Thirty-fourth Biennial Report

of the

FISH AND GAME DEPARTMENT

of the

STATE OF IDAHO

July 1, 1970 to June 30, 1972

STATE OF IDAHO
Fish and Game Department
Idaho Fish and Game Commission

Honorable Cecil D. Andrus
Governor of Idaho
Statehouse
Boise, Idaho

Sir:

Transmitted herewith for your consideration is the Thirty-fourth Biennial Report of the activities of the Idaho Fish and Game Department.

This report covers the period July 1, 1970 through June 30, 1972, with certain data for the last six months of 1972.

Respectfully submitted,

Robert G. Kalb, *Chairman*
Paul C. Keeton
John M. Eaton
John H. Hemingway
H. Jack Alvord

Attest:

Joseph C. Greenley, *Director*

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TIMES-NEWS—ACE PTG.

The Fish and Game Commission

Establishment of policy for the preservation, perpetuation, protection and management of all wildlife resources in the State of Idaho continued under the authority of the Idaho Fish and Game Commission. Operations of the Commission were conducted according to the initiative Act of 1938.

Members of the Commission are appointed for staggered terms of six years from each of five districts in the State. The districts include the following counties:

District No. 1—Boundary, Bonner, Kootenai, Benewah and Shoshone.

District No. 2—Latah, Lewis, Clearwater, Nez Perce and Idaho.

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

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

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

Members of the Commission

Members of the Commission during the biennium were:

Robert G. Kalb, Sandpoint, *District One.*
Paul C. Keeton, Lewiston, *District Two.*
John M. Eaton, Cascade, *District Three.*
R. J. Holmes, Twin Falls, *District Four.*
John H. Hemingway, Ketchum, *District Four*
Glenn Stanger, Idaho Falls, *District Five.*
H. Jack Alvord, Pocatello, *District Five.*

The Commission met in eight regular and twenty-six special and telecommunication sessions during the biennium.

The Chairmanship was filled during that period as follows: Commissioner Glenn Stanger, the balance of 1970; Commissioner R. J. Holmes, January through May of 1971; Commissioner John Eaton, the remainder of 1971; and Robert G. Kalb, 1972.

The terms of Commissioners Stanger and Holmes expired and they were replaced by gubernatorial appointment on May 7, 1971, (retroactive effective date of April 6, 1971) by Mr. H. Jack Alvord and Mr. John H. Hemingway, respectively.

Director

John R. Woodworth was appointed Director of the Fish and Game Department in July 1962, and served until resigning in May 1971. Robert

L. Salter was appointed Assistant Director in July 1962 and served in that capacity during the biennium, and also served as Acting Director from May through August 1971.

Joseph C. Greenley was appointed Director September 1, 1971 and served during the balance of the biennium.

Regional Administration

Regional headquarters offices are located at Coeur d'Alene, Lewiston, McCall, Boise, Jerome, Pocatello, Idaho Falls and Salmon. Each of the eight regional offices is staffed with a regional conservation officer, regional fish and game biologists, and either a secretary or stenographer. Five of the regional staffs also include a regional conservation educator. A regional land manager and additional biologists are also located at some regional offices according to work load and geographical location.

GAME DIVISION

MANAGEMENT OPERATIONS

The eight regions each staffed by a regional game manager and five assistant regional game managers form the basic field force for game management operations. The regional game managers are required to coordinate and participate in the annual cycle of data collection and make recommendations for hunting and trapping seasons, limits, and regulations, and to contact the public to explain management plans and programs. They must also work closely with land management agencies who are responsible for lands under their jurisdiction and whose programs affect the habitat which many of these birds and animals use.

The collection of management data is of prime importance. The game managers plan, coordinate with other Department personnel and agencies, and participate in big game aerial surveys, collection of game bird trend data involving breeding potential and production, check station operations and range surveys.

There has been growing concern for the habitat and its effect upon game populations. This has brought about a closer relationship between the Fish and Game Department and the Forest Service, the Bureau of Land Management, and State Department of Lands – the principal land management agencies in the State. During the biennium, game management personnel inspected 78 land treatment projects, principally involving sagebrush eradication proposed by the Federal agencies. Recommendations were submitted to modify 17 of these projects that would have had a detrimental effect on wildlife and 5 projects were objected to in their entirety.

