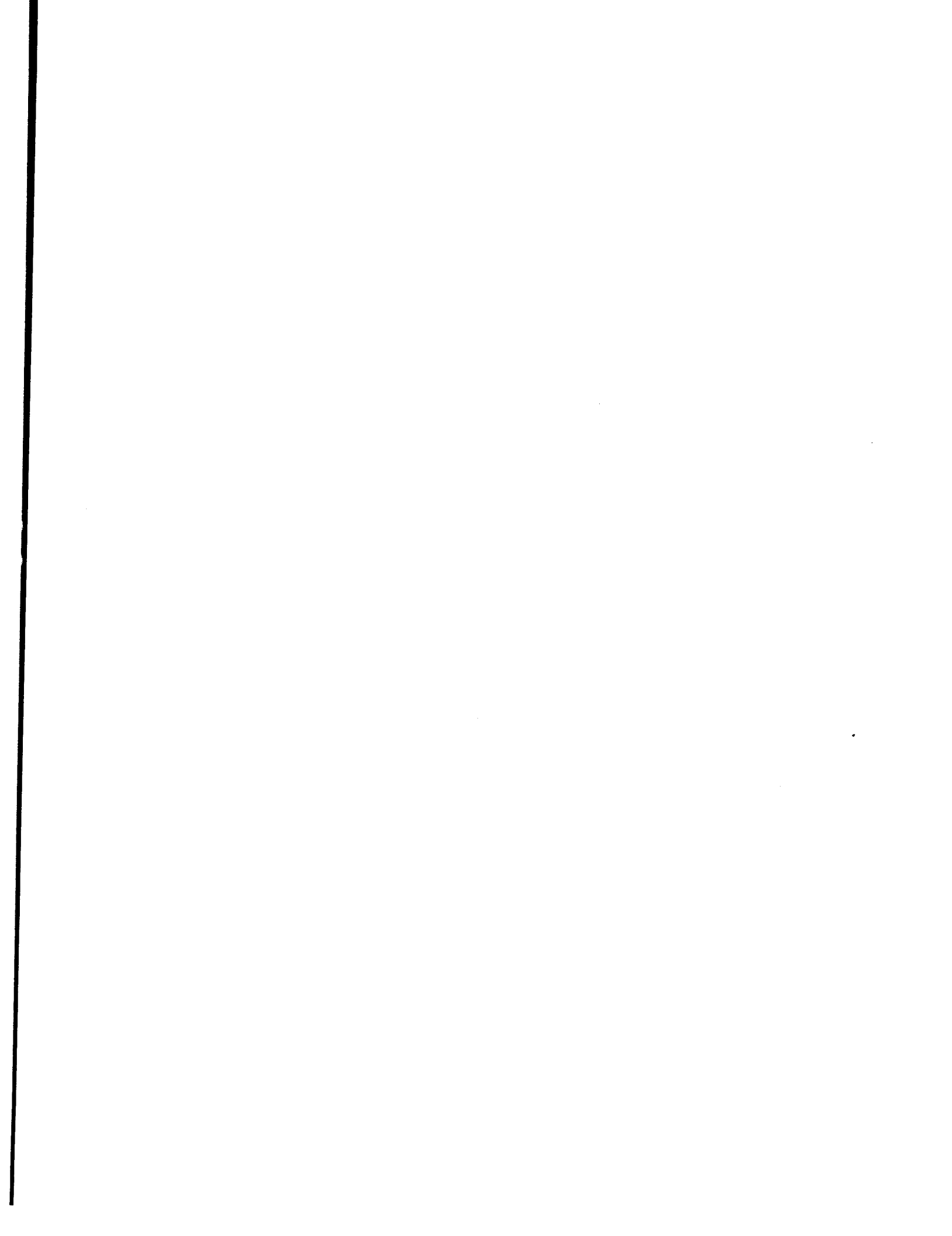
A drive census utilizing 101 volunteer students and sportsmen, was conducted in October; 35 deer were counted. Other census methods were employed to check the accuracy of the drive census figures.

An attempt was made to harvest 35% of the fall population (12 deer based on drive census results). Local sportsmen participated in the herd reduction during the regular big game season. Organized and controlled hunts were conducted on eleven different days. Hunters were asked to hunt as they normally would outside the enclosure. A total of 112 sportsmen hunted 615 hours and averaged 5½ hours per hunting trip. For the entire season, hunters saw 66 deer, fired 46 shots and killed 5 deer (3 bucks and 2 does). The average hunting time required to kill one deer was 123 hours. There was no known crippling loss.





Fisheries



FISHERIES

RESERVOIR AND LAKE MANAGEMENT

Pend Oreille Lake

Creel census estimates for 1969 indicate that 42,885 anglers spent 197,620 hours to catch 502,484 fish from Pend Oreille Lake. The catch included 494,358 kokanee, 3,297 rainbow trout, 954 cutthroat trout, 862 Dolly Varden, 157 mountain whitefish, 528 lake whitefish, 1,894 perch, 328 largemouth bass, and 92 crappie.

Approximately 76.7 percent of the fishermen sought kokanee which made up 98.4 percent of the catch. About 22.3 percent sought trout which comprised 1.0 percent of the catch, and 0.8 percent sought other species which comprised 0.6 percent of the catch.

During the commercial fishing season commercial anglers took an estimated 62,353 kokanee.

Total catch of kokanee in 1969 was the lowest recorded since intensive censusing began in 1951. It is believed that drawdown of the lake level after spawning in 1964 was detrimental to the age group of kokanee furnishing the bulk of the catch in 1969. Average kokanee catch from 1951 through 1968 has been 981,000 fish.

Harvests of "trophy" fish, 17 inches or larger, were estimated at 889 Kamloops and 588 Dolly Varden compared to 832 Kamloops and 394 Dolly Varden in 1968. Average Kamloops catch from 1960-1968 has been 1,053 fish.

Winchester Lake

An excellent fishery has been sustained in Winchester Lake since trash fish were eradicated in 1967 with a rotenone treatment. Catchable size rainbow trout are planted in the spring and early summer. Fingerling rainbow and cutthroat trout are also planted and grow at a rapid rate during the first year of life in the fall. The State Park Department has assumed management of the lands around the lake. During 1969 a total of 2,124 anglers were interviewed that caught 3,197 rainbow and 106 cutthroat in 6,721 hours of fishing. The fish were caught at a rate of 0.49 fish per hour and 1.56 fish per angler.

LAKE AND RESERVOIR INVESTIGATIONS

Hornet Creek Reservoir

The reconstruction of Hornet Creek Dam was accomplished during the fall of 1969. The Idaho Fish and Game Department contributed \$4,000 to the construction costs for a fish conservation pool.

The reservoir will be planted with rainbow trout in the spring of 1970, and should provide a valuable addition to the fishery resources of the area.

Horsethief Lake

Fishing success at Horsethief Lake near Cascade can be described as slow during the 1969 fishing season but fish growth rate for the planted rainbow was excellent. By June of 1969, carry over fingerling from 1968 plantings were 14 to 15 inches in length and averaging about two pounds in weight. However, with the abundant food supply, the fish were apparently rather reluctant to accept the angler's offerings. Catch rate remained at about three to four hours per fish through the summer months with an improvement in the rate of catch during October and November. Total estimated catch for the 1969 season is 6,000 to 7,000 fish.

The oxygen depletion problems at Horsethief Lake did not become critical in 1969 as in 1968. In contrast to 1968, dissolved oxygen level climbed during the month of August. The increase in oxygen is attributable to the dense growth of blue-green algae which produces oxygen as a by-product of photosynthesis. With the lake having filled for the first time in 1969, problems such as oxygen depletion caused by organic decomposition and nuisance algae blooms should subside in subsequent years. Horsethief Lake will soon assume a position as being one of the outstanding trout lakes in the McCall Region.

Manns Creek Reservoir

A creel census study conducted on Manns Creek Reservoir between June 1 and October 4, 1969, showed an estimated 27,201 angler hours resulted in a catch of 35,412 rainbow trout for an overall catch rate of 1.35 fish per hour. It was calculated that there were 6,800 angler days during this four-month period. On the basis of checks made

throughout the year, there was an estimated 11,000 angler days of use on this body of water during 1969.

Greatest fishing pressure during the study period occurred during the month of July. However, the best catch rate occurred during the month of September. The overall catch rate of boat and bank anglers was almost equal. The catch rate of boat anglers was most successful in September while bank fishing success was consistent during the entire study period with a slight upswing in September.

A portion of the catchable size fish planted in May, July and August were jaw tagged to determine the best stocking period and to estimate fish growth during the year. An 11 percent return was realized on the tagged fish. The largest number of tags were recovered in September while the highest percentages of returns were from the May plant (14 percent), with the July and August plants recording 7.8 percent and 4.6 percent respectively.

All fingerlings planted in the reservoir were marked with either an adipose fin clip or a nitrogen brand on the side. While the brand could be faintly seen after several months, the fin clip was easier to spot and determined to be a better mark.

Growth of all fish stocked in the reservoir during the year was slower than in the preceding two years of the reservoir's existence. Food studies indicated very low zooplankton production in the reservoir throughout the year. Rather poor fish condition corroborated the findings of the food studies. Undoubtedly the reservoir was overstocked for the food supply.

During 1969, a project in cooperation with the Bureau of Commercial Fisheries was conducted to determine the efficiency of the outlet facility in preventing fish losses. This project was a continuation of the study begun in 1967.

A net was installed in the headgate structure of the Manns Creek Outlet facility and was fished continuously from late May to the first of October. From August 12 to September 3 a total of 310 trout passed through the outlet structure. All were dead. A total of 344 trout were observed during the study period. An estimated 1,000 fish were lost in the two reservoir outlets during this period. This was a larger loss than occurred in 1968. The Bureau of Reclamation declined to place a velocity cap barrier over the outlet structure during the 1969-1970 period.

Cove Arm Reservoir

A rock dike was placed across the neck of a large cove arm of C. J. Strike Reservoir in May of 1969 to form a separate 76-acre lake. This body of water was treated with Fintrol (a newly developed fish toxicant) to remove all fish species and restock with rainbow trout. With a volume of 2,000 acre feet and an excellent food supply this small lake should provide a quality trout fishery in the near future.

Crane Falls Lake

One of the finest lake fisheries in southwestern Idaho was lost during 1969 when the alkalinity and pH of Crane Falls Lake water reached levels too high to support rainbow trout. All efforts to restock with hatchery trout failed and the Department is presently attempting to negotiate with the states of Nevada and California to obtain a salt tolerant trout species.

If obtaining one of these species is not possible, some type of water exchange may be feasible. All efforts will be extended to reclaim this formerly fine trout fishery.

Little Camas Reservoir

This 1,600-acre reservoir filled in 1969 for the first time in five years. The excellent fish food supply available soon produced quick growth on the fingerling and catchable size rainbow stocked during the year. By August and September two-pound trout were fairly common and by the end of October some in the three pound class were entering the creel. Fingerlings planted at three inches ranged from 10 to 12 inches long by October. With the excellent water carry over, fishing prospects are excellent for Little Camas in 1970.

Mackay Reservoir

Mackay Reservoir was drawn down to approximately 6,000 acre feet (reservoir holds 44,200 acre feet) during March and early April in preparation for the predicted flooding of the Big Lost River.

Concern was expressed by area residents over the possible shortage of fish in the reservoir due to the drawdown. Gill net sets were made in the reservoir, however, and indicated excellent populations of trout. As it turned out, fishing was extremely good on the reservoir throughout the summer and prospects look very bright for a good carry over of fish

until it was learned that the reservoir would be drawn down for gate repair. The reservoir was drawn down to 1,200 acre feet and a good portion of the trout emigrated from the reservoir to the river section below. A planting of catchable sized trout will probably be necessary in the reservoir in the spring or early summer of 1970.

Mormon Reservoir

A fishery study conducted on Mormon Reservoir during the summer of 1969 indicated an extremely heavy build-up of perch and suckers in the reservoir. A total of six gill net sets were made on Mormon Reservoir during the summer and approximately 72.6 percent of the fish caught were perch and suckers – 40.7 percent perch and 21.9 percent suckers.

This reservoir (as is Magic) is scheduled for chemical eradication the first year the water storage gets low enough to make a treatment economical and practical.

Thorn Creek Reservoir

Thorn Creek Reservoir north of Gooding produced some excellent fishing during September both from fingerling and catchable rainbow trout plantings made in the spring and early summer. Fingerlings planted in the spring were running from eight to nine inches by September and were in excellent body condition.

The reservoir was drawn almost dry during the summer of 1968 but had a good water carryover in 1969 and prospects look bright for a good fishery during 1970.

Aerial Counts – Opening Weekend of General Fishing Season

Aerial counts were made for the third consecutive year in the Magic Valley Region on opening day of the general fishing season. The total fishing pressure was about the same as in 1967 and 1968 (approximately 1,700 cars) but fishermen were distributed differently due primarily to high, turbid conditions on many waters.

Magic Reservoir, as in 1967 and 1968, again had the heaviest single concentration of cars (approximately 420) but pressure on the reservoir was down greatly from the two preceding years when 700 to over 800 cars were counted.

Fishing pressure was up considerably in the spring-fed waters of the Hagerman Valley and on Silver Creek on opening day. Silver Creek had approximately 328 fishermen cars on it as compared with about 230 cars in 1968. The Hagerman Valley had close to 400 cars as compared with about 350 in 1968.

Williams Lake

Angler success on Williams Lake in 1969 was down slightly from previous years but the size of the fish caught was better than average. On opening weekend 191 anglers were interviewed that caught 1,188 rainbow at an average rate of 1.12 fish per hour. The fish averaged .52 pounds each and 11.7 inches in length. Check stations operated on July 5 and September 1 showed that the catch per hour declined slightly in early July to 1.1 fish per hour, then increased in September to 1.29 fish per hour.

Since the 1964 fishing season, a pneumatic car counter has been used at Williams Lake during the fishing season to provide us with information on angling pressure. During the last few weeks of the season someone damaged each of the car counters so that they were inoperable for about two weeks. The total shown in the following table may be 200 to 400 cars short of the actual number. The number of cars counted, number of fingerling fish planted, catch per hour, and the average size of fish caught on opening weekend is presented for the last eight years in the following table:

Year	Cars Counted	Number Fish Planted	Catch Per Hour	Average Size Fish In Catch Inches TL
1960	—	77,000	—	11.50
1963	—	125,000	—	10.90
1964	4,146	120,000	1.19	10.75
1965	5,205	100,000	1.09	12.37
1966	5,391	100,000	2.19	11.30
1967	4,674	100,000	1.32	12.60
1968	6,905	63,000	1.60	10.50
1969	4,803	60,000	1.12	11.7

Jimmy Smith Lake

Jimmy Smith Lake is a 45-acre lake in the East Fork Salmon River drainage. Since it is quite shallow and has an abundant weed growth during the summer months, the fishing season is closed during the summer months and open during winter.

Anglers can then use the ice cover to reach areas of the lake that would be virtually inaccessible during the summer months. The fish are also reported to taste "mossy" during the summer and this situation is avoided by allowing angling from October 1 to December 31 and January 1 to April 30. The best fishing usually occurs in December and January shortly after the lake ices over.

In the winter of 1968-69 we interviewed 81 anglers that caught 245 rainbow trout at a rate of 3.0 fish per hour. These fish averaged 9.6 inches in length which is a half-inch larger than the mean size of the last five years.

The cars counted, catch per hour, average number of fish caught per angler, and the average size of the fish during a season is presented in the following table:

Year	Cars Counted	Catch Per Hour	Fish/Angler	Average Size Fish In Catch Inches TL
1959-60	—	4.00	10.57	—
1960-61	—	5.14	14.95	—
1963-64	—	1.27	4.90	10.5
1964-65	279	1.99	7.00	9.5
1965-66	183	4.36	7.21	7.6
1966-67	422	5.03	7.10	8.6
1967-68	454	4.41	6.30	9.5
1968-69	261	3.00	—	9.6

Stanley Basin Lakes

Angling pressure on the Stanley Basin Lakes on the opening weekend was much greater this year than normal. This was due mostly to the very high streams and the pleasant, sunny weather in Stanley. Normally the campgrounds are sparsely occupied. This year several campgrounds were full and angling pressure on the lakes was about three to four times as great as usual.

Alturas Lake

Fishing pressure was comparatively heavy. There were 70 anglers checked that had a success rate of 1.59 fish per hour and three fish per angler. The catch was composed of 151 rainbow and two kokanee. The kokanee were 6.5 inches in length.

Redfish Lake

Fishing pressure was fairly heavy. Forty-two anglers were interviewed that caught an average of four fish each at a rate of .9 fish per hour. The

catch was 94 percent hatchery catchables, three percent Dolly Varden, and three percent kokanee. The kokanee averaged 9.1 inches, fork length.

Stanley Lake

Since Stanley Lake is open to year-round fishing, the local people at Stanley began fishing and catching fish in good numbers just as soon as the fish were planted in the lake on May 19. In spite of this, Stanley Lake produced good angler success on opening day of one fish per hour and 4.4 fish per angler. Thirty-one anglers were checked that had 138 hatchery rainbow and one Dolly Varden in the creel. No brook trout were seen in the creel.

Pettit Lake

This lake seldom has more than four to six boats on it at one time. On opening morning we checked 13 anglers with 44 hatchery catchables that were caught at a rate of 2.1 fish per hour.

Yellowbelly Lake

On July 1, two gill nets were set overnight in Yellowbelly Lake to determine the ratio of game fish to nongame fish. The nets caught 19 suckers, eight brook trout, and one cutthroat. The suckers were 9 to 11 inches in length, the brook trout were 6 to 14 inches in a mean length of 12 inches, and the cutthroat was eight inches in length.

Since the nongame fish outnumbered the game fish by more than two to one, the quality of this fishery was questioned. Yellowbelly Lake has a rough, dirt road into the lake that is impassable to cars pulling boat trailers and because of this, virtually all of the angling is from the shoreline or rubber rafts. Angler success has been just fair in past years. This year we used a small 12-foot aluminum boat to set and retrieve the gill nets and were curious as to whether troll fishing might be more productive in the lake. Three anglers were asked to troll for one hour and found that angler success was much better than from the shore. They caught four brook trout and two cutthroat, all 14 to 18 inches in length. Since Yellowbelly Lake can provide this quality of angler success in spite of the large population of suckers, no eradication program is being contemplated for the next few years.

Palisades Reservoir

An Idaho record 25¾-pound brown trout was caught at Palisades Dam. This fish was a six-year

old female that had never spawned, which was the apparent reason it grew so large. Examination of growth rings on the fish's scales indicated it had grown about six inches and doubled its weight during each of the six years. Fishing success declined somewhat during 1969 in Palisades Reservoir. Fish stocking from the Jackson Federal Hatchery is scheduled to increase during 1970 and investigations will be renewed to determine needs for maintaining this quality cutthroat fishery.

Island Park Reservoir

Record numbers of fishermen visited Island Park Reservoir during 1968 and 1969. Catches of fish have been double that of average years, consisting mostly of one to three pound rainbow trout and ¼ to one pound coho salmon. Kokanee salmon made up about five percent of the catch during 1969 and large numbers entered tributary streams to spawn in September. Hatchery personnel trapped part of this run, taking some five million eggs for artificial propagation.

Bear Lake

Fishing in Bear Lake for mackinaw continued to gain in popularity with a very good fall troll fishery developing in 1969. Most of the fish are in the two to eight pound range with a few larger ones being caught. Practically all of the fishing pressure comes from Bear Lake County or Utah. The 1969 cisco run started on January 11. No complete creel census was taken by the Utah Fish and Game Department this year. However, it appeared the run was smaller as the fish were found to utilize a shorter section of beach for spawning. The lake was not frozen over and this reduced the harvest as the cisco were in close to shore for about 10 days where they could be netted by wading.

Devil's Creek Dam

Devil's Creek Dam near Malad was completed in November and will open to fishing in 1970. This is a 120 surface acre reservoir on Devil's Creek. It has a 38-foot deep dead storage pool and should provide good fishing. Devil's Creek above the reservoir has a good cutthroat population and plantings of cutthroat fry from Henry's Lake stock will be made to try and build a spawning run from the reservoir into the stream. A boat ramp has already been installed and an access area is being

developed by the Oneida County waterway committee.

Daniels Reservoir

Daniels Reservoir is a new reservoir in Oneida County and was fished for the first time in 1969. The reservoir had very little fishing pressure until late in the summer. By September, 1969, cutthroat fry planted in June of 1968 averaged 13 inches and one pound in weight. Catchable rainbow planted in June 1969 had more than tripled in size in three months. The reservoir is 375 surface acres when full and has a completely developed access area with access to practically the entire shoreline. This reservoir will be one of the best in Southeast Idaho if the conservation pool is maintained every year.

Pleasantview Reservoir

Pleasantview Reservoir in Oneida County was treated with rotenone to eradicate Utah chubs and suckers. The reservoir was completely drained so that the only water remaining was the stream running through. Approximately 4,000 small suckers and chubs were killed. Total cost of the treatment was less than \$100. The reservoir was replanted with 5,000 one-half pound rainbow trout in December and produced some good fishing before the end of the year.

Blackfoot Reservoir

A new chemical, Fintrol, was used to kill carp on the Blackfoot Reservoir. A kill of over 500,000 carp five to eight inches in length was achieved with two pints of toxicant. The carp congregate at the mouth of the Little Blackfoot River because of the warm 58° F. water. Past eradication attempts had been unsuccessful because the carp would leave the area before they received a lethal dose. The carp did not detect the fintrol and stayed in the area until they received enough toxin to kill them. A concentration of 19.5 ppb was used. A total of seven trout were found after the treatment. When the ice went off the Blackfoot Reservoir, a number of large carp were observed dead several miles from the treated area. These apparently had moved out of the treatment area and then died under the ice. An attempt was made to treat spawning carp in shallow bays around the Blackfoot Reservoir in August. Success was only fair but

results will probably be better if treatment is done in June when the carp are spawning and before the aquatic vegetation grows up. Follow-up treatments will be tried in June of 1970.

Opening Day Boat Counts

Opening day boat counts began in 1964 with an aerial survey of fishing pressure on the opening day of fishing season. The flight is made at approximately the same time each opening day and gives only an index to the fishermen distribution. The counts show that the Johnson, Condie, Foster, Pleasantview, and Western reservoirs, which are open to year around fishing, receive considerably less pressure than do the reservoirs just opening. However, opening day creel census indicates rate of catch is as high on the water open to year around fishing as it is on the water just open during the general season. The rise and fall of fishing pressure on the Blackfoot Reservoir illustrates the increase in fisherman use after treatment in 1961. The decrease in fisherman use started in 1967 when the rough fish population built back and the rate of catch for trout decreased.

American Falls Reservoir

American Falls Reservoir was the most popular, year around fishing lake in the eastern region. Ice fishing was popular in the winter, bank fishing in

the spring and fall, and trolling in the summer, all of which attracted large crowds of fishermen. An estimated 23,300 man-days of fishing occurred on the reservoir, and another 17,000 man-days on the forebay. The length of the fishing day was 4.1 hours on the reservoir and 2.3 hours on the forebay. The quality of the summer trout fishing was excellent. The fish averaged 2.6 pounds each in late July and the catch averaged 1.2 fish per fisherman for the year. The bloom of algae that usually develops on the reservoir about mid-July did not occur until mid-August and fishing success remained fair into September. In 1967 and 1968 when the algae bloom developed, fishing success dropped to zero. The biweekly water sampling program was carried on again in 1969 in cooperation with the Bureau of Reclamation and Idaho Department of Health. The Snake River, Portneuf River, and Aberdeen Drain continued to be the major sources of organic enrichment. The high concentration of organic matter in the Aberdeen Drain reduced the dissolved oxygen concentration for a several square mile area in the reservoir. Because the water level fell below 250,000 acre feet by the end of the irrigation season, the carry over of trout into 1970 will be poor. The large harvest of rainbow trout from the Snake River below Tilden Bridge in December indicates a number of fish moved upstream from the reservoir.

OPENING DAY BOAT COUNTS

Area 6 — 1964-1969 (B = Boats, C = Cars)

Water	Surface Acres	Years											
		1964		1965		1966		1967		1968		1969	
		B	C	B	C	B	C	B	C	B	C	B	C
Springfield Lake	66	66		88		94		118		106		97	
Wiregrass Reservoir	30		27		24		45		32		23		48
Hawkins Reservoir	30	10	54	18	80	22	86	29	116	21	69	22	64
Pleasantview Reservoir	32												
Crowthers Reservoir	35		19		26		56		49		43		57
St. Johns Reservoir	35		2		2		3		4		3		4
Deep Creek Reservoir	18	22	103	29	93	17	43	13	132	44	142	31	134
Weston Reservoir	112		3		6		3		5		6		8
Twin Lakes	520	118	224	61	121	120	282	118	310	103	257	121	251
Foster Reservoir	180	9	13	3	25		2	1	7		4	2	10
Glendale Reservoir	232	3	12	17	71	1	3	2	17	5	51	15	49
LaMonte Reservoir	195	3	6	4	32	5	32	9	45	7	33	8	27
Johnson Reservoir	45						2	1	3				1
Condie	118			2	3	4	5		6	3	18	3	6
Treasureton Reservoir	156	30	44	40	87	33	61	49	106	62	88	46	114
Blackfoot Reservoir	19,000	170		402		703		466		335		159	
24-Mile Reservoir	45		21		24		27		42		49		54
Chesterfield Reservoir	1,593	9	17	28	53	45	67	98	225	69	84	20	69
Snake River Below American Falls	1,188	82		51		45		44		61		89	
Totals		522	545	743	647	1,089	717	994	1,099	816	890	613	896

Twin Lakes

The Twin Lakes fishing success improved considerably from 1968. On the opening weekend, fishermen averaged just over one fish per hour. The rainbow were slightly smaller, averaging less than one pound. The number of bass and bluegill in the catch increased very little over 1968. Nonresident fishermen comprised 73 percent of the fishing pressure.

Blackfoot Reservoir

The fishing in Blackfoot Reservoir improved over 1967 and 1968. The number of fishermen dropped to the lowest level since 1963. On opening day, only 159 boats were counted. Fishermen averaged .25 fish per hour on the opening weekend and the catch was 68 percent cutthroat, 14 percent coho, and 18 percent rainbow. Average weight was two pounds. The month's extension of the general fishing season proved very profitable on the Blackfoot Reservoir, as fishing picked up in mid-October and remained good until the reservoir froze over in late November. For the October-November period, the fishermen averaged .20 fish per hour and the catch was 56 percent rainbow, 31 percent cutthroat, and 13 percent coho. Most of the coho being caught were from the plant made in May averaging $\frac{3}{4}$ pounds each. The percentage of nonresident fishermen dropped from 50 percent in June and July to 30 percent after October 1.

Elk Valley

Studies for a proposed fishing lake in Elk Valley near the Idaho-Wyoming border in Caribou County were carried on in 1969. Preliminary plans call for a 40-foot deep lake that would be 545 surface acres in size. The lake basin is ideally designed with about 148 surface acres less than 20 feet in depth, and 398 surface acres over 20 feet deep. This would give ample shoal areas for aquatic vegetation and ample open water areas to prevent winter kills. The valley floor is 7,470 feet in elevation. This type of fishing lake would provide better fishing for eastern Idaho when the remainder of the area reservoirs are suffering from high water temperatures. It would also provide a sub-alpine lake recreation area that is not presently found in this part of Idaho.

Chesterfield Reservoir

The water level on Chesterfield Reservoir remained high throughout the fishing season. Fisher-

men success was poor until fall when fishing improved. The Utah chub population has reached saturation point and this reservoir will be eradicated when it is low enough to be economically feasible. The number of fishermen using the reservoir has decreased the last two years.

Ice Fishing

Ice fishing was open for the first time in the Clearwater Region during 1969. During the January-February season in 1969, there were three lowland waters open for ice fishing; Winchester Lake, Spring Valley Reservoir, and Elk Creek Reservoir.

Fishermen at Spring Valley Reservoir and Winchester Lake did well with 33 anglers catching 64 rainbow in 97 hours of effort at Spring Valley Reservoir and 32 anglers checked at Winchester Lake caught 50 rainbow in 57 hours. Elk Creek Reservoir was not utilized until late in the season, but large brook trout were taken at Elk Creek Reservoir when it was fished. Anglers were not accustomed to ice fishing in this Region and many did not have the proper tackle or knowledge; inexperienced anglers and poor weather conditions contributed to the relatively light pressure and small success ratio, though knowledgeable anglers consistently obtain limits.

Ice fishing in the Magic Valley was again excellent but access to the various reservoirs was hampered by the heavy snows. Roads into Fish Creek, Mormon and Little Wood reservoirs were open only intermittently. Fish Creek Reservoir was again the top producer during January with an average catch rate of about three trout per hour. Fishing on the reservoir slowed down slightly during February but was still very good with the catch rate running at approximately two trout per hour. Little Wood Reservoir had a catch rate in January of slightly better than a trout per hour and furnished the best ice fishing in the region during February with a catch rate of better than three trout per hour. Mormon Reservoir was fair fishing in January when fishermen could get into the reservoir. In February the road into the reservoir snowed shut and was not kept open. Roseworth Reservoir received very little winter fishing pressure due to low water carry over and poor ice conditions.

Mountain Lakes

A total of 30 mountain lakes were planted with rainbow, cutthroat, and golden trout in the Clear-

water Region during the summer of 1969. The fish were transported by pack animal, helicopter, and fixed-wing aircraft. Most of the lakes stocked in the Clearwater Region during 1969 were being planted for a second or more time to enhance the existing fishery. Surveys of mountain lakes were conducted in the Powell District, Five Lakes Butte District, and area between Meadow Creek and the Selway River. These surveys were to determine fishing quality and gather information needed to establish future planting levels. Fishing in the mountain lakes of the Clearwater Region was very good during 1969 with consistent catches of trout over 20 inches in the Buffalo Hump and Powell districts.

A series of remote mountain lakes and streams bordered by the Middle Fork and the Main Salmon River was investigated. The lakes are in the Pappoose, Stoddard, Kitchen, Butts, and Cottonwood drainages. Black Lake in the Cottonwood Creek drainage was the only lake investigated which contained fish. Pappoose and Stoddard lakes have since been planted with California golden trout and rainbow and cutthroat have been planted in the other lakes of the area. Streams in the Cottonwood Creek drainage contain a stunted population of brook trout. Apparently a migratory block is present below the extensive upper meadows and the drainage was barren of fish life prior to the introduction of brook trout. Brook trout females four inches in length were found to be sexually mature.

The chain of mountain lakes on the southern edge of the Seven Devils near Riggins, Idaho was investigated. There are four lakes in Six Lake Basin which appear capable of supporting fish life. Two of the four lakes were barren. None of the lakes in the basin are individually named. The largest lake, about 20 acres in size, supports a quality brook trout and cutthroat fishery. Fish from 14 to 17 inches long are present in the lake.

Emerald Lake on the headwaters of Granite Creek and Black Lake to the south contain stunted populations of brook trout. The feeder streams into the lake furnish an abundance of high quality spawning area and hence the over-population problems. Caton Lake, a large isolated lake in the East Fork of the South Fork of the Salmon River drainage, was surveyed. The lake is about 11 trail miles east of the Reed Ranch on the South Fork of the Salmon River. The inlet stream contains an abundance of high quality spawning area. Two

anglers were able to catch 51 rainbow in two hours of fishing. The largest trout caught was eight inches in length and displayed evidence of stunting. Low fishing pressure and abundant spawning areas have combined to cause an over-populated condition.

A total of 47 high mountain lakes were stocked in the Magic Valley Region during August and September of 1969. Forty-four of these lakes were planted by helicopter under the cooperative fish stocking agreement with the U.S. Forest Service at an average Fish and Game cost of slightly over \$15.00 per lake. Eight high mountain lakes were planted in the Big Wood River area, fourteen in the Copper Basin area, twelve in the South Fork of the Boise area and ten in the Trinity Mountain area. The three Independence Lakes near Oakley were planted by trail cycle and foot early in September.

In July and August of 1969 there were 26 lakes investigated in the Langer-Roughneck Peak area. These lakes were investigated to record their physical and biological features and to determine the species and quality of the fish population. On August 20 and 21, 57,000 cutthroat were planted in 58 of these lakes lying, generally, north of Stanley. Two thousand grayling were planted in an unnamed lake on the South Fork of Moyer Creek and 3,000 golden trout were planted in Ship Island Lake No. 2. A helicopter from the Challis National Forest was used to transport these fish to the lakes under a cooperative agreement with the U.S. Forest Service. The three-gallon plastic bags charged with oxygen were used to contain the fish enroute. Five hundred to 3,000 fish were planted in each lake, depending upon the size, the quality, and the fishing pressure upon the lake.

Kokanee

A spawning run totaling approximately 15,000 early spawning kokanee migrated from Anderson Ranch Reservoir during August, September, and October. Approximately 80 percent of the fish entered Trinity Creek to spawn.

A weir was again installed by hatchery personnel on Trinity Creek to trap kokanee for egg taking purposes. Approximately 1,100 females were trapped in the weir in addition to much larger numbers of males and a total of about 606,000 eggs were taken.

Kokanee jacks (mature two-year old males) were observed running out of Salmon Falls Creek Reservoir in September indicating that some of the kokanee plantings may be taking hold in this water.

Grayling

Grayling were planted in three high mountain lakes in the Magic Valley Region during July of 1969. The grayling eggs were obtained from Wyoming and hatched at the Mackay Hatchery. A total of 4,950 grayling were planted in the three lakes — Big Lost Lake in the Big Wood River drainage and Round and Star Hope lakes in the Copper Basin area.

In the early summer of 1968, four mountain lakes in the upper Selway country were stocked with grayling. The plants were successful in Hidden Lake and Middle Dennis Lake and anglers caught grayling that were approximately eight inches in length in 1969. The tiny fish did not survive in Stingray Lake and Canyon Creek No. 16 Lake. Stingray Lake may have been too shallow, and Canyon Creek No. 16 Lake had a complete ice cover at planting time.

Coho Salmon

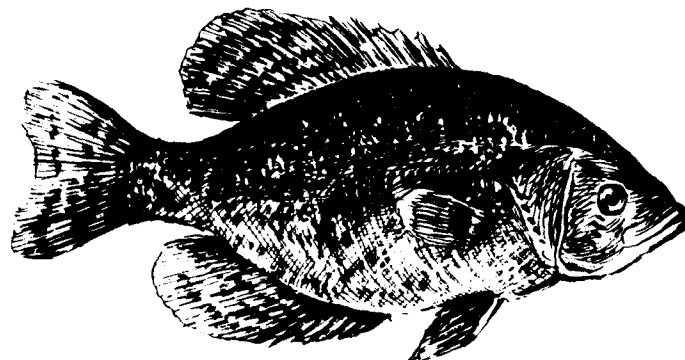
The Idaho Fish and Game Department started

a program of stocking coho salmon in southern Idaho waters in 1967. Over the three-year period of 1967 to 1969, coho have been planted in 19 different lakes and reservoirs. Coho are planted as fingerlings in April or May and first enter the creel by September and October as six to eight inch fish. The most numbers are taken the following spring, 10 to 12 months after planting. In all of the waters where coho have been stocked, there is extensive outmigration. This takes place in late May or June, one year after planting when the fish are about 12 inches in length. Some of the best coho fisheries are on the emigrating fish downstream from where they were originally released.

Coho provide over 50 percent of the catch below American Falls Dam in July and August. Island Park and Cascade reservoirs are two of the better coho fishing reservoirs. The Blackfoot Reservoir has produced coho from one to three pounds. The young coho feed primarily on plankton and insects and are efficient competitors in waters containing other fish species. Fish do not enter the diet until the coho exceed 12 inches in length.

LAKE REHABILITATION

Year	Name	County	Surface Acres	Volume Acre-Feet	Undesirable Species	Species Restocked	Toxicant
1969	Cove Arm Lake	Owyhee	76	2,000	Carp, suckers, Shiners	Coho, Rainbow	Fintrol
1969	Anderson Ranch Reservoir (shoreline treatment)	Elmore	240		Squawfish	Rainbow, Coho, Kokanee	Rotenone
1969	Pleasantview Reservoir	Oneida	(drained to stream flow)	0	Utah Chub, Suckers	Rainbow	Rotenone



STREAMS AND RIVERS

St. Joe River

Experimental rearing of cutthroat trout in a pond on Rochat Creek was continued. Fifty thousand cutthroat were released in May at an average size of nine inches. The pond was restocked with 44,114 fingerlings which will spend a year in the pond to obtain growth and be released in the spring of 1970.

Fish released in May made a noticeable contribution to the summer catch in the St. Joe River upstream from Rochat Creek.

St. Maries River

Twenty-five miles of St. Maries River, from Emerald Creek downstream to slack water, were treated with the piscicide "Squoxin" in early June. "Squoxin" was administered to selectively kill squawfish without harm to desirable fishes. Follow-up sampling by University of Idaho research personnel indicated no squawfish present in this stretch of river as late as June 26.

Fin Loss Study

The effects of fin loss on survival of catchable size hatchery trout was studied in different aquatic environments. Two study streams were chosen; the Little Salmon River as a steep gradient stream and the North Fork of the Payette downstream from McCall as the flat gradient stream. Payette Lake was chosen as a lake environment type.

All study fish were marked with a numbered metal jaw tag. Fish were selected for those having all good paired fins and those having lost the pectoral fins as a result of the hatchery rearing process. All the existing paired fins were removed from another group of study fish.

Voluntary tag returns from anglers were disappointingly low. While some differences were apparent between the rate of return for the various groups, the only statistically significant differences were fish having all paired fins missing being returned at a lower rate than the other categories.

Richfield Canal Salvage

The water was shut off at Magic Dam on the morning of October 5 and the annual Richfield Canal salvage operation was conducted on October 7 and 8.

A total of 4,400 pounds of fish was obtained in the two-day operation equalling our previous high poundage of 4,400 pounds in 1966. All of the fish were rainbow trout with the exception of 50 coho and one brook trout.

A sample of 448 trout checked during the salvage showed that 35.7 percent of the trout were hatchery fish.

The fish were planted in Magic Reservoir, the Big Wood River and Silver Creek.

Portneuf River

The return of tags from fish planted in the 1968 Portneuf River conditioned fish study continued in 1969. Thirty tags or one percent carried over to the following year. Two-thirds of the carry-over fish were unconditioned and one-third conditioned. The Portneuf River above Lava Hot Springs is excellent trout habitat and the carry over of only one percent of the tagged fish shows the heavy fishing pressure the river has in the summer. From the tag returns for 1968 and 1969, it is estimated that over 85 percent of the tagged fish were returned to the creel.

Hells Canyon – Snake River

The Hells Canyon Fisheries Study was initiated in March of 1969 and conducted through November 21, 1969. The study area was composed of the area from Brownlee Dam to Stud Creek below Hells Canyon Dam. The purpose of the study was to form a comparison of recreational use between free flowing and impounded sections of the Snake River in the Hells Canyon area. Free flowing sections were utilized to a much greater degree than the impounded areas. During the study period, the estimate for use on the free flowing sections shows 12,324 angler hours of use per mile as compared to 1,045 angler hours of use per mile on the impounded sections, or 11.8 times greater use per mile on the river sections. Above Hells Canyon Dam crappie showed the greatest harvest with trout being the most preferred species. Other popular game fish caught were smallmouth bass and channel catfish. Below Hells Canyon Dam steelhead was the most preferred species with smallmouth bass the most readily hooked. Chinook salmon, rainbow trout and sturgeon were also caught frequently below Hells Canyon Dam.

An evaluation of recreational use in the river section between Hells Canyon Dam and the mouth of the Grande Ronde River was made in 1969 by the Idaho Fish and Game Department and the Oregon Game Commission. Also included in the study area were the lower 10 miles of the Imnaha River. Recreational use in man-days was calculated by stratified statistical sampling which involved counts and interviews. Primary types of recreation were fishing, hunting, boating, and sightseeing. Estimate of the recreational use in 1969 within the Hells Canyon river area from Hells Canyon Dam to the Grande Ronde was 44,240 man-days.

South Fork of Snake River

The fishery of the South Fork of the Snake River in Idaho is mainly for cutthroat trout. Light fishing pressure is exerted in the tidewaters of Palisades Dam for mackinaw and brown trout. The mountain whitefish is the dominant species of fish in the South Fork but few are retained in creels even though there is a special winter season for whitefish and a liberal creel limit.

Trout and whitefish compete for food and space which are utilized mainly by the whitefish. The whitefish has achieved dominance because it reproduces throughout the river environment, forages actively year round, is relatively unaffected by the sport fishery, and has no important natural enemies.

A creel census of the 11 miles of the South Fork from Black Canyon to Heise measuring cable during 1969 provided estimates of 4,520 fishermen, 16,809 hours of fishing, and catches totaling 7,109 cutthroat, 128 brown trout and 2,363 whitefish. Bank fishermen exerted 62 percent of the fishing effort and averaged 0.34 trout (0.24 pounds) per hour of fishing. Boat fishermen had much higher success, 0.66 trout (0.47 pounds) per hour. Most fishermen used artificial flies or live natural flies and nymphs as terminal tackle. Fishing statistics in the 11 miles averaged 400 fisherman days (1,528 hours) per mile 675 trout and 225 whitefish creeled per mile, and 13.7 trout (9.7 pounds) per acre.

In comparison to other large river trout fisheries, the South Fork in Idaho receives heavy fishing pressure but yields relatively low trout numbers and weight.