Game management activities are not considered merely field operations. Although less than half of the game manager's time was spent in the field during the biennium, 40 percent of his time was being spent in the office compiling and analyzing data from field surveys, preparing reports and correspondence, and developing management plans for the region. The remainder of the time was spent in the laboratory on specimens, taking care of equipment, attending technical sessions and meeting with the public and government agencies to explain programs and coordinate activities. During the biennium, regional game management personnel attended 751 such meetings.

BIG GAME

Deer and Elk

Deer and elk provide most of Idaho's big game hunting. Hunting seasons on these species run concurrently where practicable, with more permissive regulations for deer where seasons differ.

Deer

Based on post-season hunter questionnaires, deer harvest in 1970 was a record high, 6 percent above the previous high reached in 1968, and 16 percent above the 1969 harvest. The 1971 harvest was 26 percent

below the 1970 harvest and 11 percent below the previous ten year average.

Elk

Questionnaire data indicate the 1970 elk harvest was 9 percent below that of 1969. The 1971 harvest was 8 percent below 1970 and 10 percent below the ten year average.

Check stations were operated to obtain additional data where special local information was needed or large number of hunters could be contacted.

Information was also available from big game report cards during the season and included buck:doe ratios and peak periods of hunting pressure. The calculated deer and elk harvest could be distributed between individual management units based on kills reported.

LICENSE AND TAG SALES, TOTAL HARVEST AND HUNTER SUCCESS

DEER

Year	Hunting License Sales[1]	Deer Tag Sales			Total Deer Kill[3]	Participating Hunter Success[3]
		Regular Tags	Other Tags[2]	Total		
1970	207,884	114,412	23,451	167,863	83,125	56%
1971	208,901	139,372	19,048	158,420	61,826	43%

ELK

Year	Hunting License Sales[4]	Elk Tag Sales[5]	Total Elk Kill[3]	Participating Hunter Success[3]
1970	202,967	72,739	14,533	19%
1971	205,056	68,952	13,390	18%

[1]Resident Combination, Resident Hunting, Nonresident Combination, and Nonresident deer.
[2]Extra and Senior Resident tags.
[3]Based on post-season questionnaire.
[4]Resident Combination, Resident Hunting, and Nonresident Combination.
[5]Includes Senior Resident tags.

BIG GAME HUNTER REPORT CARD RETURNS

	Deer		Elk	
	1970	1971	1970	1971
Total Tags Issued	167,863	158,420	72,739	68,952
Total Cards Returned	31,951	27,843	12,910	12,456
Total Kills Reported	22,564	15,934	5,045	3,956

BIG GAME CHECK STATION OPERATIONS

Year	Number of Stations	Animals Checked		Hunters Checked
		Deer	Elk	
1970	33	12,505	2,292	84,143
1971	28	6,303	1,539	61,882

Black Bear

The bear hunting season in thirteen management units in the central and western part of the State was reduced from year-around to 9 months in 1971. The restricted areas included range where the black bear is becoming an increasingly important big game animal for hunters and improved management is needed.

The calculated statewide bear kill based on the hunter questionnaire was 3,404 in 1970 and 3,786 in 1971 – up 27 percent from the previous biennium.

Moose

Moose hunting continued to be restricted to controlled hunts for antlered bulls. Statewide reported harvest was 167, up 31 percent over the previous biennium.

SUMMARY OF MOOSE HUNTS

Year	Hunting Units	No. of Applicants	No. of Permits	Tags Sold	Hunters Reporting	Reported Kill	Participating Hunter Success
1970	32	2,426	112	112	111	81	73%
1971	32	2,759	115	115	112	86	77%

Pronghorn Antelope

Pronghorn antelope hunts consisted mainly of controlled hunts plus some general hunts for archers. Total harvest was 3,016 – up 9 percent over the previous biennium.

Bighorn Sheep

Bighorn sheep hunting during the biennium was limited to rams with $\frac{3}{4}$ curl (or larger) horns.

There was a marked increase in tag buyers in 1970 – the last year of general sheep seasons. This is a normal reaction when controlled hunts with limited permits are anticipated. There was a 90 percent reduction of hunters in 1971 compared to 1970. The biennial harvest was 18 percent below the previous two year period.