The source of cutthroat trout in the South Fork fishery is artificial and natural propagation. The majority of the cutthroat trout in the upper 20

miles originate from hatchery plants; cutthroat in the remainder of the study area originate mainly from natural reproduction. The major spawning area is in Burns Creek, which enters the South Fork 28 miles downstream from Palisades Dam.

Tentatively, management of the South Fork fishery includes:

- (a) experimental reduction of whitefish numbers in order to increase trout production, fishing quality, and growth rates of trout and whitefish.
- (b) spawning stream improvement, including physical improvements of spawning beds and reduction in losses of trout into irrigation ditches.
- (c) intensive creel census to evaluate stocking success, natural reproduction, experimental whitefish control, and habitat improvement.

Blackfoot River

The Blackfoot River sucker trap was operated for the first time since 1967. The objective of the trap is to remove the spawning run of suckers from the Blackfoot Reservoir. The suckers compete in the reservoir for space and food with the trout. In the river the spawning activity of the suckers reduces the spawning success of the rainbow and cutthroat trout which spawn just prior to the suckers.

The trap was operated from May 14 to June 15. A total of approximately 110,000 suckers weighing 373,610 pounds were removed from the trap. The suckers averaged 3.4 pounds and five years of age. All of the suckers were taken by commercial fishermen who sold them for fish feed to commercial trout hatcheries in the Hagerman Valley. During the time the sucker trap was in operation, 502 cutthroat trout were passed upstream. Only the tail end of the cutthroat run was counted as most trout had moved upstream before the trap was put into operation. Only six percent of the cutthroat showed signs of hatchery origin.

Camas Creek (Clark County)

Some forty miles of Camas Creek from the 18-mile shearing corral to Camas National Wildlife Refuge were treated with rotenone to eradicate nongame fish prior to restocking with cutthroat and brown trout.

STREAM REHABILITATION

Year	Name	County	Volume	Miles Treated	Undesirable Species	Species Restocked	Toxicant
1969	St. Maries River	Benewah	200 cfs	25	Squawfish	None	Squoxin
1969	N. Fork Payette River	Valley	200	18	Squawfish	None	Squoxin
1969	Lake Fork	Valley	100	18	Squawfish	None	Squoxin
1969	Gold Fork	Valley	50	4	Squawfish	None	Squoxin
1969	Camas Creek	Clark	50	40	Shiner, Dace Sucker, Chub	Cutthroat, Brown, Rainbow	Rotenone
1969	L. Blackfoot River (Blackfoot Reservoir)	Caribou	50	100 yds.	Carp, Suckers	None	Fintrol

Stream Improvement

Stream habitat improvements have been made in Birch Creek (Clark County), Robinson Creek (Fremont County), Burns Creek (Bonneville County), and Summit Creek (Custer County). Though largely experimental, these plank dams, log-rock dams, and trash catchers have significantly increased trout populations in the reaches of streams where the work was done.

POLLUTION

Four pollution-caused fish kills were observed during 1969. This is the tenth consecutive year that Idaho has recorded kills. During the ten-year period over 1½ million fish have been killed in Idaho waters by pollution. Fish kills are the obvious indicator of a problem — unseen are the degradation of water quality, accumulations of organic sludge, and slime bacteria covering the stream bottoms which eliminate many waters as productive fisheries.

The largest kill resulted from a prolonged, heavy spill of water over Brownlee Dam. This created a

supersaturation of nitrogen gas in the river, ranging from 115 to 121 percent saturation. Fish were observed with "nitrogen bubble" disease in Oxbow Reservoir. Over 52,000, mostly crappies, were estimated killed.

Decomposition of potato processing wastes reduced oxygen in 10 miles of Dry Bed of Snake River. Only 360 fish were estimated killed, however, the low number of fish was due to previous kills in 1966-67 and long-term pollution of the stream.

A kill was observed on Lower Rock Creek below Twin Falls in February, 1969. High water flows and turbidity made a total kill estimate impossible. At least 200 fish and probably more were involved. Suspected cause of the kill was a release of muriatic acid into the stream. Observations on Rock Creek and the degradation of the water quality as it passes through the City of Twin Falls leaves little doubt that it is one of the most heavily polluted streams in the State of Idaho.

Approximately 300 rainbow and brook trout were killed in a side channel of the Big Wood River. This occurred shortly after the draining and clearing of a nearby swimming pool containing chlorine disinfectant.

SALMON — STEELHEAD

Spring Chinook

The upriver spring chinook run that entered the Columbia River during 1969 was the largest since 1957. The large run size, coupled with a relatively small commercial harvest below Bonneville, produced the largest spring chinook count at Bonneville Dam since counting started there in 1938.

Despite heavy interdam losses, a total of 51,895 spring chinook passed Ice Harbor Dam for the largest number since counting began there in 1962.

After noting this excellent run of fish over Ice Harbor Dam, the Commission extended the fishing season in Idaho for twelve additional days. Fair to good salmon fishing was experienced in late June, very good angler success for about ten days in early July, and then the angler success was only fair for the remainder of the season. The chinook salmon harvest for 1969 in Idaho was 13,000 fish, the highest since 1961. However, better salmon fishing than this was expected in view of the large fish counts over Ice Harbor Dam.

During late July and August, reports were received from Department employees that they were seeing a higher incidence of injured fish at the Lemhi weir and Decker Flat holding pond. Many of the salmon being spawned at Decker Flat were hemorrhaging internally. Department employees and outfitters reported observing as many as six to twelve dead salmon in large holes in the Salmon River and/or irrigation ditches prior to spawning time.

Annual spawning ground redd counts confirmed what was suspected by this time, that at least 50 percent of the spring chinook succumbed to delayed mortalities between Lower Monumental Dam and their spawning grounds. It is fairly safe to assume that these losses were largely due to nitrogen disease, considering the prolonged high nitrogen levels that were present in the Columbia and Snake rivers while the adults were passing these waters.

In addition to the extreme losses that the adult spring chinook suffered, considerable losses of migrating smolts occurred due to nitrogen disease. If these losses are as extreme as observations indicate, then the 1971 returns may be significantly reduced.

Summer Chinook

The summer chinook run entering the Columbia River was made up of approximately 106,000 fish. This run was considerably above the prior five-year average of 85,000 fish. About average numbers (30,455) of summers passed Lower Monumental Dam.

However, spawning ground surveys revealed an overall summer chinook redd count decrease of 27 percent from the 1964-1968 average. Summer chinook redd counts in the upper Salmon River were down 51 percent from the five-year average while redd counts in the South Fork of the Salmon River were down 11½ percent from the five-year average. These low redd counts indicate that the summer chinook were also severely affected by the high nitrogen levels and generally poor river conditions that resulted in high prespawning mortalities.

Steelhead (1968-1969 Run)

The estimated run of 211,716 summer steelhead that entered the mouth of the Columbia River during 1968 was above the five-year average of 188,000 fish. This good run of fish was reflected in the Ice Harbor Dam count of 85,237 (five-year average — 61,093) and Lewiston Dam count of 25,277 (five-year average — 20,759).

Fall fishing during 1968 was excellent. Check station results near North Fork indicate an average of 13.1 hours per fish for October and 13.9 hours per fish for early November. Steelhead fishermen between Riggins and Mackay Bar averaged ten hours per fish during October. Fishing dropped off in this area in late November with success falling to 35 hours per fish.

During the latter part of October, steelhead fishing was very good in the Snake, Clearwater, and lower Salmon rivers. Limit catches were common.

The fish checked through the North Fork station contained a fairly high contribution of hatchery origin steelhead. Slightly in excess of 20 percent of the fish checked contained marks that identified them as hatchery reared fish. These fish were the result of earlier steelhead smolt releases from Niagara Springs Hatchery to the Pahsimeroi River.

Comparable counts of chinook salmon redds in streams of the Salmon River drainage:

	1964-1968 Average	1969
Spring Chinook		
Alturas Lake Creek	97	41
Upper Salmon River	691	313
Upper Valley Creek	241	35
Upper Yankee Fork	164	53
Upper East Fork	458	174
Herd Creek	50	43
Marsh Creek Drainage	527	235
Lemhi River	763	360
North Fork Salmon River	74	82
Bear Valley Creek	486	356
Elk Creek	411	349
Sulphur Creek	112	138
Upper Big Creek	82	65
Subtotal	4,156	2,244
Summer Chinook		
Lower Salmon River	319	120
Lower Valley Creek	91	22
Lower East Fork	224	138
Loon Creek	161	110
South Fork Salmon River	826	636
Johnson Creek	190	273
Secesh River and Lake Creek	131	104
Lower Big Creek	76	72
Subtotal	2,018	1,475
Unclassified Chinook		
Camas Creek	210	94
Lower Yankee Fork	82	44
West Fork Yankee Fork	190	17
Middle Fork Salmon River	81	15
Subtotal	563	170
Salmon River Drainage Total	6,737	3,889

Chinook Salmon and Steelhead Trout Harvest

The 1969 statewide catch of salmon and steelhead in Idaho was estimated from a random sample of 8,500 permits drawn from the 54,995 permits issued. The 1969 estimate for chinook salmon was 13,000, highest catch since 1961. The steelhead catch was 17,000, lowest catch since 1956.

Idaho Salmon and Steelhead Catch Estimates 1954 to 1969

Year	Chinook Salmon Estimate	Steelhead Trout Estimate
1954	15,000	12,000
1955	19,000	13,000
1956	21,000	8,000
1957	39,000	20,000
1958	24,000	30,000
1959	20,000	31,000
1960	21,000	30,000
1961	13,000	25,000
1962	12,000	19,000
1963	12,000	26,000
1964	8,000	18,000
1965	SALMON SEASON CLOSED	20,000
1966	8,500	20,000
1967	7,500	24,500
1968	11,500	24,500
1969	13,000	17,000

**STEELHEAD CATCH DATA
North Fork, Idaho**

Fish Year	Ice Harbor Dam Count	Anglers Checked	Steelhead Caught	Hours/Fish
1957-58	—	1,464	719	10.8
1958-59	—	2,368	531	30.1
1962-63	108,021	714	476	11.9
1963-64	72,150	835	373	23.4
1964-65	58,025	261	57	51.7
1965-66	62,566	962	297	31.2
1966-67	64,902	1,635	571	26.3
1967-68	48,274	1,384	353	28.8
1968-69	85,237	452	182	21.5

FINAL FISH COUNTS AT IMPORTANT DAMS — 1969

	Lower Columbia			Snake	Clearwater	Upper Columbia
	Bonneville	The Dalles	McNary	Ice Harbor	Lewiston	Priest Rapids
Spring Chinook	173,566	100,472	70,079	52,090	2,529*	8,972
Summer Chinook	102,153	61,933	63,953	30,917	—	20,319
Fall Chinook	231,838	151,778	79,375	13,952	90	11,495
Summer Steelhead (1968-1969 run) . .	140,780	111,655	108,279	85,237	25,277	9,754
"A" Segment	101,154					
"B" Segment	39,628					

*Spring and Summer Chinook.

BASIN INVESTIGATIONS

Dworshak Dam

Construction was completed on a hatchery to rear steelhead as mitigation for losses to natural steelhead production which will occur as a result of the Dworshak project. The hatchery is operated by the U.S. Bureau of Sport Fisheries and Wildlife. A portion of the 1968-69 North Fork Clearwater River steelhead run was trapped and spawned at the hatchery. Resulting young are being reared and will be released from the hatchery in the spring of 1970. The entire 1969-70 steelhead run will be trapped. Any fish in excess of hatchery and other artificial production needs will be transported into remaining free flowing streams. Means of providing land on which elk and deer habitat can be improved to mitigate for winter range that will be inundated are still being pursued.

Middle Snake Dams

Hearings continued in Washington, D.C. on the High Mountain Sheep Dam project which was remanded to the Federal Power Commission by the Supreme Court. The Idaho Fish and Game Department was represented or presented testimony at the hearings. Several alternate projects and a no-dam proposal are being considered.

Lower Snake Dams

Lower Monumental Reservoir was impounded in February of 1969. Considerable difficulties were experienced with auxiliary water systems supplying the fish facilities. Nitrogen supersaturation resulting from spill at the dam caused serious problems for adult and juvenile anadromous fish. Numbers of adult fish passing the dam into Idaho waters were adequate; however, a delayed mortality was apparently experienced as the 1969 spawning escapement in Idaho was the lowest on record.

Little Goose Reservoir will be impounded early in 1970. Hopefully, the mechanical difficulties with the fish facilities experienced at Lower Monumental will be avoided. There appears to be no possibility of avoiding a repeat of the nitrogen-supersaturation problem, however.

Contract Studies

A contract undertaken for the Idaho Water Resource Board to provide to the Board recommended minimum stream flows necessary for

aquatic life was completed. The resulting report was published as part of the state water needs studies presently being conducted by the Water Resource Board. The Department also continued participation in a recreation needs study contracted to the Parks Department by the Water Resource Board.

Comprehensive Framework Studies

The Columbia North Pacific and Great Basin Comprehensive Framework Studies are regionwide water resource planning efforts being directed by the Pacific Northwest River Basins Commission. Recommended water plans as published is the final report and will be used as a guide to future water resource development. The Fish and Game Department is the lead agency in preparing fish and wildlife aspects of the report for subregions which are located primarily in Idaho. The Department has also been actively involved in the water plan formulation process for those subregions. It is hoped that through these efforts, fish and wildlife will receive consideration in future water resource planning.

COLUMBIA RIVER FISHERY DEVELOPMENT PROGRAM

Fish Passage

The orifices, pools, exit pool, and trashrack on the Dagger Falls fishway on the Middle Fork of the Salmon River were cleaned of logs and sticks in September, 1968. Five broken and/or eroded concrete baffle planks in the fishway pool walls were replaced. Water was flowing normally in all portions of the structure when the cleaning and repair work was completed.

Selway Falls fishway on the Selway River in the Clearwater River drainage was cleaned in September, 1968 and March and May, 1969. These frequent cleanings facilitated fish passage and avoided delays for migrating fish. To facilitate the inspections and fishway maintenance, a catwalk and removable lighting system were installed the length of the tunnel.

Fish Screens

A total of 222 ditches were screened and in operation during 1969. No new screens were installed during the year although two were slightly altered in size.

Spring Chinook

A total of 2,529 chinook were counted over the Lewiston Dam near the mouth of the Clearwater River in the spring and summer of 1969. Based on past records, the assumption was made that the majority of fish returning in 1969 was a result of the reintroduction program.

This relatively large return of fish in 1969 is very encouraging and primarily resulted from a plant of 2,029,000 eyed eggs in 1966.

A total of 498,707 eyed eggs from the Salmon River drainage were planted in the Indian Creek hatching channel.

Eyed spring chinook eggs received from the U.S. Bureau of Commercial Fisheries were planted in the Running Creek and Indian Creek hatching channels on the upper Selway River and Fenn hatching channel on the lower Selway River. Approximately 626,429 and 242,453 eyed eggs were placed in Indian and Running Creek channels, respectively. A total of 121,227 eyed chinook eggs were also planted in Fenn hatching channel. Spring chinook eyed egg plants in the Selway River drainage during 1969 totaled 1,488,816.

Steelhead Trout

Beginning in 1962, eyed steelhead eggs have been planted annually in controlled flow hatching channels in the upper South Fork Clearwater River drainage. Fish passage was restored to the upper South Fork Clearwater River drainage in 1963 after access to the drainage had been blocked for 14 years.

The approximately 700,000 eyed steelhead eggs planted in the South Fork of the Clearwater River in June, 1969, were obtained at Dworshak Federal Hatchery. Out-migrating fry counted from the 903,340 eyed eggs planted in the Red River hatching channels in 1968 totaled 668,472 fry. The fry count represented 73.9 percent of the egg plant.

Attempts to locate significant numbers of spawning steelhead on redds in tributaries of the South Fork Clearwater River have been unsuccessful. This is due mainly to the turbid spring runoff. Many adult steelhead have been observed by local residents of the area and five are known to have been caught and released by fishermen in 1969.

Coho Salmon

The count of coho over Lewiston Dam totaled 31 in 1969.

Due to the insignificant return of adults, the reintroduction of coho has been terminated.

Fall Chinook

A total of 90 fall chinook were counted over Lewiston Dam in 1969.

Due to insignificant returns of fall-run chinook, the reintroduction has been terminated.

Priest and Upper Priest Lake Studies

Studies initiated in 1965 to evaluate the success of cutthroat trout egg and fingerling plantings were continued through 1969. Approximately 900,000 cutthroat eggs were planted in two incubation channels located at Kalispell and Hunt creeks in April and June of 1969. Survival of eggs to fry was 34 percent at Hunt Creek. Survival to adults will be evaluated at a weir installed in Hunt Creek in 1968. The following table shows the number of fingerling cutthroat trout released in Upper Priest Lake since 1964:

Year Planted	Total Number of Cutthroat Planted	Number With Fin Clips
1964	117,700	5,000
1965	248,100	30,000
1966	257,200	26,000
1967	318,000	146,300
1968	254,000	254,000
1969	205,200	205,200

Fins were clipped to facilitate identification in the creel when the fish reach catchable size. To date only three clipped fish have been observed by the census takers. We do not expect significant numbers of clipped fish to show up until 1970.

Anglers fished 46,819 hours at Priest Lake between June 2 and October 5 to catch 1,256 cutthroat, 37,880 kokanee, and 650 Dolly Varden. At Upper Priest Lake an estimated 2,019 anglers fished 5,596 hours and caught 734 cutthroat, 3,246 kokanee, and 158 Dolly Varden between June 2 and October 5.

Mysis Shrimp Introductions

Mysis shrimp have been introduced into Idaho lakes from Waterton and Kootenay lakes in Canada since 1965. We hope they will produce an important link in the food chain. In 1969 shrimp were recovered from Priest Lake, indicating an established population. One shrimp was recovered from Pend Oreille Lake in 1969. It was impossible to determine if this shrimp was from recent transplants in the area or reproduction in the lake. The following table shows the number of shrimp released:

catch of 15,685 fish from June 1, to September 6, 1969.

Census results on the Clearwater River below Orofino show that anglers fished an estimated 78,444 hours to catch 7,679 smallmouth bass, 2,155 squawfish, 302 bullhead catfish, 181 suckers, 137 juvenile steelhead, 43 whitefish, 35 carp, 8 Dolly Varden and 2,719 adult steelhead for a total catch of 13,259 fish from June 8, 1969 to January 3, 1970. Smallmouth bass are the primary species sought through the summer. Anglers spent 22,819 hours catching 7,679 bass. Steelhead were the most

NUMBERS OF MYSIS SHRIMP TRANSPLANTED INTO IDAHO LAKES – 1965 THROUGH 1969

Reservoir or Lake	Year of Transplant				
	1965	1966	1967	1968	1969
Priest Lake	295,000	400,000	300,000	—	—
Upper Priest Lake	—	—	—	100,000	100,000
Coeur d'Alene Lake	—	—	—	200,000	200,000
Pend Oreille Lake	—	50,000	210,000	300,000	300,000
Payette Lake	—	100,000	100,000	94,500	—
Anderson Ranch Reservoir	30,000	100,000	100,000	—	—
Redfish Lake	—	50,000	60,000	52,500	—
Alturas Lake	—	50,000	60,000	42,000	—
Stanley Lake	—	50,000	40,000	31,500	—
Pettit Lake	—	—	40,000	31,500	—
Palisades Reservoir	—	—	—	115,500	210,000
Palisades Lake	—	—	—	—	40,000
Warm Lake	—	—	—	—	75,000
Upper Payette Lake	—	—	—	—	75,000
Totals	325,000	800,000	910,000	967,500	1,000,000

Dworshak Dam Fisheries Studies

A Department research study designed to measure changes in fish populations above and below Dworshak Dam on the North Fork of the Clearwater was initiated in June, 1969. This Corps of Engineers-sponsored study will utilize creel census techniques to measure species composition and catch rate changes over a five-year period.

We also sampled stream populations to measure the extent of squawfish distribution in anticipation of a chemical treatment in 1971.

Creel census results on the North Fork above Dworshak Reservoir in the Canyon-Bungalow area show that anglers fished an estimated 11,409 hours to catch 1,863 hatchery rainbow trout, 10,625 juvenile steelhead, 1,476 whitefish, 1,594 cutthroat, 87 Dolly Varden, and 40 squawfish for a total

sought after species in the Clearwater River from September 15 until April 15, 1970. Anglers fished 60,887 hours to catch 2,719 steelhead. Steelhead anglers that we interviewed between September 15, and January 3, fished an average of 21.24 hours to catch a steelhead.

We used Squoxin to treat 18 miles of the North Fork to find the upper limits of squawfish and to check methods of application. Approximately 250 adult squawfish 9-14 inches long died.

Trend samples of eight selected pools on the North Fork tributaries and three pools on the Lochsa River showed some changes in species composition. Juvenile steelhead numbers in 1969 (230) declined from the 1968 (336) total. Adult steelhead are blocked from going into the North Fork by Dworshak Dam so the steelhead samples in the coming years will continue to decline.

IDAHO COOPERATIVE FISHERY UNIT PROJECTS

Effect of Squawfish Eradication on Trout Survival

A selective toxicant, 1, 1'-methylenedi-2-naphthol, was determined and developed which for the first time permitted the control of squawfish without harm to other game fishes and invertebrates thus far investigated. The objective of this study was to determine the impact that the removal of squawfish might have on the survival of trout, principally, hatchery fingerling rainbow trout. The study area included a 20-mile reach of the St. Joe River between Marble and Falls creeks.

The research was designed for a four-year period, the odd numbered years being control years and the even numbered years being treatment years in which the squawfish toxicant was applied. About 160,000 fingerling rainbow trout were planted in July each year and skin-divers counted fishes observed in 56 stations having a total length of over four miles in early August and again in September.

The results of two control years, 1967 and 1969, and one treatment year, 1968, indicate that 4.2 times as many fingerlings remained in the river during the treatment year as were present during the control years. The number of catchable size rainbow doubled each year from 1967 to 1969. This increase could have been due to carry-over of fingerling rainbow from preceding years.

The final phase of this study will be completed in 1970 if the St. Joe River is treated as planned. The inclusion of a second year of treatment data in the analysis of our findings should double the reliability of our research.

Life History and Population Structure of Cutthroat Trout in the St. Joe River

The St. Joe River has provided a popular fishery for cutthroat trout in the past, but as with most stream cutthroat populations, the number and size of fish creel has reportedly declined in recent years. The purpose of this study was to assess the abundance and status of the cutthroat trout population.

Fish collected from the sport fishery and with electro-fishing gear furnished much data on abundance, migration and distribution, while snorkeling supplied valuable supplemental information. We

assessed the effects of fishing mortality by comparing population structure in heavily and lightly-fished stream sections.

Throughout the summer of 1969, approximately 3 to 35 times more cutthroat were observed in the lightly-fished sections of the stream than in the heavily-fished sections along the river road. Anglers caught 2.5 cutthroat per hour from the relatively unexploited stream sections, but only 0.7 cutthroat per hour from the whole river. In addition, fish caught from the isolated areas were considerably larger than those from the heavily-fished sections: 31 percent of the cutthroat examined from the lightly-fished area were larger than 240 mm, but only 15 percent of the trout from heavily-fished areas measured that long.

Effects of Catch-and-Release Regulations on Idaho Cutthroat Trout

The decline of cutthroat stocks in Idaho coincides with increased angling pressure brought about by improved road access. A recent statewide angler survey indicated that many anglers thought it would be worthwhile to try catch-and-release regulations, and record angler acceptance.

During 1969, the fisheries of Kelly Creek and a portion of the North Fork of the Clearwater River were studied under existing statewide regulations. Beginning in 1970, Kelly Creek will be studied under catch-and-release.

Chinook Salmon Escapement and Yield Studies — Lemhi River

This project was initiated in 1964 to assess the escapement of adult chinook salmon into the Lemhi River, the resulting yield of juvenile salmon, and the factors which affect survival of embryos and fingerlings.

The count of adult chinook salmon at the Lemhi River weir, redd count, and estimated number of smolts leaving the upper Lemhi River for the years since enumerations began are presented below:

Brood Year	Weir Count	Redd Count	No. of Smolts
1963		364	175,000
1964	1,075	1,038	401,000
1965	765	433	185,000
1966	1,473	738	107,000
1967	1,844	786	238,000
1968	1,940	572	
1969	743	328	

On the basis of this study, more restrictive regulations for cutthroat trout fishing were established for 1970. Recreational and angler usage of the Middle Fork is likely to continue to increase. Data obtained on this project will be valuable in assessing the status of the cutthroat under the increased pressure in the future.

Evaluation of Snake River Steelhead Transplants

Approximately 1.5 to 1.6 million steelhead smolts have been planted each year in the Pahsimeroi River since 1967 as part of the Idaho Power Company program to transfer steelhead runs blocked by Hells Canyon Dam. The Department has monitored the success of these steelhead plantings by estimating the number of smolts migrating from the Pahsimeroi River and by enumeration of the smolt migration past Ice Harbor Dam by cooperating Fish and Wildlife Service personnel.

In the spring of 1969, 798 returning adult steelhead from the 1967 smolt releases returned to the Pahsimeroi and yielded over 1.6 million eggs to be reared for 1970 releases.

From 20 to 30 percent of adult steelhead checked in the creel by field personnel in the fall and winter of 1969 on the Salmon River had hatchery fin marks. It appears that a significant number of adult steelhead have again returned to the Salmon River. These adults will arrive at the Pahsimeroi River facilities in the spring of 1970.

Decker Flat Rearing Pond

Approximately 26,000 spring chinook salmon smolts migrated from the Decker Flat rearing pond near Stanley in the spring of 1969. These fish showed good growth during the rearing period of 1968 and survived the winter under 24 inches of ice and snow in a few inches of spring-fed water. Another group of 150,000 chinook stocked in June, 1969, made excellent growth by fall and appear to be wintering well. They are scheduled for release in April-May, 1970. Evaluation of this program will be based on returns of adult chinook commencing in 1970.

Hayden Creek Rearing Ponds

Some 80,000 juvenile steelhead smolts were released in May, 1969, from the 1.2 surface acre rearing ponds at Hayden Creek near Salmon after a one year rearing period. Another group of 117,000 juvenile steelhead are now in the ponds and will be released in the spring of 1970.

Forty-four early returning adults from 1967 releases arrived at the Hayden Creek Station in the spring of 1969 and 12 females yielded 40,000 eggs now in the ponds as fingerlings. The first major returns are expected in the spring of 1970.

Anadromous Fish Rearing Area Study

A study conducted on the upper Salmon River drainage indicated that while juvenile anadromous fish rear in the entire length of the relatively pristine Middle Fork of the Salmon River, the main Salmon River does not support rearing juveniles much below the Challis, Idaho area. Below this area agricultural and domestic degradation of the river and watershed have created summer water quality and temperatures regimes unsuitable for rearing salmon and steelhead. An investigation of the river canyon between North Fork and Riggins disclosed very few side tributaries available for juvenile anadromous species.

Anderson Ranch Reservoir F-53-R

The research project at Anderson Ranch Reservoir continued in 1969. The two jobs of the project concern testing partial control of a squawfish population and evaluation and improvement of gamefish populations.

The reservoir shoreline was treated with rotenone twice during mid-summer to kill emerging squawfish fry. Many fry and yearling squawfish succumbed to the treatments. About 30 rainbow trout and several dozen yellow perch died as a result of the rotenone.

An intensive creel census conducted at Anderson Ranch Reservoir from May 18 to November 1, 1969 yielded estimates of 27,274 total hours expended to catch 32,408 fish. Boat anglers caught 23,111 fish in 18,940 hours. The catch consisted of 14.7% rainbow trout, 8.4% kokanee, 3.3% coho, 71.9% squawfish and 1.7% other species. Bank anglers fished 8,334 hours to catch 9,297 fish consisting of 27.9% rainbow trout, 0.1% kokanee, 0.9% coho, 54.9% squawfish and 16.2% other species.

Horizontal gill nets fishing in the reservoir during September caught 85% rough fish, primarily squawfish. Vertical nets fished at the same time caught 65% game fish primarily kokanee. The game fish occurred at depths greater than 40 feet while rough fish occurred more commonly at lesser depths and coincident higher temperatures.

Approximately 120,000 kokanee fingerlings and 350,000 coho fingerlings were planted at Anderson Ranch Reservoir in April and May, 1969. Catchable size hatchery rainbow trout plants totaled 15,000 at Anderson Ranch in 1969.

A kokanee run of approximately 15,000 spawned in the South Fork Boise River and Trinity Creek above Anderson Ranch Reservoir in August and September. A smaller run appeared in Fall Creek and spawned in the short unobstructed section of the stream.

HATCHERY OPERATIONS

Ashton Fish Hatchery

A procedure was developed to transfer fry directly from incubators to outside raceways. Twenty-four automatic fry-feeders were installed to feed these fish, six at the head of each raceway. It was necessary to increase the strength of the fry-feeder stand for each of the units due to occasional high winds at the station.

The fish-feeder trailer was widened at the axle to prevent it from tipping over.

American Falls Hatchery

During the calendar year 171,569 pounds of fish were planted. A new 1,000-gallon fish distribution unit was placed in service. This unit is mounted on a two-ton truck. The water temperature in the tank remained near the starting temperature after several hours of hauling fish, indicating good tank insulation.

An asphalt parking area was completed in front of the public restrooms.

Two and one-quarter million rainbow trout eggs were collected from the brood stock at the station. A diet experiment which began in 1968 indicated an improvement in egg eye-up from brood stock fed one of the experimental diets.

Clark Fork Hatchery

A heavy snow pack during the winter caused acidic water to flow into the hatchery water system resulting in greater than normal mortality in Kamloops fry. More than 700,000 Kamloops eggs were taken from the Kamloops brood stock. A total of 890,000 Dolly Varden eggs were taken from the Dolly Varden brood stock. Sixty-nine thousand pounds of fish were planted during the year.

Three hundred fifty feet of 12-inch wooden pipeline was replaced with steel pipeline from the water supply ponds to the hatchery building. Three

hundred feet of one-inch steel pipe was replaced with 1¼-inch plastic pipe for the domestic water line.

Eagle Fish Hatchery

Thirty-five thousand pounds of fish produced at Eagle Hatchery were planted during the season along with 70,000 pounds of catchable size fish from Hagerman Hatchery. Station personnel trapped and hauled 7,000 adult kokanee from Trinity Creek to the holding pond at Eagle. These fish produced 650,000 kokanee eggs.

The irrigation canals below Lake Lowell were salvaged for yellow perch and crappie at the end of the irrigation season.

A new lawn sprinkling system was installed at the hatchery.

Grace Fish Hatchery

One hundred seventeen thousand pounds of fish were planted in streams and reservoirs in the Grace Hatchery planting area. Windows were removed from the hatchery building, scraped, puttied and repainted. Several safety projects were completed. A chain sprocket on the fish loader was covered with a guard to the height of seven feet. Ladder to the hatchery loft was provided with a handrail. The oil storage tanks in the hatchery building and one in the fish culture residence were both moved outside. Painted the exterior of all buildings.

Hagerman Fish Hatchery

During the year, 446,520 pounds of trout were produced. Improvements at the Hagerman Hatchery included remodeling of the fish feeder on the feed truck, replacing of dam boards for the water supply on Riley Creek and Tucker Springs, and painting the exterior of all buildings.

Fish Hatchery Superintendent B. D. Ainsworth, Sr. retired after 43 years of Department service in fish hatcheries, the last seven years at Hagerman

Fish Hatchery. B. D. Ainsworth, Jr. was appointed to the position of Fish Hatchery Superintendent in charge of Hagerman Hatchery.

Hayspur Fish Hatchery

Production for the year included 1,295,000 rainbow trout and 514,000 coho salmon weighing 130,000 pounds. Slightly over three million rainbow eggs were taken from the brood stock at the station. The hatchery personnel helped with the salvage of Richfield Canal where over 37,000 pounds of rainbow trout were salvaged. Two artesian wells were drilled to provide supplemental water for rearing fish. The combined artesian flow of the two wells is approximately 1,350 gallons of water per minute. This additional water flow has been very helpful during the early spring months, prior to the time that ground water is recharged from spring irrigation. A pickup truck was lost when it became stuck on the railroad crossing near the hatchery and a Union Pacific railroad train demolished it. Installed new pipelines and valves at the head of all six small raceways.

Henrys Lake Hatchery

Nine million four hundred sixty-eight thousand cutthroat trout eggs were taken during the year. A total of 5,007,000 kokanee eggs were collected on Moose Creek near Island Park Reservoir.

Calcium chloride treatment for soft shelled eggs was continued during October. Hardness tests were carried out on six lots of kokanee eggs. The eggs treated with calcium chloride were 22 percent harder than untreated eggs. The electric egg sorter was used to sort eggs at the hatchery. The machine handles eggs at the rate of about 100,000 per hour. Variation in size of the cutthroat trout eggs made it necessary to devise an egg grader. Grading the eggs eliminated oversized eggs that plugged the holes in egg sorter's revolving disk.

Mackay Fish Hatchery

A total of 117,000 pounds of fish were produced and planted in lakes and streams in the area. In addition, 108 high mountain lakes were planted — one by 4-wheel drive vehicle, three by backpack, four by pack string, and 100 by helicopter. For the past two years, some selected rainbow trout have been held for potential brood stock at the hatchery. At the end of two years, fish that were sexually mature were planted out and immature fish held for spawning as three-year old fish.

The old hatchery building, the base and foundation were removed from the station.

McCall Fish Hatchery

The McCall Fish Hatchery operated from April through October. During the season, 220,000 rainbow trout fingerling, 365,000 cutthroat trout fingerling, 9,450 golden trout, 6,000 grayling fry and 178,000 catchable size rainbow trout were planted in the area. One hundred twenty-five high mountain lakes were planted. The hatchery buildings were connected to the city sewer system. A new portable water pump was installed to clean fish tankers. The cold storage building was converted into an office, public restrooms and quarters for summer employees.

Niagara Springs Hatchery

The Niagara Springs Hatchery, Pahsimeroi Trap and Pahsimeroi Release Ponds were constructed by Idaho Power Company and financed by the Company. Purpose of the operation is to transfer Snake River steelhead blocked by Hells Canyon dams to the Salmon River drainage.

Steelhead smolt planting in Pahsimeroi River began on March 3 and was continued through May 27. A total of 1,645,000 smolts, weighing 178,000 pounds were released. Four thousand steelhead smolts were marked and released one-half each in the Pahsimeroi holding ponds and in Pahsimeroi River near the holding ponds to determine the proper release site. In February, 109,000 steelhead fingerling averaging 56 per pound were released into the Snake River below Hells Canyon Dam. A similar planting was made during October and November when 757,000 steelhead fingerling averaging 127.3 per pound were released in the Snake River below Hells Canyon Dam.

Pahsimeroi Trap

The Pahsimeroi Trap was placed in operation on February 12. By the end of May, 1969, 850 adult steelhead had been trapped. Fifty-two of these fish were classified as wild and released in the Pahsimeroi River above the trap for natural spawning. A total of 798 adult steelhead indicated signs of eroded dorsal fin and were classified as hatchery fish. Egg take for the year was 1,620,000 steelhead eggs. Trapping continued from June 17 through September 25 for chinook salmon. A total of 196 females, 260 adult males, and 60 jack salmon were

trapped. This was a total of 518 chinook salmon. One hundred females were spawned for a total egg take of 464,000. The eggs were transferred to Mackay Fish Hatchery for rearing to a size large enough to be released in the Pahsimeroi release ponds for rearing.

Rapid River Hatchery

The Rapid River Hatchery was built and financed by Idaho Power to transplant spring chinook salmon from Snake River to Salmon River drainage. Rapid River Fish Hatchery continued to grow since construction in 1964. Each year the hatchery has increased in production with a corresponding amount of new construction. A new earthen rearing pond was completed with dimensions 400' x 110' x 6' deep with a rearing capacity of two million smolt size fish. The total production capacity of the station is now three million smolt size spring chinook salmon. A diversion dam was constructed to assure a water supply for the hatchery throughout the year. A fish ladder was incorporated into the diversion dam for upstream passage of steelhead and summer chinook salmon to Rapid River. A new domicile was constructed and one permanent fish culturist added to the station's staff. A new state-financed adult holding pond, dimensions 300' x 100' x 7' deep, was completed. This adult holding pond is capable of holding 4,000 adult fish. This pond will handle fish in excess of 2,700 adults required for Rapid River Hatchery. Eggs collected from fish held in the state holding pond will be used for reintroduction of chinook salmon into the Clearwater River system. During March 900,192 spring chinook salmon smolts from the 1967 brood year were released. Two thousand six hundred seventy-nine adult spring chinook salmon were received at the Rapid River trap and 672 spring chinook salmon adults were transported from the Hells Canyon facility on Snake River. Two million surplus spring chinook salmon subsmolts were held in the adult holding ponds at the hatchery. An outbreak of kidney disease in these fish caused excessive mortality and ultimately it was necessary to destroy all of the 2,000,000 subsmolts; 3,178,000 subsmolts were successfully reared in the two rearing ponds at the hatchery with no appreciable amount of kidney disease appearing in these fish.

Sandpoint Fish Hatchery

Production at Sandpoint Fish Hatchery included

302,000 cutthroat trout, 55,000 brook trout, and 213,000 Kamloops trout. The cutthroat trout were planted in high mountain lakes, Upper Priest Lake, and Rochat Creek rearing pond. Station personnel helped out with the planting of 878,000 eyed cutthroat trout eggs in streams tributary to Priest Lake.

Twin Falls Hatchery

The water supply trough in the hatchery building was replaced with a 10-inch iron pipe with two 2-inch gate valves for each vat. Thirty-four thousand pounds of trout were planted in the area from the hatchery. Forty-seven thousand cutthroat trout fry were planted in the headwaters of major drainages in the area to supplement natural spawning.

Warm River Fish Hatchery

Cutthroat trout diet tests were continued at Warm River. Three levels of calcium pantothenate were tested: 5,000, 7,500, and 15,000 mg. The 7,500 mg level gave the best results. The 15,000 mg level inhibited the growth of fish. Approximately 900,000 2-inch cutthroat fingerlings were reared and planted in South Fork and North Fork of Snake River. Ten thousand pounds of catchable size rainbow trout were redistributed from the Ashton Hatchery.

Fish Feed (October 1, 1968 - September 30, 1969)

Item	Pounds	Cost
Idaho Open Formula Diet	2,350,053	\$187,813.05
Oregon Moist Pellets	246,300	41,496.09
Leavenworth Diet	900	161.25
Liver	626	88.90
Total	2,597,879	\$229,559.29

Eggs Received by Purchase or Exchange From Other Agencies

(October 1, 1968 - September 30, 1969)

Species	Number
Rainbow	6,527,533
Brook	30,528
Brown	478,272
Coho	5,275,532
Golden	13,620
Grayling	193,754
Spring Chinook	990,109
Steelhead	403,614
Total	13,912,962

IDAHO FISH PLANTINGS*
By Species, Size – All Agencies
 (October 1, 1968 – September 30, 1969)

Species	0-3"	3-6"	6"-Up	Total	Pounds
Rainbow	3,965,975	1,373,459	3,371,939	8,711,373	1,244,775.75
Cutthroat	6,112,401 ¹	678,946		6,791,347	21,914.80
Rainbow X Cutthroat	815,452			815,452	587.00
Brook	960	54,300		55,260	1,066.00
Coho Salmon	4,832,436 ²	111,800		4,944,236	16,369.00
Spring Chinook Salmon	1,659,816 ³	157,427	987,636	2,804,879	47,309.00
Fall Chinook Salmon	255,536			255,536	1,850.00
Kamloops	346,685	96,746	22,930	466,361	11,516.50
Mackinaw			33,150	33,150	3,900.00
Kokanee	806,876	274,400		1,081,276	1,519.00
Grayling	12,926			12,926	4.70
Golden	14,300			14,300	6.25
Steelhead	322,443	109,200	1,645,100	2,076,743	180,965.00
Brown	61,365			61,365	496.00
Bluegill			65	65	13.00
Dolly Varden	319,441			319,441	94.00
TOTALS	19,526,612	2,856,278	6,060,820	28,443,710	1,532,286.00

* Excludes all salvaged fish – these are reported in another table.

¹ 878,400 planted as eyed eggs.

² 2,000,000 planted as eyed eggs.

³ 1,488,816 planted as eyed eggs.