SUMMARY OF PRONGHORN ANTELOPE HUNTS

Year		No. Hunting Units	No. of Applicants	No. of Permits	Tags Sold	Hunters Reporting	Reported Kill			Participating Hunter Success
							Male	Female	Total	
1970	Controlled	28	11,689	2,075	1,967	1,936	1,004	529	1,533	79%
	General (Archery)				224	213	14	4	18	8
	Total		11,689	2,075	2,191	2,149	1,018	533	1,551	72%
1971	Controlled	27	8,404	2,080	2,066	2,011	1,016	432	1,448	72%
	General (Archery)				315	299	12	5	17	6
	Total		8,404	2,080	2,381	2,310	1,028	437	1,465	63%

SUMMARY OF MOUNTAIN GOAT HUNTS

Year	Type of Hunt	No. Hunting Units	No. Applicants	No. Permits	Tags Sold	Hunters Reporting	Reported Kill			Participating Hunter Success
							Male	Female	Total	
1970	Controlled	46	1,553	308	308	299	75	74	149	50%
	General Archery	3			22	16	1	1	2	12%
	Total	49	1,553	308	330	315	76	75	151	48%
1971	Controlled	45	1,580	291	291	283	72	59	131	46%
	General Archery	4			29	25	4	2	6	24%
	Total	49	1,580	291	320	308	76	61	137	44%

SUMMARY OF BIGHORN SHEEP HUNTS

Year	Type of Hunt	No. Hunt Units	No. Applicants	No. of Permits	Tags Sold	Hunters Reporting	Reported Kill	Participating Hunter Success
1970	Controlled	3	206	9	9	9	3	33%
	General	8			696	648	61	9%
	TOTAL	11	206	9	705	657	64	10%
1971	Controlled	16	449	67	67	65	12	18%

Mountain Goat

Except for specified general archery hunts all hunting for mountain goats was on a controlled hunt basis. Total harvest was 12 percent below the last biennium.

Grizzly Bear, Caribou, Bison

Closed seasons continued for grizzly bear, caribou, and bison. They were not numerous enough to permit hunting.

Grizzly bear are occasionally reported for some remote interior areas, and near the Canadian, Montana, and Wyoming borders.

A small herd of mountain caribou ranges across the Canadian border into the Selkirk Mountains.

A few bison from Yellowstone Park normally move into Fremont County during fall and winter months.

GAME BIRDS

The game birds of Idaho are managed on the basis of eight regional management areas. These areas, starting in the north end of the State, are recorded as Region 1, the Panhandle Region, and proceeding down to southwestern Idaho and eastward to southeastern Idaho with Region 8 being the Salmon Region. These regions and the counties and portions of counties contained in them, are listed in the following table:

Region I (Panhandle)	Region II (Clearwater)	Region III (McCall)	Region IV (Western)
Benewah	Latah	Idaho (South)	Washington
Boundary	Clearwater	Adams	Payette
Bonner	Nez Perce	Valley (West)	Gem
Kootenai	Lewis		Boise
Shoshone	Idaho (North)		Canyon
			Ada
			Elmore
			Owyhee (West)

Region V (Magic Valley)	Region VI (Eastern)	Region VII (Upper Snake)	Region VIII (Salmon)
Camas	Bingham	Lemhi (Southeast)	Lemhi (North)
Blaine (West)	Blaine (East)	Clark	Blaine (North)
Gooding	Power	Custer (Southeast)	Custer (Northwest)
Lincoln	Bannock	Fremont	Valley (East)
Jerome	Caribou	Butte	
Minidoka	Oneida	Jefferson	
Owyhee (East)	Franklin	Madison	
Twin Falls	Bear Lake	Teton	
Cassia		Bonneville	

GAME BIRD HARVEST IN IDAHO

Based on Annual Hunter Questionnaire

Species	1970	1971	Average Annual Harvest 1966-1970
Pheasant	470,600	592,300	477,400
Mourning Dove	223,900	249,300	207,300
Forest Grouse	132,900	141,200	127,600
Hungarian Partridge	53,400	86,400	73,300
Chukar Partridge	168,600	158,300	157,200
Quail	108,800	106,800	112,400
Sage Grouse	70,800	79,300	58,300
Ducks	648,500	697,700	471,600
Canada Goose	30,600	24,400	26,500
Snow Goose	900	900	900
Coot	22,800	20,700	24,800
Cottontail	119,000	92,500	110,700
Turkey	54*	29*	22**
Wilson Snipe	2,500	1,900	----***

*Harvest based on hunter report card returns and personal contacts.
**Four-year average 1967-1970. First hunt held in 1967.
***Only two years data collected.