FISH PLANTINGS IN IDAHO BY OTHER AGENCIES
 (October 1, 1968 – September 30, 1969)

Station	Rainbow		Cutthroat		Total	
	Number	Pounds	Number	Pounds	Number	Pounds
U.S. Jackson (Wyoming)			603,778	8,949	603,778	8,949
U.S. Hagerman (Idaho)	791,926	127,419			791,926	127,419
Idaho Power Company	18,900	7,000			18,900	7,000
U.S. Springville (Utah)	1,001	354			1,001	354
TOTALS	811,827	134,773	603,778	8,949	1,415,605	143,722

FISH SALVAGED AND PLANTED
 (October 1, 1968 – September 30, 1969)

Station Area	Trout	Catfish	Perch	Totals	
				Number	Pounds
Ashton	3,039			3,039	800
Eagle		3,400	35,400	38,800	4,850
Hayspur	2,301			2,301	3,700
TOTALS	5,340	3,400	35,400	44,140	9,350

HATCHERY PRODUCTION

(October 1, 1968 – September 30, 1969)

Hatchery	Rainbow		Cutthroat		Brook		Kamloops		Mackinaw		Kokanee		Brown		Spring Chinook	
	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.
American Falls	794,706	179,315	883,660	293												
Ashton	634,576	54,099	175,750	2,285							307,724	99	61,365	496		
Clark Fork		47,532 ¹	124,848	275			134,819	5,894			499,152	300				
Eagle	452,020	31,385									274,400	1,120				
Grace	1,282,020	109,604	942,260	3,190					2,750							
Hagerman	1,864,860	438,668					98,615	4,075								
Hayden Creek															328,427	3,555
Hayspur	1,453,233	137,721														
Henry's Lake			1,571,892	621 ²												
Mackay	992,571	111,967	252,199	596											562,072 ³	115
McCall	283,020	172	392,812	183												
Mullan	250,918	538	388,701	671												
Niagara																
Oxbow																
Rapid River															5,070,901	101,795
Sandpoint			320,268	2,693	21,050	931	213,261	137								
Twin Falls	472,856	33,687	34,313	64												
Warm River			907,850	2,212												
Totals	8,480,780	1,144,688	5,994,553	13,083	21,050	931	446,695	10,106	2,750	1,081,276	1,519	61,365	496	5,961,400	105,465	

Hatchery	Fall Chinook		Rainbow and Cutthroat		Steelhead		Coho		Golden		Grayling		Dolly Varden		Total	
	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.	Nos.	Lbs.
American Falls							286,774	2,040							1,965,140	181,648
Ashton							242,200	2,600							1,421,615	59,579
Clark Fork													320,202	104	1,079,021	54,105
Eagle							111,800	710							838,220	33,215
Grace			308,940	368			259,375	1,455							2,792,595	117,367
Hagerman							126,616	392							2,090,091	443,135
Hayden Creek					358,563	5,919									686,990	9,474
Hayspur							514,700	4,030							1,967,933	141,751
Henry's Lake			476,412	119											2,048,304	740
Mackay					63,365	150	518,400	4,800	12,310	5	6,926	4			2,407,843	117,637
McCall											6,000	2			681,832	357
Mullan							894,000	1,170							1,533,619	2,379
Niagara					2,869,327	196,846									2,869,327	196,846
Oxbow	255,536	1,850													255,536	1,850
Rapid River															5,070,901	101,795
Sandpoint															554,579	3,761
Twin Falls															507,169	33,751
Warm River															907,850	2,212
Totals	255,536	1,850	785,352	487	3,291,255	202,915	2,953,865	17,197	12,310	5	12,926	6	320,202	104	29,678,565	1,501,602

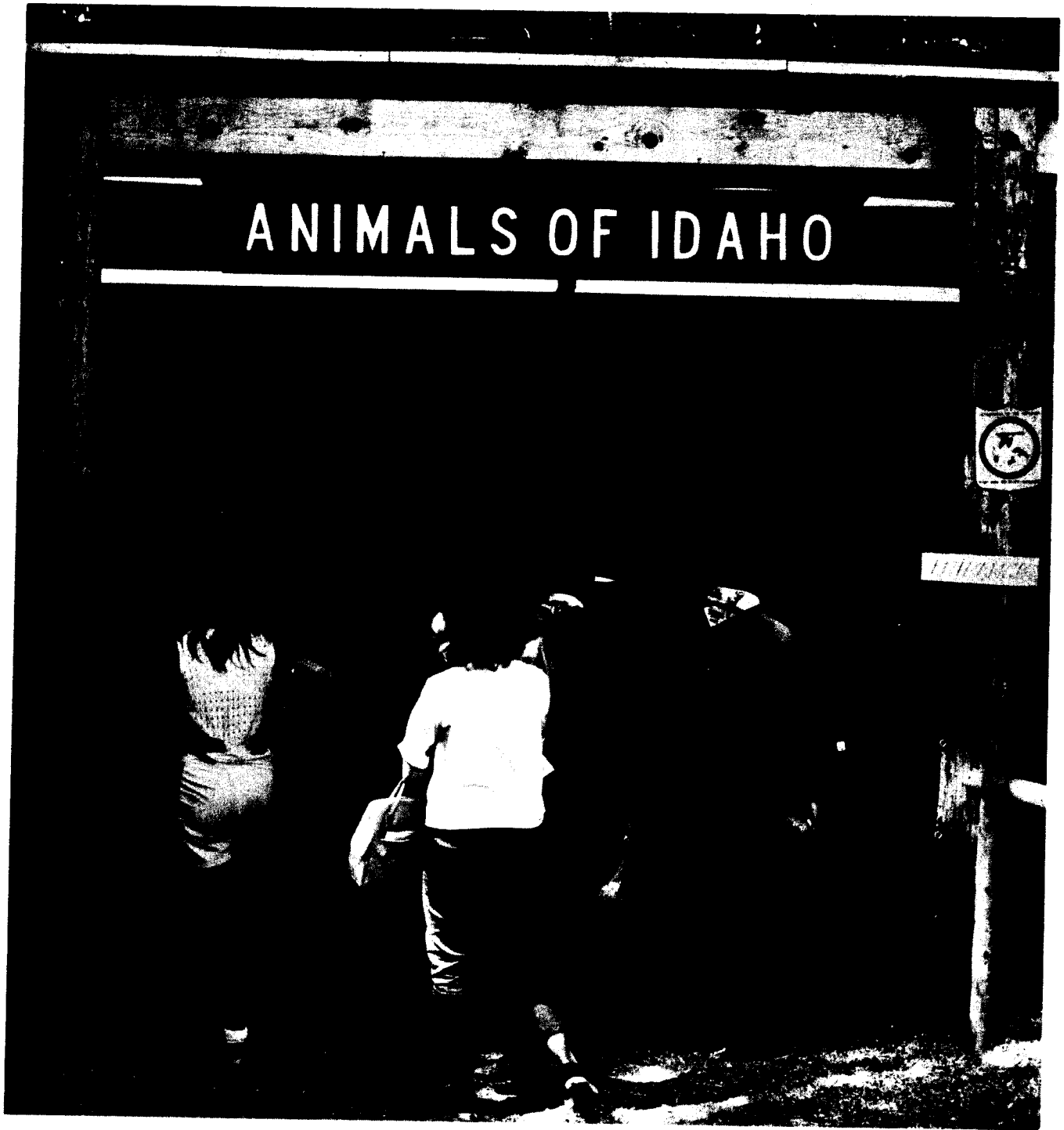
¹Clark Fork Hatchery weight increase in rainbow trout transferred from Hagerman.

²Henry's Lake Cutthroat, 878,400 eyed egg plant included.

³Mackay spring chinook, 498,707 eyed egg plant included.

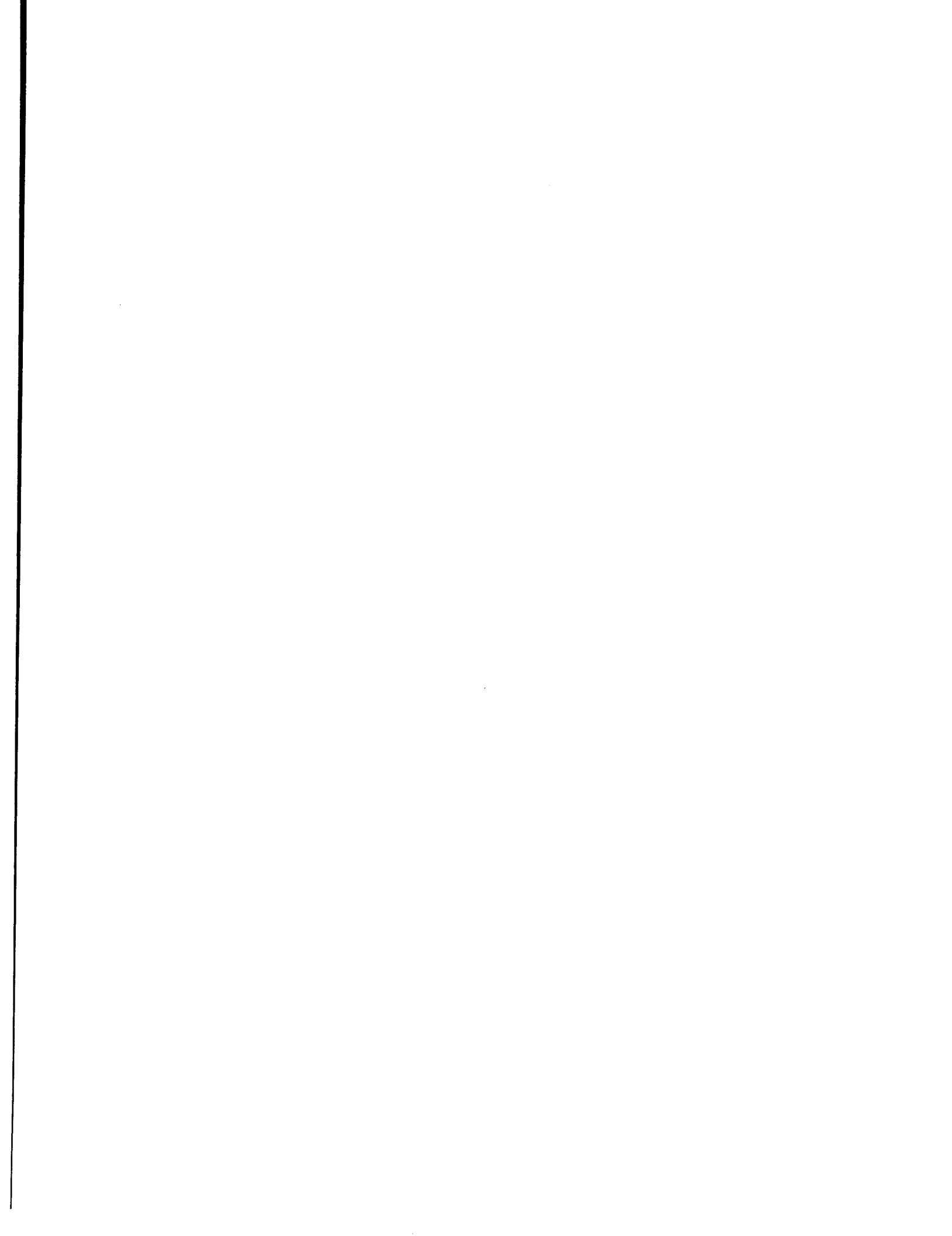
EGGS TAKEN BY STATE
(October 1, 1968 – September 30, 1969)

Station	Species	Number Green Eggs	% Eye Up	Number Eyed Eggs
American Falls	Rainbow	1,979,616	81.2	1,607,449
Clark Fork	Kamloops	969,176	84.0	814,930
	Kokanee	801,270	94.1	753,995
	Dolly Varden	890,220	75.0	667,673
Eagle	Kokanee	605,844	85.0	514,967
Hayspur	Rainbow	2,893,100	92.8	2,684,879
Henrys Lake	Cutthroat	10,207,016	81.4	8,316,875
	Cutthroat and Rainbow	1,466,710	78.5	1,152,380
	Kokanee	5,024,480	99.0	5,007,024
Mackay	Spring Chinook	581,688	85.7	498,707
Oxbow	Fall Chinook	274,030	97.4	266,871
	Steelhead	2,946,130	84.6	2,495,335
Pahsimeroi	Steelhead	1,620,303	90.9	1,467,725
	Spring Chinook	464,150	94.8	440,340
Rapid River	Spring Chinook	5,171,697	93.3	4,825,965
Lemhi Spring	Spring Chinook	76,884	96.8	74,423
	Steelhead	281,185	95.0	267,713
Hayden Creek	Steelhead	40,596	94.0	38,182
Totals		36,294,095	(Av.) 87.8	31,895,433



Information

and Education



INFORMATION AND EDUCATION

The Initiative Act of 1938 which first established the Idaho Fish and Game Commission and the code under which the department operates authorizes the information and Education Division to "Disseminate such statistics, data and information, as in its discretion will tend to promote the objectives of sections 36-102 . . . ". This mandate includes section 36-103 which sets the general wildlife policy and states "All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed."

This basic responsibility of the department became more significant than ever before during 1969, when the nation and Idaho became aroused with a new public concern for the environment and the deterioration of the habitat for wildlife and all living things. Although the demands of the public were evidenced in many ways, it was obvious that there was much concern for Idaho wildlife and its management. As a result, considerable effort was expended by the division in bringing forth those information and education programs that would explain just what is happening to the environment and the wildlife resources. It was also quite evident that the new wave of concern for the environment would, indeed, continue long into the decade of the seventies.

Highlights of the year's activities in information and education work included:

- A wildlife conservation exhibit was constructed and operated at the Farragut State Park for the National Boy Scout Jamboree, viewed by some 30,000 Boy Scouts and adult leaders.
 - OPERATION RESPECT was continued successfully into its 2nd year of operation reaching an additional 2,000 sportsmen cooperators.
 - Expansion of the Outdoor and Conservation Education field day projects directed chiefly at the 6th grade as recommended by the State Committee on Conservation and Outdoor Education.
 - Continued teaching of hunting and firearms safety to over 90 percent of the state's seventh grade students by personnel of the I&E and Conservation Enforcement Divisions.
- Publication of the *Idaho Wildlife Review*, the department's bimonthly magazine, reached a circulation list of 25,000 with an estimated readership of 100,000.
 - Continued high levels of excellent cooperation from all of the mass public relations media in the state.

INFORMATION SERVICES

News

Increasing interest in the out-of-doors was reflected in the space and time given to hunting and fishing activities by Gem state news media. The Department's news programs continued to be a major source of material on the subject for newspapers and radio and television stations. Weekly news packages consisting of daily releases for Monday through Thursday were sent to daily newspapers and radio and TV stations throughout the state and adjoining areas. A summary of these news stories in column form was mailed to all weekly newspapers. A weekly feature article is also sent to all daily newspapers and to those weeklies requesting it.

Field personnel of the I&E division also wrote many special news articles and features for use locally. As the need arose, news writers prepared special stories to inform the public of late breaking situations and developments. This kind of flexibility effectively rounds out the department's news effort.

Radio and TV

Taped Field and Stream reports were furnished to an average of thirty radio stations from the headquarters office each week. This program is prepared for statewide informational purposes and is a flexible commentary type report which varies with the seasonal activities. Another program is taped each week at the headquarters for use of stations in southwest Idaho, giving specific information about hunting and fishing locally. Live program interviews are done for stations requesting them.

Field men at Coeur d'Alene, Lewiston, Twin Falls and Idaho Falls all prepared programs on a regular basis for local radio stations. These vary in form from straight informational dissertations to hour long "call-in" programs on which the public can get questions answered.

Taped spot messages are also provided all co-operating stations with an average of seventy-five covering hunting and fishing regulations, hunting safety and Landholder-Sportsman relations tips sent out from headquarters. In addition, field men occasionally have opportunities to prepare spot messages for local use.

Television programs were presented on a regular basis in Boise, Twin Falls, Pocatello and Idaho Falls on five individual channels. Several "one time" specials were participated in.

Photography

The headquarters photo file received heavy use during the year both by the department and by outside writers and publishers. The addition of new photos to the files was accomplished due to department-wide participation in picture taking, but it is noteworthy that the total picture use far outstripped the number of new photos added. All photo enlarging was done in the headquarters office dark room.

Field men obtained a good amount of color movie footage, primarily for use on television.

Exhibits

A large and very popular wildlife exhibit was prepared for the National Boy Scout Jamboree at Farragut State Park. Some 30,000 scouts and visitors attended the exhibit and viewed the various displays and live animals. The exhibit, handled jointly by the Department and the U.S. Fish and Wildlife Service, required a great amount of time and effort in preparing and operating the facility and the Regional Conservation Educators around the state all participated, as did several of the conservation oriented Explorer Scout Posts.

Again, the Department's exhibit at the Eastern Idaho State Fair at Blackfoot was granted the grand prize award. The display is situated in a specially built area within one of the large exhibit buildings and is an annual feature of the fair. The exhibit at the Western Idaho Fair was, once again, a popular attraction for fair goers.

Many county fairs throughout the state included department exhibits and cooperation. In some cases exhibit materials were provided the local conservation officers who erected and cared for displays.

Publications

Circulation for the *Idaho Wildlife Review* reached a total of 25,000, with an estimated readership of close to 100,000. Approximately 3,500 copies are sent to subscribers outside Idaho.

The 1968 Annual Report of the Fish and Game Department was published during the year, along with miscellaneous informational pamphlets and leaflets. A very popular pamphlet produced during the year was a fishing guide to the Island Park area.

CONSERVATION EDUCATION

Participation on the Idaho Advisory Committee on Environmental Education continued in 1969. One of the major activities was participation in the governor's conference on environmental education held in Boise. Other activities included assisting various schools plan outdoor education activities, locate and plan for outdoor education sites, and assist in preparation of materials to be presented to classes.

The committee also participated in the Teacher's Outdoor Education workshop at Donnelly sponsored by Boise State College. Assistance was given the Idaho Wildlife Federation in planning and coordinating that organization's annual conservation essay contest. The committee also made the selection of winners in this statewide contest.

The tempo of Environmental Education programming picked up during the year, as a total of 84 presentations were given by the education supervisor to a variety of groups statewide ranging from cub scouts through civic groups, organized sportsmen, women's groups and various elementary, high school and university classes.

Increased requests for wildlife oriented programs has required expansion of the colored slide inventory and of prepared slide series. A total of eighteen slide series are now available for presentation by department personnel.

Hunter Safety Training

Hunter safety training efforts continued during the year with a total of some 14,300 young people given the training throughout the state. Conservation officers handle most of the instruction which is given right in the school classroom of public and private schools. Emphasis is placed on the

seventh grade level. I&E field men coordinate the training programs locally, and help out wherever necessary.

The two-hour colored slide presentation was upgraded and incorporated into the sixteen series distributed for use statewide. The course examination was also revised. These are available for classroom use on request.

Conservation Library

During 1969, an additional 2,153 publications were cataloged. This brought the total cataloged since the inception of the library to 6,780. As the scope of the library operation becomes better known, more and more use is being made of its

facilities. The library receives considerable use by personnel of the department and other government agencies, students and the general public.

Film Library

Careful review and screening of new films continued in 1969. Twenty-eight new films, containing wildlife management concepts, were purchased in 1969. This has broadened the film selection available to 87 films.

1,498 film requests were filled in 1969. This is a free service to any individual, organization or school in Idaho. Schools are making heavy demands on the film library.

REGIONAL OPERATIONS

In addition, most regional offices maintain a modest film library to service part of the requests for films locally.

Panhandle Region

Requests for I&E services declined in 1969 from the high year of 1968. Eighty-two programs were presented by the Panhandle Regional Conservation Educator to some 1,400 adults and 1,750 youngsters. Other Department employees assisted greatly so the total number of people reached through programs would run considerably higher.

Gun safety instruction was provided through the schools for 6th or 7th grade students. Nearly 1,600 students were given instruction which represents about 97% of all the students in the region. District conservation officers provided much of the classroom instruction with the regional educator working primarily as a coordinator between classes. 434 students were certified as being N.R.A. safe hunters after demonstrating safety in handling and firing guns in addition to the classroom work.

Considerable emphasis was again placed on obtaining usable photos of Department operations. Many of these photos are now on file in the Coeur d'Alene office. In addition 82 colored slides, 109 black and white photos, and 2 rolls of movie film were submitted to the Boise office for filing. The use of colored slides in programs continued to be the single most popular type of program and the majority of the programs featured slides.

A weekly radio program was continued and was sent to the three radio stations within the region each week. The script for this program was used as a weekly column and the four daily papers within the region used the column. Other news writing included 30 general news releases submitted to 14 outlets throughout northern Idaho and eastern Washington. Six special features were written at the request of a particular newspaper and two *Wildlife Review* articles were also submitted to the Boise office.

Considerable time was devoted to the construction and operation of a sizeable display for the National Boy Scout Jamboree held at Farragut State Park. A building was constructed to shelter the mounted bird and animal displays and photographs that were assembled to help explain Idaho game management. Approximately 30,000 people visited the display building during the week-long Jamboree. Materials were also provided for a second station at the fishing site that was manned by other Department personnel to explain fisheries management on Pend Oreille Lake. Three smaller displays were also erected during the year.

Fifty-five films were loaned from the Coeur d'Alene office and many more requests were forwarded to Boise.

The regional educator continued to serve the Panhandle Landholder-Sportsman Council as secretary-treasurer. He also serves as committee chairman of Explorer Post No. 210 which is wildlife-oriented, but not department sponsored.

Clearwater Region

The Clearwater Regional Conservation Educator attended a total of 53 meetings and presented 69 programs to 1,130 adults and 1,763 young people during the year. Included were a variety of service organizations, chambers of commerce, garden clubs and school and youth groups. In addition, 1,807 students were taught hunter safety with the assistance of the district conservation officers who taught the majority of classes.

Regional personnel attended numerous meetings and presented over 60 programs to about 3,000 adults and youth, including presentations at the Latah and Clearwater counties school forestry tours. Slide programs on conservation law enforcement and big game management were made up for the use of conservation officers.