Game bird production, and subsequent harvest based on hunter questionnaire information, was excellent during the biennium as indicated in the table. Ducks replaced pheasants as the number 1 species in terms of game birds harvested. A record number of ducks was harvested in 1971 and again in 1972. Pheasant harvest remained good with the 1971 harvest the best on record since 1965. The mourning dove harvest in 1971 was also the largest on record. Most species exceeded, or were comparable to long term harvest averages and indicated the healthy status of Idaho's game birds.

PHEASANTS

Inasmuch as pheasants are the most popular upland game birds in Idaho and contribute more to the bag than any other upland species, it also follows that they have received a great deal of attention by game managers. Idaho's pheasant populations are, in fact, followed closely during all seasons of the year. Following the fall hunting season, the first measure of the pheasant population in terms of what can be expected

the following year, is taken during the winter period. This is the pheasant winter sex ratio survey. This information not only tells the game managers the extent to which the male portion of the pheasant population was harvested the previous year, but also gives them their first statistic used in determining what the following year's population will look like. In addition, the pheasant sex ratio information can give a long-term picture as to the extent that the population has been harvested during that time. This information is recorded in the following table.

PHEASANT WINTER SEX RATIOS

Year	Statewide Sample Size (Pheasants)	Statewide Sex Ratio M:100F	Statewide Sex Ratio 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
1968	16,577	45	2.23
1969	22,238	42	2.40
1970	6,716	46	2.19
1971	7,267	50	2.01
1972	12,456	51	1.97

In no instance has the hens-per-cock ratio reached 3 to 1. It approached this in 1960 when that ratio reached the 2.83 to 1 figure. The average, however, has been almost 2 hens per cock. Inasmuch as pheasants are polygamous a much greater ratio could be reached without having an impact on the ability of these birds to reproduce successfully.

The next data collected is the crowing count information obtained during the spring of the year. This, together with the winter sex ratio data, gives information on the pheasant breeding population for that spring. This information for 1970 and 1971 with comparison from previous years is listed in the following table.

PHEASANT BREEDING POPULATION TREND

Region	No. Crowing Count Routes	Breeding Population Index				Percent Change	
		1966-70 Total	1966-70 Average	1970	1971	From 5-Yr. Av.	From 1970
Clearwater	3	42	8	7	4	−50	−43
Western	12	238	48	48	62	+29	+29
Eastern	4	282	56	64	56	S	−13
Upper Snake	2	318	64	41	47	−26	+15

The last information used in arriving at a fall pheasant population index is the brood count data obtained during the summer period. This information, when combined with the winter sex ratio and spring crowing count, gives a population index that can be compared annually. This information for the 1970-71 period is recorded in the following table. As will be noted, a significant increase in the fall population index, from the five-year average in the Western Region, and a significant decrease in the Clearwater Region was recorded.

PHEASANT FALL POPULATION INDEX COMPARISONS

Region	1966-70 Average	1970	1971	Percent Change	
				From 5-Yr. Av.	From 1970
Clearwater	43	63	18	− 58	− 71
Western	189	212	439	+132	+107
Eastern	243	264	190	− 12	− 28
Upper Snake	200	160	230	+ 15	+ 44

The fall pheasant hunting season results are measured in two ways. One of these is by means of the opening weekend check station data collected each fall. In addition to obtaining comparative information on the hunter success, these data also give some indication as to the effort required to harvest the pheasants. This information is recorded in the Check Station Table.

At the close of the hunting season, questionnaires are sent to a representative sample of hunters and results are compiled into the annual hunter questionnaire data which has previously been discussed.

COMPARISON OF PHEASANT CHECK STATION RESULTS OPENING WEEKEND — 1967-1971

Region		No. Hunters	No. Birds	Gun Hours	Birds Per Hunter	Hours Per Bird
Clearwater	1967	284	157	944	0.55	6.0
	1968*	317	237	908	0.75	2.8
	1969	269	148	748	0.55	5.1
	1970	198	155	551	0.78	3.6
	1971	217	106	588	0.49	5.5
5-Year Averages (66-70)		317	204	969	0.64	4.8
Western	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
	1970	1,608	1,465	5,047	0.91	3.5
	1971	2,204	1,792	7,753	0.81	4.3
5-Year Averages (66-70)		2,468	2,384	8,648	0.97	3.6
Magic Valley	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
	1970	1,389	1,884	5,111	1.36	2.7
	1971*	527	1,205	2,173	2.30	1.8
5-Year Averages (66-70)		1,781	2,182	6,855	1.23	3.1
Eastern	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
	1970	1,585	2,190	6,105	1.38	2.8
	1971	1,982	2,383	7,867	1.20	3.3
5-Year Averages (66-70)		2,194	2,580	9,593	1.18	3.7
Upper Snake	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
	1970	884	910	3,053	1.03	3.4
	1971*	451	453	1,338	1.00	2.9
5-Year Averages (66-70)		913	972	3,163	1.06	3.3
Statewide	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
	1970	5,664	6,604	19,867	1.17	3.0
	1971	5,381	5,939	19,719	1.10	3.3
5-Year Averages (66-70)		7,674	8,324	28,708	1.08	3.5

*One check station only

TURKEY

Two releases of Merriam's wild turkeys were made during the reporting period. Seventeen birds (14 from Wyoming and 3 from Idaho) were released at Wagonhammer in Lemhi County on February 9 and 28, 1971. Fifteen birds (all trapped near St. Maries) were released in February of 1971 near Kendrick on the Potlatch River. One additional bird was released in the same vicinity in May of 1972.

Most turkey transplants in the State have been successful since the program was initiated in 1961. Hunting has been permitted since 1967 and has evolved from a controlled limited hunt to a general hunt encompassing eight different hunting units. Hunter success, as will be noted from the Turkey table, varied considerably from a low of 7% in 1968 to a high of 42% in 1969. Of interest, was the small number of hunters taking advantage of the opportunity to hunt this exciting new game bird. Slightly over 200 hunters purchased turkey tags for each hunting season during this biennium. This is in contrast to 1,500 applications for the 150 tags allotted during the first (1967) controlled hunt. The following table summarizes the turkey hunting success for the years 1967-1971.

SUMMARY OF WILD TURKEY HUNTS

Year	No. Tags Sold	No. Hunters Participating	Length of Season	Turkeys Harvested	Hunter Success
1967*	135	104	16 days	17	16%
1968	126	121	2 "	9	7%
1969	69	67	5 "	28	42%
1970	237	229	9 "	54	24%
1971	257	240	14 "	29	12%

*First Hunting Season

SAGE GROUSE

Sage grouse numbers during the biennium, based on strutting ground counts, appeared to be down throughout most of the major sage grouse habitat (see Strutting Ground Count Table). Since unseasonable weather occurred both years during normal strutting periods it was felt that these counts did not reflect the true population status and that populations were down some from previous years but not to the degree indicated by the counts. These predictions held true based on hunting season success. While harvest was below the 1969 record year, the number of birds harvested during both 1970 and 1971 was the next two highest years on record based on hunter questionnaire data. Checking stations operated opening weekend throughout the state substantiated questionnaire data (see Sage Grouse Check Station Table).

SAGE GROUSE STRUTTING GROUND COUNTS—1970-71

Region	No. of Strutting Grounds	Average Number Males Observed 1970	1971	Percent Change
Western	11	30	30	S
McCall	4	17	20	+18
Magic Valley	27	57	37	−35
Eastern	16	26	24	− 8
Upper Snake	50	43	36	−16