The general conservation course for 6th graders in the Lewiston school system was continued this year. The regional conservation educator helped prepare 6th grade teachers for this course with orientation talks and handout materials. Assistance was given on the final field tour. A similar program was initiated in Clearwater County by the District Conservation Officer at Orofino in cooperation with forestry and soil conservation personnel.

The Regional Educator helped instruct 45 teachers during a summer workshop. Close relations were also maintained with the wildlife and fisheries research units of the University of Idaho where a total of six guest lectures were given to ecology, wildlife and business administration classes.

Eighty-seven news releases were prepared and sent to newspapers, radio and TV, including newspapers outside Idaho in Spokane, Seattle and Missoula. Several articles were also prepared for statewide use out of Boise.

A total of 59 radio programs were prepared and sent out to the five radio stations in the region. A management change at the local television station resulted in more opportunities for programs and a total of eight spots were presented.

Displays were prepared for the Clearwater and Latah county fairs and the Lewiston boat show. A panel display was maintained at the Lewiston office.

Sixty-nine films were checked out from the Clearwater Region office by various school and civic groups.

The Landholder-Sportsman Council in Lewiston held two regular meetings and the resultant publicity helped to improve relations between the sportsmen and landholders. The Regional Educator arranged for several outlets for Operation Respect memberships in the region through chambers of commerce and sporting goods dealers. Seven Operation Respect billboards were erected to promote the program. The annual posting sign route was run in the pheasant hunting areas of the region and more hunting by permission signs were noted.

Assistance was provided the Game, Fisheries and Conservation Enforcement divisions when needed on checking stations, patrols, big game studies and rough fish eradication.

Western and McCall Regions

1969 completed the first full operational year for the Regional Conservation Educator in the Western and McCall regions. During the year emphasis was placed on educating the youth in conservation and environmental principles.

Over 5,400 students from grades one through twelve were instructed by the regional educator. The most successful program dealt with animals and their relationship to their environment, which fit very well into the 4th through 6th grade science units.

Participation was given on three outdoor classroom tours in which 2,900 students were involved. These tours are manned by resource agency and private industry people.

More than 3,000 7th grade students in 28 public and private schools received hunter safety training in the two regions with the cooperation of district conservation officers and some private organizations. In addition, over 200 officers and men at Mountain Home Air Force Base along with about 60 scouts received gun safety instruction.

Fifty-two, five-minute TV presentations were taped for a Boise station covering a variety of subject matter for outdoor enthusiasts. Color movie footage was used extensively on these programs.

An effort has been made to maintain close liaison with newspapers and radio stations throughout the regions. Twenty-six weekly radio programs were prepared for the McCall radio station.

Time was devoted to promoting the Operation Respect program to improve landholder-sportsman relations. Public meetings, newspapers, radio and

TV, as well as county fair exhibits were all opportunities to publicize the program. The 1969 farmland posting trend count routes showed a small decline in the number of postings against hunting and trespassing compared to 1968.

The display building at the Western Idaho Fair was moved to a new location at the fair board's direction and attendance was down probably due to the less familiar new location. Materials were provided conservation officers for fair exhibits at county fairs at Cascade, Cambridge, Payette and Homedale. The regional educator participated in preparation and tending the wildlife exhibit area at the National Boy Scout Jamboree at Farragut State Park.

Colored slide presentations is one of the most effective methods for giving information to the public. Nearly all field personnel obtain pictures on a regular basis for an adequate selection of slides for programs. Regional and headquarters office personnel present many programs in the course of a year to such an extent that it is difficult to enumerate the contacts made.

The Regional Educator continued to serve as committee chairman for the department sponsored Explorer Scout Post. This very successful scout program has resulted in one member receiving the prestigious National Exploration Award presented jointly by the Exploring Division of the Boy Scouts of America and the Explorers' Club of New York.

Considerable cooperation was extended to department co-workers as well as other state and federal agencies. In cooperation with the State Highway Department "Sportsman Access" signs have been designed and erected along highway right-of-way in compliance with state and federal regulations.

Assistance was provided all other divisions during the year in all field activities when practicable.

Magic Valley and Salmon Regions

The information and education activities in Magic Valley and Salmon Regions encompassed many phases during the past year. Programs presented totaled 183 for the year to 5,870 youth and 1,527 adults. These were mainly slide talks given to civic and sportsmen groups and to students in school classes.

In addition, there were 149 films loaned out to groups for showing when a personal presentation could not be given. Other Fish and Game Depart-

ment personnel made many presentations to groups besides those by the Regional Conservation Educator.

Firearm safety instruction was given to every school in the two regions during the 1969 school year. There were 2,876 students in the 12-year age class given this training.

Radio and television is a very important part of the public relations effort in these regions. Ninety-one television and 92 radio programs were prepared and presented during 1969. These were on KMVT TV, Twin Falls, Channel No. 11 on the Thursday and Saturday night news. Each program was about five minutes in length. Radio programs were of three types; a five minute program each Friday night . . . on Twin Falls, KTFI 5:30 news . . . also a thirty-second spot is taped and used several times during the week. Once a month a one-hour "call-in" radio program is presented over KLIX radio.

Other news coverage is presented to local newspapers and by giving stories to news editors. Twenty-six special news releases were prepared. The Regional Educator worked with other personnel on many other news releases during the year.

In August and September exhibits are prepared for County Fairs at Jerome, Burley, Gooding and Twin Falls. Cooperation with local fish and game clubs and other regional personnel made these a big success.

A locally sponsored Fish and Game Explorer Post at Twin Falls is very active with the able leadership of Bob Autenrieth, Game Biologist and assisted by many personnel in this region.

The Regional Conservation Educator attended 78 meetings during the year and participated in many activities of the other divisions taking movies, color slides, and black and white photographs for use in his work.

Eastern and Upper Snake River Regions

Interest in the activities of the Department was high during the last year as indicated by the number of requests for programs from various civic, sportsmen, and other interested groups throughout Eastern Idaho. There were 219 programs presented to 1,267 adults and 1,575 youths in the Upper Snake River and Eastern regions by the Regional I&E man. Many additional programs were presented to a like number of adults by other department personnel, who assisted greatly in the over-all information and education effort for last year.

Firearm safety instruction was given to 4,972 youths in all of Eastern Idaho during 1969. District conservation officers presented most of the instruction for 2,470 students in the Upper Snake River Region and 2,502 students in the Eastern Region. I&E men assisted in some of these classes by arranging for and shuffling the equipment, slides, projectors, movies, etc., back and forth from one class to the other.

The Regional Conservation Educator presented five weekly programs over the two television stations – KID TV and KIFI TV – in Idaho Falls. A total of 153 programs were presented with a portion of these shown twice, resulting in 249 television programs for 1969. The programs consisted of weekly appearances on the sports edition of the news and on "Spotlight", Thursday and Friday morning. During the 1969 fishing season, an additional half hour program was presented on the subject of fishing. Occasional half-hour programs were also presented on controversial subjects such as winter range problems, harvest data, etc.

A weekly program was started in September for KRXX radio in Rexburg and at the beginning of the hunting season, three-to-five-minute radio programs were presented over KUPI radio in Idaho Falls and KRXX. In addition to the regular radio, television, and newspaper articles, there were 14 news releases presented to the various news media throughout Eastern Idaho and also the Logan, Utah, paper. Representatives from news media throughout Eastern Idaho were taken on various show-me trips, thus providing them with special news features and giving Fish and Game personnel a chance to acquaint them with programs and activities of the Department.

The Regional Conservation Educator and other Department personnel were unable to handle many of the requests for talks on Fish and Game

activities during the year. To supplement program requests, 396 films in the Idaho Falls and Pocatello offices were loaned out to various groups, an increase of 110 over last year. An even greater number of films were sent to Eastern Idaho by the Boise office.

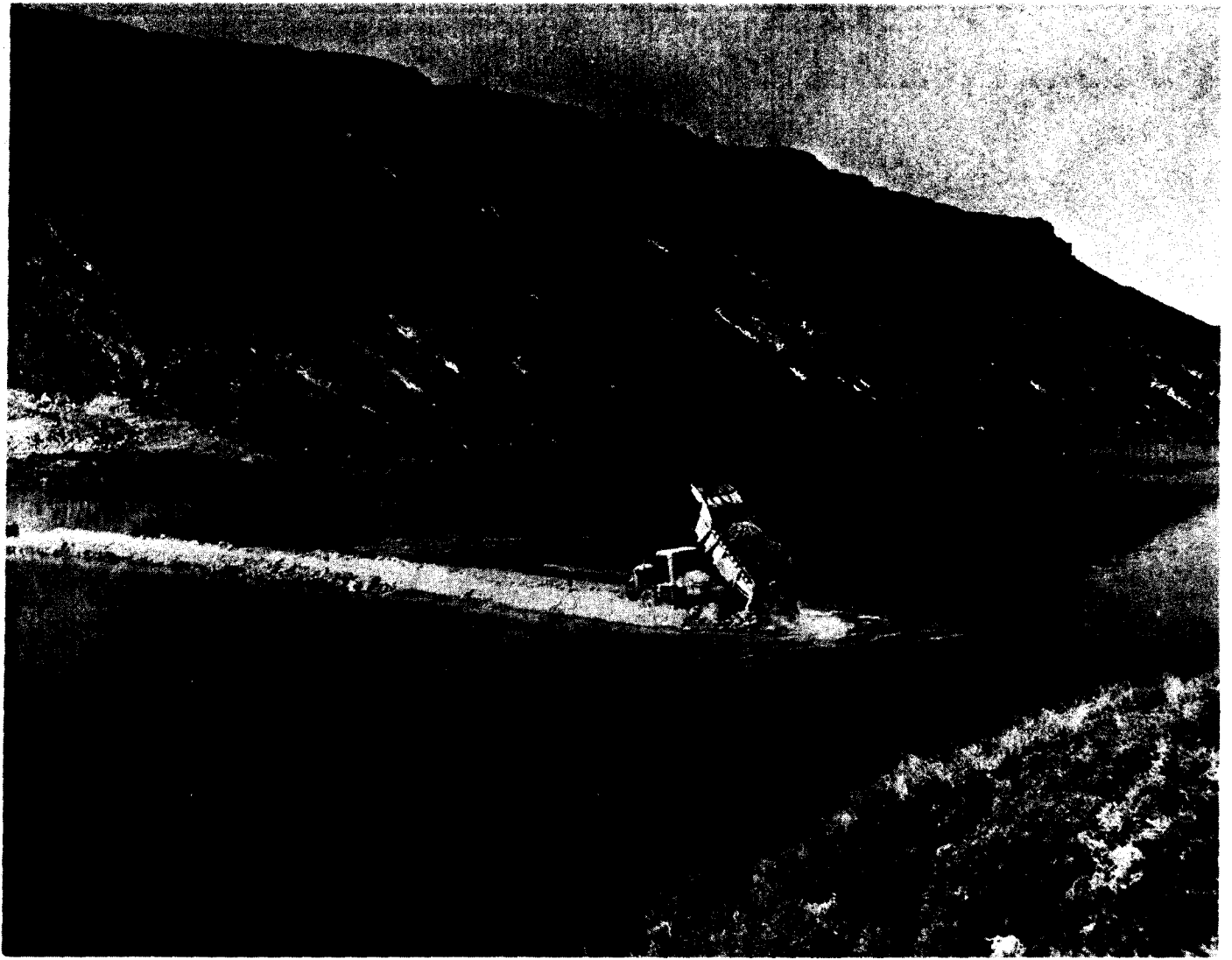
One special highlight of the year was receiving the grand prize award at the Eastern Idaho State Fair for the Idaho Fish and Game Department exhibit. The exhibit consisted of a display of live fish, mounted birds, and told of the effects on habitat destruction in the State of Idaho.

The Regional Educator assisted in promoting landholder-sportsman relations in the statewide program – Operation Respect. News media in Eastern Idaho were contacted about the program. They were willing to sponsor Operation Respect in their areas and give it as much coverage as possible.

During the year, the Idaho Falls Jay-Cees presented a gun safety program to all interested individuals. The Regional Educator gave pointers, furnished the gun safety slide series, handouts, and display material for the instructors prior to their programs.

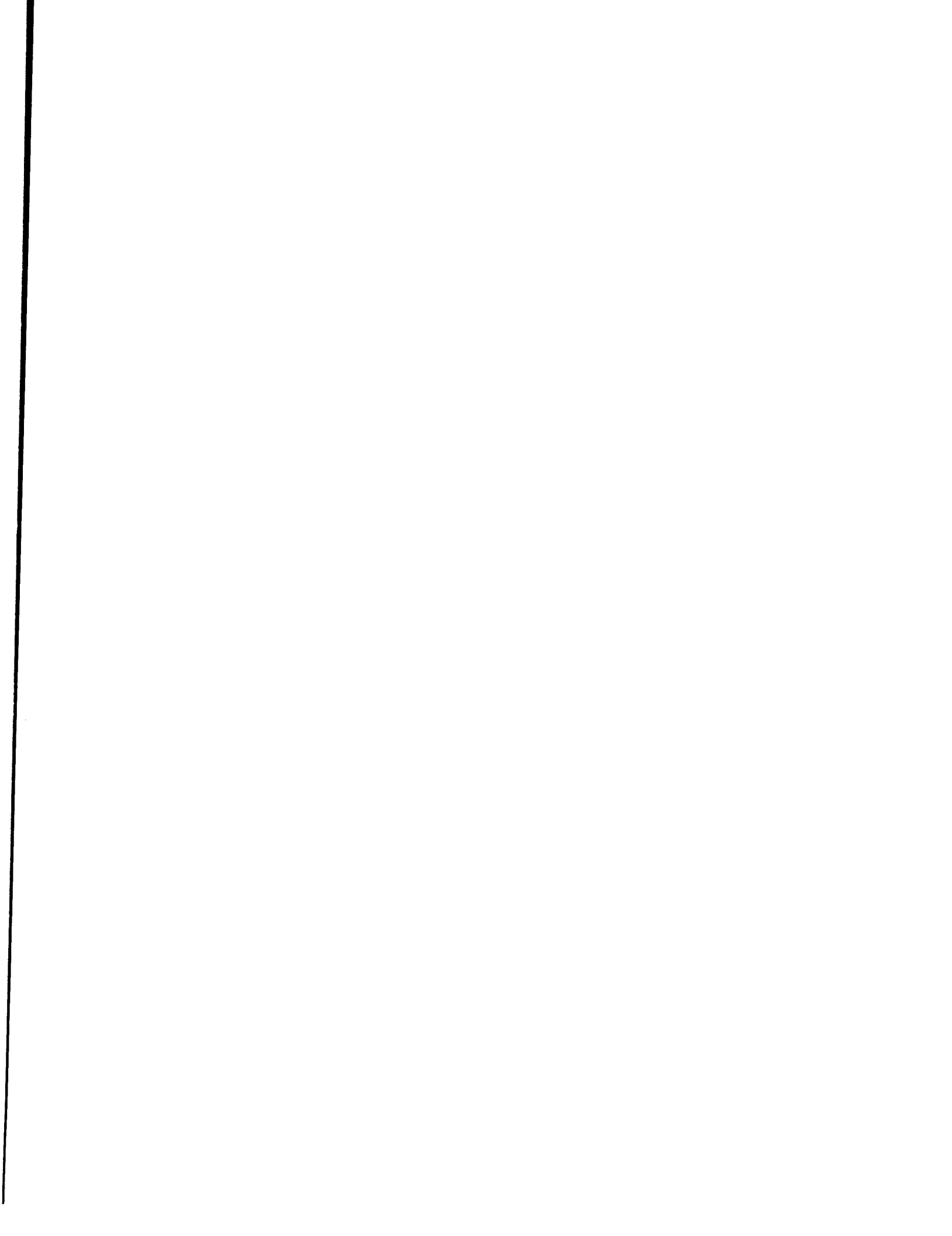
Two sponsored Fish and Game Explorer Specialty Posts are still chartered and active in Eastern Idaho. The programs given to the explorer boys consist of an hour of instruction on fish and wildlife management by department employees. The Explorers participated in many Fish and Game activities and helped on some assignments such as checking stations, game tagging operations, fish planting or salvage and range improvement.

The Regional Educator also cooperated with other department divisions. This included tagging game, eradicating streams, checking stations, game counts, law enforcement, and various other activities performed by the department.



Business

Administration



BUSINESS ADMINISTRATION

WILDLIFE FINANCING

The Business Administration Division has two basic responsibilities.

First: Providing administrative services such as printing, supplies, headquarters housekeeping, etc. With the exception of the printing shop, the services were routine throughout the year. Printing services, however, came under study by the Department of Administrative Services, Division of Management Services, to determine whether or not our work should be done at the new State central printing shop. It was agreed to leave the Department's printing capability in house for this year.

Second: Providing fiscal control for revenue and Department expenditures. Attached are fiscal statements set forth to give the Department's fiscal position for the year 1968-69. This year's statements have not been audited by the Bureau of Public Accounts, but during the reporting year, we did receive favorable audits for the years 1966-67 and 1967-68. All of our receipts and disbursements were accounted for and reconciled to the State Auditor's records. In addition, the Bureau of Fish and Wildlife closed its audit on contracts held with the Department through June 30, 1968.

A major activity of the Business Administration personnel during the fiscal year does not show up in the financial statements, but meetings, decisions, cooperative studies, etc., which took increasing amounts of time will have a tremendous influence on the future policies and procedures of the Department. Of high priority among these activities was the Department's statement to the joint Finance Committee meeting on the proposed statewide central computer system. The Department was in harmony with a system which will provide for a communicating terminal for the Fish and Game Department.

A close liaison was maintained with the other Department, State and Federal agencies and in particular the Department of Administrative Services, Division of Management Services. We participated in cooperative efforts to implement a new statewide automated payroll system. We also cooperated in a new automated central property inventory system (CPIS). A new statewide gas credit card procedure was implemented throughout the Department; and, hopefully, in the future, this will become fully automated. Representatives of

the Department met often with personnel of the consulting accounting firm, Ernst & Ernst and Management Services, to study data processing proposals, hardware configurations and systems for the State's data processing center.

Planning meetings were held with the Federal agencies to design an entirely new concept for fish and wildlife agencies in order to obtain the rapid retrieval of automated information on land holdings, real estate improvements, etc. None of the new systems or procedures were concluded during the reporting year, but we believe that we will see improved techniques for more automated administration in the near future.

CONSTRUCTION AND MAINTENANCE

The following projects summarize the activities of the Construction Section during the Fiscal Year July 1, 1968 through December 31, 1969.

This 18-month report closes the record of construction under Ivol Sies, construction supervisor, now retired.

Capital Improvements — Hatchery

Hayspur Hatchery — Drilled 2 16" artesian wells and installed conductor pipes from the wells to the raceways, and replaced a section of old-time pipeline with new pipe and valves.

Installed water aerator pumps on raceways on an experimental basis and removed same after the experiment.

Hagerman Hatchery — Seal-coated all asphalt surfaced roads on the hatchery grounds and installed several rotary screens in the raceways on an experimental basis.

American Falls Hatchery — Constructed a public rest room building with disposal field and placed an asphalt surface on a public parking area on the hatchery grounds.

Eagle Hatchery — Installed an underground sprinkling system in all lawn areas and installed a trailer house with sewage disposal system and access road on the compound.

Ashton Hatchery — Installed automatic electric fish feeders on a part of the new raceway system.

McCall Hatchery — Reconstructed and converted the cold storage building to a combination office,

one-room apartment and public rest room building and installed sewer lines and sewage lift pump and connected all to the McCall sewer system.

Mackay Hatchery — Demolished the old frame hatchery building and concrete vats which were previously replaced by new work.

Capital Improvements — Fish Management

Bureau of Commercial Fisheries, Dingell-Johnson, and Columbia River fisheries Projects:

Hayden Creek — Reconstructed a deteriorated wooden bridge across Hayden Creek on the entrance road to the ponds; insulated and added inside lining to the steel hatchery building; installed water pump areators in the spring branch of the water supply system on an experimental basis and removed them after experimentation; placed additional electric automatic feeders on the rearing ponds; installed all feeder wiring underground; graded roadways and placed crushed gravel surfacing upon them and drew up plans for the addition of a storage building and related work.

Pahsimeroi Ponds — Installed automatic electric feeders on the ponds with underground electrical circuits, installed a portable refrigeration system, and added overhead sprinklers to the salmon adult holding ponds.

Decker Flat — Installed additional automatic electric feeders on the salmon rearing pond.

Capital Improvements — Game Management

Pittman-Robertson and Dingell-Johnson combined projects:

Market Lake Wildlife Management Area — Constructed a drain ditch between the farm land and adjacent diked impoundments, and constructed 9,000 lineal feet of dikes for water impoundment.

Snake River Wildlife Management Area — C. J. Strike Segment — Constructed 2,400 lineal feet of concrete lined irrigation ditch.

Fort Boise Wildlife Management Area — Constructed 4,800 lineal feet of concrete lined irrigation ditch. Constructed approximately one mile of low dike for water impoundment.

Constructed 24' x 48' combination steel and wood equipment storage building on Gold Island.

Constructed 10' x 12' portable steel grain storage building at the headquarters site.

Boise River Wildlife Management Area — Constructed 24' x 64' combination steel and wood equipment storage building.

Constructed 12' x 16' portable steel grain storage building.

Capital Improvements — Game Management — Pittman-Robertson

North Lake Wildlife Management Area — Drilled a 460' deep domestic well and installed submersible pump at the secondary headquarters site.

Sand Creek Wildlife Management Area — Constructed a dwelling 26' x 44' with attached garage and full basement.

Drilled domestic well and installed submersible pump.

Constructed 24' x 104' steel and wood combination office, shop, and equipment storage building.

Installed underground gasoline and diesel fuel storage tanks with electric fuel pump.

Capital Improvements — General

Coeur d'Alene Regional Office — Constructed 24' x 112' steel and wood combination 7-stall equipment storage building.

Lewiston Regional Office — Installed curbing around all lawn adjacent to the office building.

Salmon Regional Office — Constructed a 1,167 square foot addition to the office building. Constructed sidewalks and curbing and moved ditch road crossing.

Ada County Fairgrounds Display Building — Moved the I&E fairgrounds display building to a new location and reconstructed the building at the new site.

Yellow Pine Conservation Officer's Headquarters — Constructed a 10' x 12' portable steel storage building.

Salmon Shop — Fabricated 500 deer and elk depredation panels and two trailer type bear traps and four mountain sheep transportation boxes.

Elk River Dam — Completed plans and estimates for the addition of steel gates in place of wood stop logs on the spillway together with a drain tube and gate.

Grays Lake Outlet Dam — Conducted preliminary surveys and feasibility studies of a proposed small dam on the Grays Lake Outlet.

Wildhorse Dam — Conducted further extensive feasibility studies for a proposed dam on Wildhorse Creek near Fairfield.

Maintenance Projects — General

Hayspur Hatchery — Rewire garage building.

Sandpoint Hatchery — Repair concrete sidewalks steps and landings.

Clarks Fork Hatchery — Replace 300' of 12" wood water line with 12" steel and repair and replace corroded domestic water lines.

Placed a concrete foundation under a trailer house dwelling and repaired the floor of same.

Ashton Hatchery — Rewiring in superintendent's dwelling and replace the furnace.

Kamiah Redistribution Station — Renewed the roof covering on the station dwelling.

Jerome Game Farm — Rewired the old frame broder house buildings.

Fort Boise W.M.A. — Repaired the ferry boat which provides access to Gold Island in the Snake River.

Warm River Hatchery — Replaced a wooden public latrine that was destroyed by a wind storm.

Grace Hatchery — Repaired drain lines and sewage disposal fields, domestic water supply lines and cattle guards and graded and graveled surfaced interior roadways.

Stanley C.O. Dwelling — Installed drain lines to drain subsurface water away from the sewage drain field.

Market Lake W.M.A. — Rewired a part of the manager's residence.

Twin Falls Hatchery — Placed a concrete cover and walkway over the pond head flume.

C. J. Strike W.M.A. — Graded and graveled a part of the interior roads.

Mackay Hatchery — Finished a basement room in two dwellings and maintained kitchen cabinets in same.

Fish Screens — Maintained and operated 222 fish screens previously installed on the Salmon River Drainage system upstream from Salmon City.

Fish Weirs and Traps — Maintained Lemhi fish traps and weirs, Little Big Springs counting weir and Decker pond screens.

Hagerman Segment of Snake River W.M.A. — Replaced coal-fired furnace in the refuge manager's dwelling with a new oil-fired furnace.

Silver Creek Access Road — Replaced stringers and deck on a main public access road bridge to Silver Creek Camp Ground.

Mackay Access Bank Protection — Constructed a number of deflectors along the river bank for bank protection during high river flows.

Painting Statewide

McCall Hatchery	outside all buildings
Ashton Hatchery	outside all buildings
Sandpoint Hatchery	outside all buildings
Clarks Fork Hatchery	outside all buildings
American Falls Hatchery	outside all buildings
Hagerman Hatchery	outside all buildings
Hagerman Refuge	outside all buildings
Grace Hatchery	outside all buildings
Mackay Hatchery	outside all buildings
Twin Falls Hatchery	outside all buildings
Powell C.O. Station	dwelling outside
North Fork C.O. Station	dwelling outside
Garden Valley C.O. Station	outside all buildings
Kamiah Distribution Station	dwelling outside
Red River Patrol Cabin	outside of cabin
Colson Creek Patrol Cabin	outside of cabin
Market Lake W.M.A.	dwelling outside
Public Access Areas	a number of latrines

**DEPARTMENT INVENTORY
June 30, 1969**

The 1969 Inventory is not listed this year because of conversion problems between the Department's automated system and the new statewide central property inventory automated system.

LAND TRANSACTIONS

During the fiscal year of 1968-69 the following land segments were added to the Department's Wildlife Management Areas. Their addition has better enabled the Department to administer the lands for maximum wildlife production and harvest.

The acquired lands are located as follows:

LEMHI COUNTY — Mr. T. L. McFarland granted a perpetual easement to the Department providing for pedestrian travel along the shore line of the Lemhi River for a distance of one mile. The easement involving 16.80 acres of land was granted to the Department as a gift.

ADA and ELMORE COUNTIES – At a cost of \$125,225 the Department purchased 2,528.88 acres of land in Ada County and 480 acres in Elmore County for addition to its Boise River Elk and Deer Winter Range. The purchase also provided for the assignment of a grazing lease held on a section of State Grant Lands located in the area.

JEFFERSON COUNTY – To provide for more efficient operation of the Department's Market Lake Wildlife Management Area 7.0 shares of the Capital Stock of the Butte and Market Lake Canal Company was acquired at a cost of \$2,961.

At a cost of \$21,300 240 acres of land was acquired from the estate of Glen Sparks for addition to the Department's North Lake Wildlife Management Area. This management area has been most successful in the production of wildlife and in providing a site for the harvest of wildlife resources.

FREMONT COUNTY – To consolidate a portion of the Department's Sand Creek Wildlife Management Area, an exchange of land was arranged with Emma Baker and her heirs. The lands exchanged comprised 520 acres of Department lands for 520 acres of land held by Emma Baker.

SURPLUS LANDS

BLAINE COUNTY – From lands previously acquired to provide the public means of access to Silver Creek, the Department declared a segment of irrigated farm land to be surplus to its needs. The site of 71.15 acres was sold by the Land Department at public sale for the consideration of \$14,738.

LEWIS COUNTY – On behalf of the Department 320.05 acres of land located in Little Canyon was sold by the Land Department at public sale for the consideration of \$8,191.

PUBLIC ACCESS AREAS DEVELOPED

The following access areas (not located within Fish and Game Department Wildlife Management Areas) were improved for convenient public use.

Name of Site	County	Toilets	Litter Barrels	Road Construction	Graveled Parking	Concrete Ramp	Signs	Fence	Maintenance Agreement	Other and Remarks
Willow Creek	Bingham			X			X			Gates
Magic Reservoir (Magic City)	Blaine	P	P	P	P					Cover garbage dump
Wood River	Blaine	X	X	X	X					
Conant Valley	Bonneville	X	X	X	X	X	X	X		BLM and County Cooperating
Irwin	Bonneville	X	X	X	X	X	X	X		Rock jetty – BLM and County cooperating
Moyie River	Boundary			X	X					
Mormon Reservoir	Camas	X	X	X	X		X	X	*	Trailer park
Willow Creek	Cassia						X			
Wilson Lake	Jerome	X							*	
Scott Access	Jerome			P						Road repair
Rainey Hill Bridge	Kootenai			Bridge					*	Fund \$1,000 contribution
Corn Creek	Lemhi					X				Reinforcing steel and contribution \$100
Lemhi River (Mahffey)	Lemhi	P	P	P				P	*	Land survey only 1969
Snake Arm (C. J. Strike)	Owyhee	X	X							County cooperating
Grasmere	Owyhee	X							*	BLM cooperating
Snake River Access	Owyhee									½ cost of cattleguard \$180
Pipeline	Power	P	P	P	P	P	P	X		
Brownlee Road Imp.	Washington			X					*	\$500 contribution
Hayden Lake Ramp Ext.	Kootenai					X				Ramp Extension
24 Mile Reservoir	Caribou	X	X	X						Bannock County
Alexander Reservoir	Caribou	X		X	X					Cooperating – Bannock County
Grays Lake	Bonneville			X 2 mile						
Snake River	Nez Perce	X								County cooperating
Cedar Draw	Twin Falls	X								Repair sanitary facility
Magic City Reservoir	Blaine									Bury litter
Big Lost River	Camas									Rock jetty bank protection

X Developed 1969.
P Previously developed by Fish and Game Department.

BUREAU OF COMMERCIAL FISHERIES

During the Fiscal Year July 1, 1968 to June 30, 1969 the Bureau of Commercial Fisheries of the U.S. Fish and Wildlife Service participated in Department projects with matching funds for accrued expenditures as follows:

	Federal	State	Total
BCF-10-04 Construction at Hayden Creek	\$ 2,604.34	\$ 868.11	\$ 3,472.45
BCF-11-04 Experimental Rearing of Steelhead Chinook at Hayden Creek Ponds	9,675.61	3,225.20	12,900.81
Totals	\$12,279.95	\$ 4,093.31	\$16,376.26

COLUMBIA RIVER FISHERY DEVELOPMENT PROGRAM

During the Fiscal Year July 1, 1968 to June 30, 1969 the Bureau of Commercial Fisheries of the U.S. Fish and Wildlife Service participated in Department projects on the Columbia Fisheries Program with 100% reimbursement of the following accrued expenditures:

Project	Name of Project	Total
CRP-43	Screen Operation and Maintenance	\$50,732.32
CRP-44	Operation and Maintenance, Dagger and Selway Falls	4,777.52
CRP-45	Fish Counting – Lewiston Dam	5,000.00
	Total Operation and Maintenance	\$60,509.84
Operational Studies		
CRP-OS-1-17	Spring Chinook Reintroduction	\$17,400.52
CRP-OS-2-17	Steelhead Reintroduction	2,483.55
CRP-OS-3-17	Fall Chinook Reintroductions	277.11
CRP-OS-4-17	Coho Reintroduction	2,729.25
	Total Operational Studies	\$22,890.43
Program Total		\$83,400.27

IDAHO POWER COMPANY

The Idaho Power Company reimbursed the Department 100% for these accrued expenditures during the Fiscal Year July 1, 1968 to June 30, 1969 as partial compensation for fish losses:

IPC-11-03	Oxbow Salmon Hatchery	\$ 14,075.51
IPC-13-03	Rapid River Hatchery	37,206.09
IPC-17-03	Rapid River Evaluation	2,288.12
IPC-22-03	Niagara Springs Hatchery	49,467.97
IPC-25-03	Pahsimeroi Release Ponds	1,559.93
IPC-26-03	Niagara Springs Evaluation Study	4,665.91
IPC-28-01	Pahsimeroi Trap	4,842.01
	Total Reimbursable Projects	\$114,105.54

LAND AND WATER CONSERVATION ACT

During the fiscal year 1968-69, Bureau of Outdoor Recreation Projects Lake Reservoir and Stream Access – No. 11-00017 and Statewide Game Range No. 11-00018 were active; however, no expenditures were made. Land, reservoir and access purchases were made with other Department funds.



DETAIL OF CASH RECEIPTS – FISH AND GAME FUND

Fiscal Year Ending June 30, 1969

Type of License	Number To Date	Fiscal Year To Date
01 Resident Hunting and Fishing	113,593	\$ 647,480.50
02 Resident Hunting	69,789	198,898.65
03 Resident Fishing	78,099	296,776.20
07 Salmon-Steelhead Cards	50,567	
10 Nonresident Hunting and Fishing	11,773	1,118,435.00
11 Nonresident Bird	5,052	119,985.00
12 Nonresident Season Fish	13,622	194,113.50
13 Nonresident 7-day Fish	33,715	160,146.25
14 Tourist First-day Fish	67,508	128,265.20
15 Tourist Additional 1-day Fish	43,136	40,979.20
16 Nonresident Nongame	1,173	5,571.75
17 Nonresident Deer-Bear	3,580	85,025.00
20 Shipping Permits	551	220.40
21 Deer Tags	132,197	251,174.30
22 Elk Tags	68,638	195,618.30
23 Extra Deer Tags	16,247	30,869.30
27 Nonresident Restricted Deer Tags	3,274	6,220.60
28 Beaver Tags	6,185	2,937.94
29 Commission Saved		5,116.15
30 Resident Trapper	657	3,285.00
31 Commercial Fish	111	1,110.00
34 Resident Fur Buyer	19	95.00
35 Taxidermist	41	410.00
36 Private Pond Permit	33	330.00
37 Game Bird Farm Permit	12	120.00
40 Nonresident Trapper	8	600.00
41 Nonresident Fur Buyer	5	100.00
42 Duplicate Licenses	2,895	2,895.00
50 Deer Permits	465	1,395.00
51 Elk Permits	2,949	14,745.00
52 Moose Permits	83	2,075.00
53 Moose Tags	83	830.00
54 Sheep Permits	3	75.00
55 Sheep Tags	602	6,020.00
56 Goat Permits	304	1,520.00
57 Goat Tags	323	3,230.00
58 Antelope Permits	1,786	5,358.00
59 Antelope Tags	1,843	9,215.00
60 Turkey Tags	121	605.00
98 Erroneous License Sales		148.85
99 R.A.M. (Insuff. Checks)		(45.45)
Total Licenses and Permits	69,687	731,042
Rentals		\$ 28,148.22
Fines and Confiscations		21,618.58
Miscellaneous Sales		5,312.77
Sale of Capital Assets		9,059.79
Insurance Adjustments		2,000.00
Refunds		46,815.97
Sales Tax		(121.11)
Total Receipts Fund No. 6		\$3,654,783.86

FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Act of 1937 provides that the Federal Government will finance 75 percent of approved wildlife projects, from funds collected from an 11 percent excise tax on sporting arms and ammunition. Approvable projects encompass coordination, land acquisition, land development, and investigations and surveys.

During the fiscal year July 1, 1968 to June 30, 1969, Idaho received allocations of Federal Funds totaling \$579,372.65.

Projects approved by the Idaho Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife during the fiscal year are itemized as follows. Funds to finance these projects were obligated as available.

FEDERAL AID IN WILDLIFE RESTORATION PROJECTS APPROVED*

During Fiscal Year July 1, 1968 to June 30, 1969

Project No.	Name of Project	Estimated Costs		
		Federal	State	Total
FW 40-C-29	Fish and Wildlife Management Coordination	\$ 13,140.00	\$ 4,380.00	\$ 17,520.00
Development Projects				
W 2-D-18	Snake River Wildlife Management Area	32,737.50	10,912.50	43,650.00
W 55-D-22	North Lake Wildlife Management Area	27,300.00	9,100.00	36,400.00
W 64-D-19	Boise River Wildlife Management Area	26,925.00	8,975.00	35,900.00
W 75-D-17	Trapping, Tagging and Transplanting	15,607.50	5,202.50	20,810.00
W 80-D-22	Wildlife Land Management	55,425.00	18,475.00	73,900.00
W 89-D-20	Sand Creek Wildlife Management Area	35,325.00	11,775.00	47,100.00
W 116-D-13	Market Lake Wildlife Management Area	43,650.00	14,550.00	58,200.00
W 123-D-11	Snow Removal	2,925.00	975.00	3,900.00
W 124-D-11	Fort Boise Wildlife Management Area	34,275.00	11,425.00	45,700.00
W 135-D-6	Panhandle Wildlife Management Area	25,725.00	8,575.00	34,300.00
W 136-D-5	Fire Protection	1,050.00	350.00	1,400.00
W 137-D-2	Clearwater Wildlife Management Area	14,100.00	4,700.00	18,800.00
W 137-D-3	Clearwater Wildlife Management Area (Fence Segment)	2,250.00	750.00	3,000.00
	Total Development	\$317,295.00	\$105,765.00	\$423,060.00
Research Projects				
W 85-R-21	Big Game Harvest	\$ 4,870.50	\$ 1,623.50	\$ 6,494.00
W 111-R-17	Rehabilitation and Management of Winter Deer Ranges	9,750.00	3,250.00	13,000.00
W 138-R-2	Big Game Census and Check Stations	41,104.50	13,701.50	54,806.00
W 139-R-1	Elk Ecology	30,187.50	10,062.50	40,250.00
W 140-R-1	Mule Deer Ecology	10,989.00	3,663.00	14,652.00
W 141-R-1	Big Game Range Investigations	13,524.75	4,508.25	18,033.00
W 142-R-1	Bighorn Sheep Ecology	16,572.00	5,524.00	22,096.00
W 143-R-1	Moose Ecology	10,997.25	3,665.75	14,663.00
W 144-R-1	Rocky Mountain Goat Ecology	9,336.75	3,112.25	12,449.00
	Total Research	\$147,332.25	\$ 49,110.75	\$196,443.00
Land Projects				
W 24-L-12	North Lake Wildlife Management Area Water Shares	\$ 9,750.00	\$ 3,250.00	\$ 13,000.00
W 71-L-4	Sand Creek Wildlife Management Area Land Exchange	375.00	125.00	500.00
W 145-L-1	Killarney Lake (Diamond International Segment)	9,450.00	3,150.00	12,600.00
W 145-L-2	Killarney Lake (Bolich Segment)	2,212.50	737.50	2,950.00
	Total Lands	\$ 21,787.50	\$ 7,262.50	\$ 29,050.00

*Projects approved by the Idaho Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife during the Fiscal Year 1969; funds were obligated as available.

FEDERAL AID IN WILDLIFE RESTORATION PROJECTS APPROVED
SUMMARY OF APPROVED PROJECTS

Classification	Federal	State	Total	Percent of Total
Coordination	\$ 13,140.00	\$ 4,380.00	\$ 17,520.00	2.00%
Development	317,295.00	105,765.00	423,060.00	64.00%
Research	147,332.25	49,110.75	196,443.00	30.00%
Land	21,787.50	7,262.50	29,050.00	4.00%
Totals	\$499,554.75	\$166,518.25	\$666,073.00	100.00%

FEDERAL AID IN FISH RESTORATION PROJECTS

The Federal Aid in Fish Restoration Act of 1950 provides that the Federal Government will finance 75 percent of approved fish restoration and management projects from funds collected from a 10 percent excise tax on fishing rods, creels, reels, artificial lures, baits and flies. Approvable projects encompass coordination, land acquisition, land development and investigations and surveys.

During the Fiscal Year July 1, 1968 to June 30, 1969, Idaho received allocations of Federal funds totaling \$149,024.61.

Projects approved by the Idaho Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife during the fiscal year are itemized as follows. Funds to finance the projects were obligated as available.

FEDERAL AID IN FISH RESTORATION PROJECTS APPROVED*
During Fiscal Year July 1, 1968 to June 30, 1969

Project No.	Name of Project	Estimated Costs		
		Federal	State	Total
FW 40-C-29	Fish and Wildlife Management Coordination	\$ 3,285.00	\$ 1,095.00	\$ 4,380.00
Development Projects				
F 54-D-2	Horsethief Lake	\$ 16,350.00	\$ 5,450.00	\$ 21,800.00
F 57-D-1	Cove Arm Reservoir	43,650.00	14,550.00	58,200.00
	Total Development	\$ 60,000.00	\$ 20,000.00	\$ 80,000.00
Research Projects				
F 18-R-16	Statewide Fishing Harvest Survey	\$ 7,425.00	\$ 2,475.00	\$ 9,900.00
F 32-R-12	Tests for Increasing the Returns of Hatchery Trout	15,075.00	5,025.00	20,100.00
F 49-R-8	Salmon and Steelhead Investigations	37,087.50	12,362.50	49,450.00
F 53-R-5	Lake and Reservoir Investigations	43,125.00	14,375.00	57,500.00
F 56-R-2	Middle Fork Salmon River Cutthroat Trout Investigations . . .	15,225.00	5,075.00	20,300.00
F 58-R-1	Long Range Planning for Salmon and Steelhead	6,000.00	2,000.00	8,000.00
F 59-R-1	Evaluation of Catch-and-Release Regulations on Cutthroat Trout in North Fork Clearwater River	5,190.00	1,730.00	6,920.00
F 60-R-1	St. Joe River Cutthroat Trout and Northern Squawfish Studies	14,400.00	4,800.00	19,200.00
	Total Research	\$143,527.50	\$ 47,842.50	\$191,370.00

*Projects approved by the Idaho Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife during the fiscal year 1969; funds obligated as available.