COMPARISON OF SAGE GROUSE CHECK STATION RESULTS—OPENING WEEKEND — 1966-1971

Region	Year	Season Length In Days	No. of Hunters	No. Hunters, Previous 5-Year Average	No. of Birds	No. Birds, Previous 5-Year Average	Birds Per Hunter	Birds Per Hunter, Previous 5-Year Average
Western	1966	5 to 16	747		934		1.25	
	1967	5 to 16	741		1,472		1.99	
	1968	7 to 16	699	875	639	1,305	0.91	1.49
	1969	9 to 16	967		2,050		2.12	
	1970	9 to 23	1,222		1,432		1.17	
	1971	9 to 23	1,310		1,984		1.51	
Magic Valley	1966	5	1,335		1,185		0.89	
	1967	5	1,831		1,585		0.86	
	1968	7	2,387	2,335	2,005	2,349	0.84	1.01
	1969	9	2,894		3,039		1.05	
	1970	9	3,228		3,934		1.21	
	1971	9	3,784		4,719		1.24	
Eastern	1966	5	291		240		0.83	
	1967	5	291		264		0.91	
	1968	9	460	376	299	307	0.65	0.82
	1969	9	515		431		0.83	
	1970	9	325		303		0.92	
	1971	9	500		488		0.85	
Upper Snake	1966	5 to 9	3,863		3,388		0.88	
	1967	5 to 9	3,974		4,932		1.24	
	1968	9	4,832	4,857	3,778	5,055	0.78	1.04
	1969	2 to 9	5,958		7,906		1.32	
	1970	2 to 9	5,656		5,272		0.93	
	1971	2 to 9	3,648		3,502		0.96	
Totals and Averages	1966		6,236		5,747		0.92	
	1967		6,837		8,253		1.21	
	1968		8,378	8,443	6,721	9,018	0.80	1.07
	1969		10,334		13,426		1.30	
	1970		10,431		10,941		1.05	
	1971		9,242		10,694		1.16	

FOREST GROUSE

There are three species of forest grouse in Idaho. These are the blue, ruffed and spruce grouse. Because these birds inhabit the mountainous portions of the State, they are perhaps the least hunted species in Idaho. Big game hunters are the principal hunters of forest grouse and take these birds incidental to their big game hunting activities. In spite of the mountainous terrain inhabited by these birds, collectively they were the fifth most important game bird harvested in Idaho during the biennium.

PARTRIDGES AND QUAIL

Chukar partridge and valley quail populations have remained high with statewide harvests comparable to the five year average. Hungarian partridge populations were low in 1970 but recovered significantly in 1971 (see Game Bird Harvest Table). In terms of harvest, chukars were the fourth most important game bird with quail holding sixth place and Hungarian partridge seventh place respectively.

SHARP-TAILED GROUSE

Sharp-tailed grouse habitat in Idaho is very limited. Consequently, this species does not constitute an important source of hunting for Idaho hunters.

MOURNING DOVE

The mourning dove harvest in Idaho has shown a steady upward trend during the past ten years. Almost a quarter of a million birds were taken in 1971 and established a new Idaho harvest record. Mourning doves were the third most popular game bird in terms of numbers taken. Idaho was one of two western states showing significant increases in dove populations based on nationwide surveys.

WATERFOWL

Waterfowl production in Idaho is always important in contributing birds to the harvest during the first few days of the season. Most of Idaho's waterfowl hunting, however, is dependent on birds that enter the State from the north. Thus, Idaho's waterfowl harvest is, in great measure, dependent on the production success in the prairie pothole region of Canada and, particularly that of southern Alberta. During the biennium, water supplies in Canada were excellent and good production resulted. Consequently, large flights of ducks arrived in Idaho and hunters killed a record number of ducks in 1970 and again in 1971. The 1971 duck harvest was 72% higher than the long term average.

Additional restrictions were placed on Canada geese after the 1970 record harvest year which brought the 1971 harvest down to the long term average. There is concern among representatives in the western states regarding the Great Basin Canada Goose so its population status will be monitored closely for the next few years.

GAME FARM

The production of ring-necked pheasants at the Jerome Game Farm averaged nearly 16,000 annually during the biennium. The distribution of the birds is listed in the following table.