SUMMARY OF APPROVED PROJECTS

Classification	Federal	State	Total	Percent of Total
Coordination	\$ 3,285.00	\$ 1,095.00	\$ 4,380.00	1.59%
Development	60,000.00	20,000.00	80,000.00	29.01%
Research	143,527.50	47,842.50	191,370.00	69.40%
Totals	\$206,812.50	\$ 68,937.50	\$275,750.00	100.00%

TABULATION OF RESIDENT LICENSE SALES – 1960-1969

	Resident Fish & Game	Resident Game	Resident Fish		Deer Tags	Elk Tags	Moose Tags	Sheep Tags	Goat Tags	Antelope Tags	Turkey Tags	Senior Resident			Duplicate Licenses	
												Permits	Deer Tags	Elk Tags		Shipping Permits
1960	100,924	65,609	65,561	Reg. Deer	123,460	56,324		417	188	82					937	
				Ext. Deer	5,900											
				M.F. Deer	3,841											
				H.C. Deer	2,796											
1961	97,804	66,215	66,248	Reg. Deer	123,646	58,727		555	186	81			2,780	2,485	896	988
				Ext. Deer	7,152											
				M.F. Deer	3,148											
				H.C. Deer	5,695											
1962	100,374	65,442	68,832	Reg. Deer	124,564	62,040		522	176	69			2,795	2,518	912	1,248
				Ext. Deer	11,524											
				M.F. Deer	3,442											
				H.C. Deer	6,388											
				Ant. Deer	1,353											
1963	104,024	60,768	64,099	Reg. Deer	117,554	57,529		552	217	63			3,049	2,734	877	1,894
				Ext. Deer	13,093											
				M.F. Deer	1,837											
1964	100,307	63,288	65,906	Reg. Deer	115,737	56,132		432	206	63			3,068	2,792	912	1,932
				Ext. Deer	14,140											
				M.F. Deer	1,922											
1965	99,820	63,928	68,208	Reg. Deer	114,836	56,216		451	291	68		14,666*	3,187	2,961	717	2,102
				Ext. Deer	14,184											
				M.F. Deer	1,702											
1966	103,149	63,841	73,242	Reg. Deer	119,855	59,300		455	131	81		20,668*	3,167	3,010	638	2,426
				Ext. Deer	18,008											
1967	104,198	65,865	73,903	Reg. Deer	123,202	60,891		517	10	46		18,904*	3,186	2,980	614	2,652
				Ext. Deer	16,411											
1968	109,700	68,789	76,878	Reg. Deer	132,197	68,638		599	19	52	126	16,922*	3,317	3,173	533	2,896
				Ext. Deer	16,247											
1969	116,385	71,296	79,539	Reg. Deer	140,943	75,014	102	7	290	1,901	69	17,526*	3,406	3,253	461	3,049
				Ext. Deer	18,697			585**	23**	81**						

*Senior resident permits are issued for a 5-year term.

**Open.

TABULATION OF NON-RESIDENT LICENSE SALES — 1960-1969

	Non-Res. Big Game	Non-Res. Bird	Non-Res. Fish	5-Day Fish	1st Day Fish	Add. 1-Day Fish	Non-Res. Non-Game	Non-Res. Deer-Bear	Non-Res. Deer Tags
1960	6,725	2,521	13,839	30,466	28,387	10,138			
1961	7,778	2,811	14,036	30,716	30,194	10,731			
1962	8,769	3,288	13,665	32,306	32,705	11,561			
				7-Day Fish					
1963	7,795	3,177	12,517	26,774	46,754	24,320	384	1,179	956
1964	6,968	3,753	10,972	26,322	54,166	33,082	589	1,636	1,224
1965	7,187	4,122	11,687	26,536	60,353	36,616	696	2,192	1,942
1966	8,423	4,425	12,474	29,417	67,774	43,019	752	3,218	2,801
1967	8,745	4,120	12,766	31,084	63,062	39,865	821	3,185	2,931
1968	11,735	5,029	13,554	33,872	67,111	43,239	1,118	3,579	3,274
1969	14,325	6,560	14,409	39,119	77,945	50,564	1,244	4,569	3,951



Idaho Fish and Game Department
STATEMENT OF TOTAL FUND OPERATIONS
 Fiscal Year Ending June 30, 1969

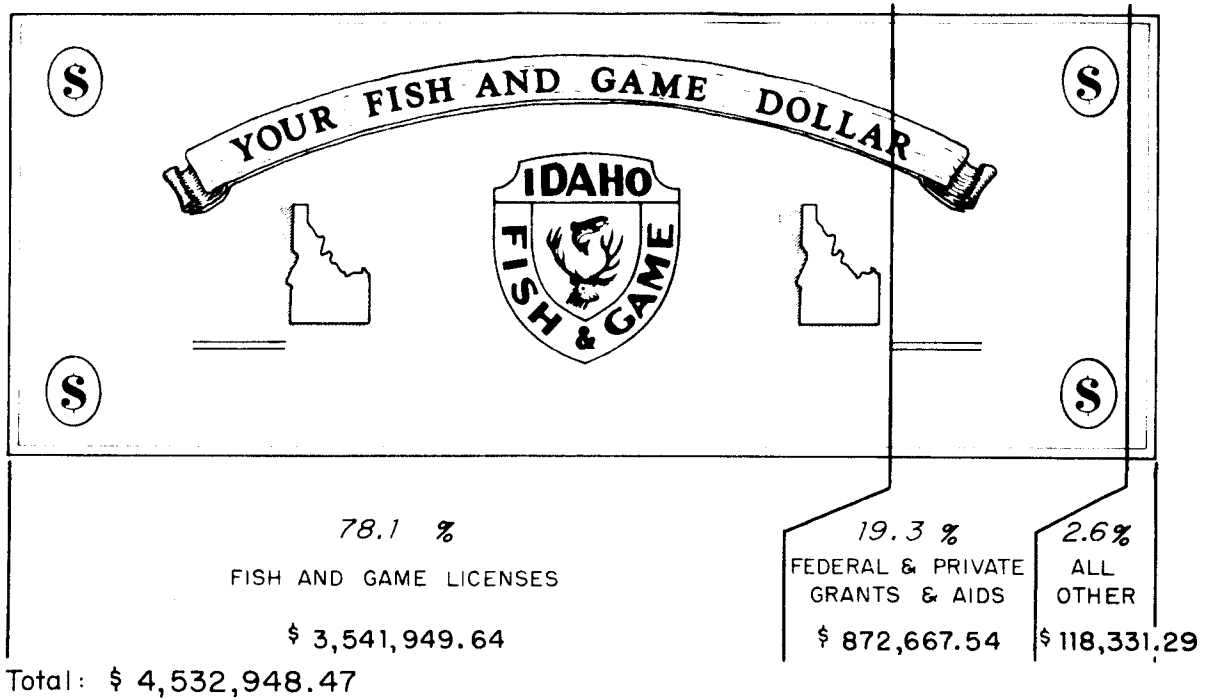
	Fish and Game Section 1	Predator Animal Section 2	Wildlife Restoration Section 3	Fish Restoration Section 4	Columbia River Section 5	Special Study Section 6	Matching Funds Section 7	%	Total
Beginning Balance									\$ 912,617.92
Revenue									
Licenses	\$3,541,949.64							78.1	3,541,949.64
Matching Funds			\$536,839.78	\$121,047.35	\$ 90,148.84	\$113,558.13	\$ 11,073.44	19.3	872,667.54
Other	112,834.22		5,115.06	93.75			288.26	2.6	118,331.29
Total Revenue	\$3,654,783.86		\$541,954.84	\$121,141.10	\$ 90,148.84	\$113,558.13	\$ 11,361.70		\$4,532,948.47
	80.6%		12.0%	2.7%	2.0%	2.5%	.2%	100.0%	
Total Funds Available									\$5,445,566.39
Disbursements									
Salaries and Wages	\$1,666,608.25		\$234,231.84	\$ 71,072.85	\$ 39,304.67	\$ 66,574.92	\$ 6,091.80	52.6	\$2,083,884.33
Travel	71,603.66		6,200.05	3,105.16	4,151.20	1,912.39	33.19	2.2	87,005.65
Other Expense	908,225.21	\$ 24,999.96	218,849.88	91,009.58	36,510.57	65,309.50	9,085.71	34.2	1,353,990.41
Capital Outlay	176,823.04		181,432.11	67,749.08	2,675.32	1,921.94	773.51	10.9	431,374.90
Refunds	887.41							.1	887.41
Total Expense	\$2,824,147.57	\$ 24,999.96	\$640,713.88	\$232,936.67	\$ 82,641.76	\$135,718.65	\$ 15,984.21		\$3,957,142.70
	71.4%	.6%	16.2%	5.9%	2.1%	3.4%	.4%	100.0%	
State Transfers									
Social Security	\$ 87,600.85								\$ 87,600.85
Administrative Charges	22,039.18								22,039.18
Prior Biennial Cancelled Warrants									
Total Disbursements	\$2,933,787.60	\$ 24,999.96	\$640,713.88	\$232,936.67	\$ 82,641.76	\$135,718.65	\$ 15,984.21		\$4,066,782.73
Fund Balance									\$1,378,783.66
Outstanding Orders	\$ 276,851.85		\$ 25,295.36	\$ 40,506.91	\$ 322.62	\$ 5,120.90	\$ 12,950.19		369,047.83
Balance Available for Budgeting									\$1,009,735.83

Comparison of Revenue & Expenditures

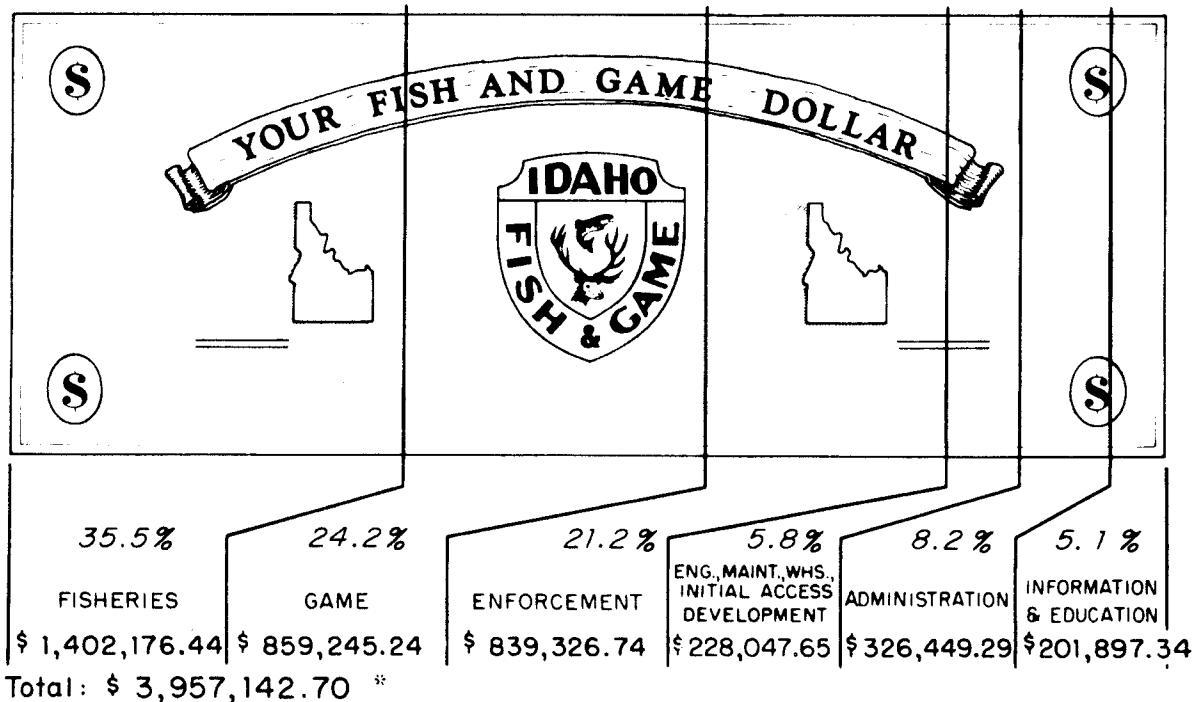
Fiscal Year Ending June 30, 1969

TOTAL FUND OPERATIONS

WHERE THE MONEY COMES FROM



HOW THE FISH & GAME DOLLAR WAS USED



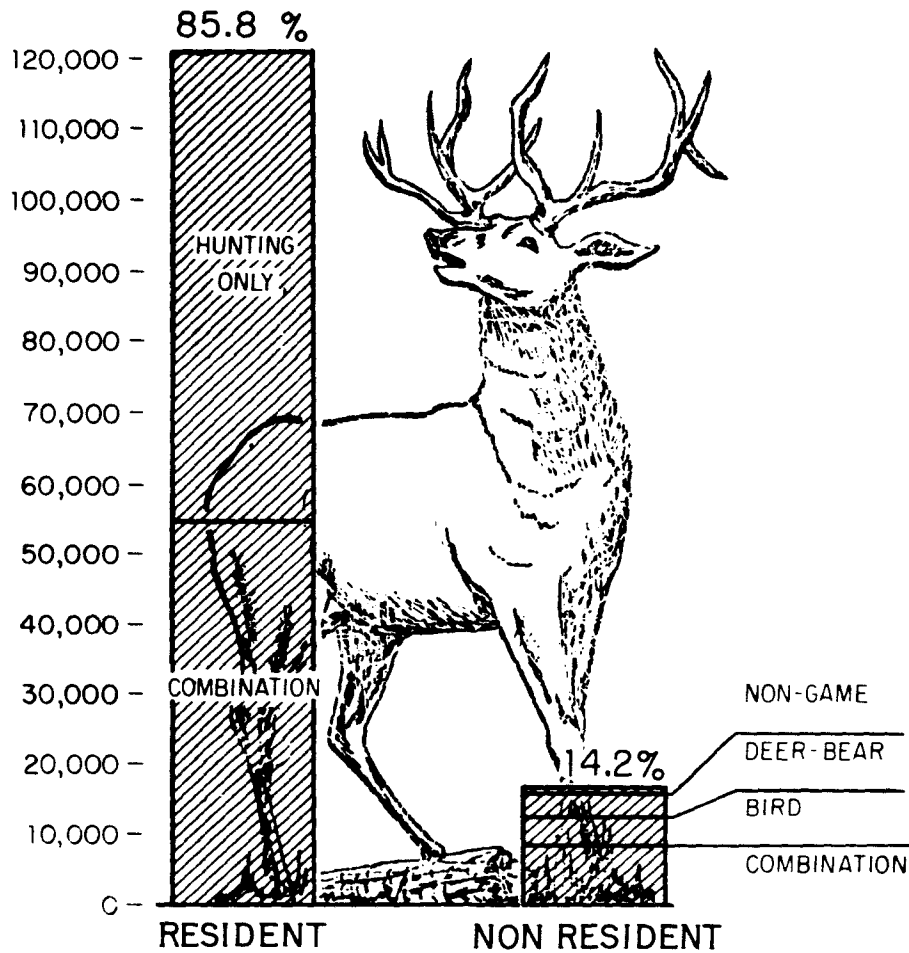
* In addition, \$109,640.03 was transferred to the State Auditor for Social Security Matching Funds, and Administrative Charges.

Comparison of Hunting Licenses Sold

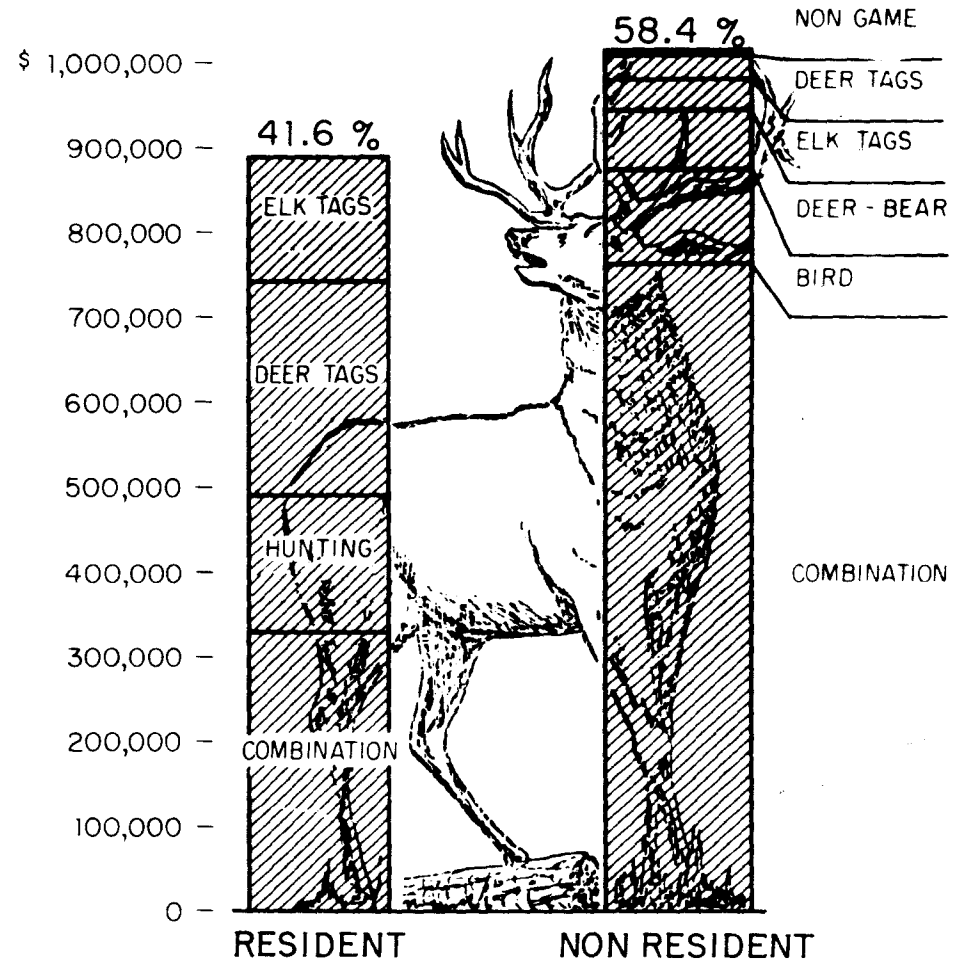
RESIDENT AND NON RESIDENT

Fiscal Year Ending June 30, 1969

THE NUMBER SOLD



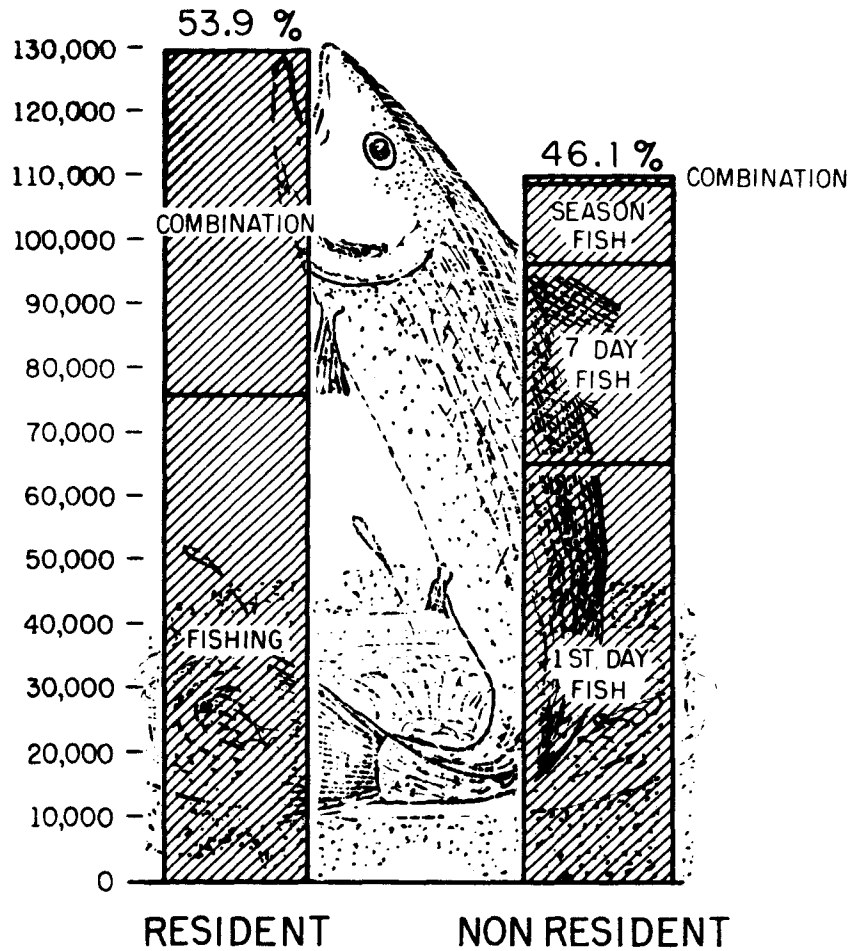
THE DOLLARS DEPOSITED



Comparison of Fishing Licenses Sold

RESIDENT AND NON RESIDENT
Fiscal Year Ending June 30, 1969

THE NUMBER SOLD



THE DOLLARS DEPOSITED