JEROME GAME FARM RINGNECK PHEASANT RELEASE RECORD

1970 (Includes ringnecks transferred to and released from Ross Point Rearing Pens) **1971**

County	Spring Field Trials	Spring Breeders	Used Brood Stock	Summer Hens	Summer Cocks	Fall Field Trials	Fall Cocks	Total
Ada	75					100		175
Adams				352				352
Benewah							600	600
Bingham				405			384	789
Bonner							200	200
Bonneville			200					200
Boundary				1,000			500	500
Butte								1,000
Canyon	175			254*		250	354	1,033
Caribou							120	120
Custer				100			120	220
Franklin			230	300			192	722
Gooding			190					190
Idaho				768			336	1,104
Jefferson	100					155	1,104	1,359
Kootenai							1,130	1,130
Latah				768			652	1,420
Lemhi				300			130	430
Lewis							374	374
Lincoln			200	500				700
Minidoka	75					100		175
Nez Perce				800			1,052	1,852
Oneida			170	300			192	662
Owyhee				166			284	450
Power							120	120
Twin Falls	75			240		75		390
Total	500	--	990	6,253	--	680	7,844	16,267

County	Spring Field Trials	Spring Breeders	Used Brood Stock	Summer Hens	Summer Cocks	Fall Field Trials	Fall Cocks	Total
Ada	75							75
Benewah							444	444
Bingham				400				400
Boise						102		102
Bonner							200	200
Bonneville	1,510							1,510
Boundary							348	348
Butte			325				240	565
Canyon	225						315	540
Cassia						100		100
Custer							60	60
Franklin			200				270	470
Gem						225		225
Idaho				240	240			480
Jefferson	75			800			540	1,415
Kootenai							1,308	1,308
Latah				80	80			160
Lemhi				300			195	495
Lincoln			137	300				437
Minidoka	75							75
Nez Perce			336	2,045	1,796			4,177
Oneida			125				270	395
Owyhee							329	329
Power				400			270	670
Twin Falls	75		75				340	490
Total	2,035	--	1,198	4,565	2,116	427	5,129	15,470

*50 of these birds used in spray trials.

In addition, the experimental green pheasant program was continued. Egg production and incubation success has been poor which resulted in lower bird production than was anticipated. Brood hens were shifted to Post Falls where egg production is expected to increase due to more favorable humidity conditions. Incubation and brooding of the greens will continue at the Jerome facility with the exception of a small number to be brooded at Post Falls. Distribution of green pheasants released is listed in the following table.

GREEN PHEASANT RELEASE RECORD

	1970				1971			
County	Spring Release	Brood Stock	Fall Release	Total	Spring Release	Brood Stock	Fall Release	Total
Benewah		418	100	518	402			402
Boundary			100	100		150	659	809
Kootenai			235	235		75	420	495
TOTAL		418	435	853	402	225	1,079	1,706

During the biennium a small number of chukar partridge were also produced for spring release purposes. The release locations are also listed in the following table:

JEROME GAME FARM
CHUKAR PARTRIDGE RELEASE RECORD

County	1970 Spring Release	Total	1971 Spring Release	Total
Blaine			165	165
Gooding	418	418	506	506
Lemhi	375	375	400	400
Totals	793	793	1,071	1,071

WILDLIFE LAND MANAGEMENT

The land management section of the Game Division has two primary functions. Project personnel are responsible for planning, coordinating and installing wildlife habitat wherever and whenever possible on Department and all other lands within the State. They are also responsible for managing over 170,000 acres of big game winter ranges, wildlife management areas, public fishing land, small primitive area ranches, and over 150 public hunting and fishing access units.

Wildlife Habitat Improvement

Habitat restoration programs include cooperating with the Forest

Service and Bureau of Land Management in restoring habitat for wildlife, placement of artificial waterfowl nesting structures on non-department lands and waters, installing, or helping with the planting, of trees, shrubs and other wildlife foods and cover on private lands throughout the State.

Supervisory personnel in this project administer all of the land management functions, help acquire lands, design developments, advise other land management and land service agents on wildlife needs, and evaluate existing land management programs.

Wildlife Land Management Areas

There were nine wildlife land administrative units in Idaho at the close of the biennium. Each was administered by a Wildlife Land Manager, or Project Leader, with the exception of the Primitive Area ranches. These were managed by supervisory personnel. The work load is approximately equal on each of the eight units. All Department lands are managed for the best interests of the hunting and fishing public. Game ranges are administered to provide maximum forage for elk and deer during the critical winter period, and secondarily to produce other wildlife and provide hunting. More big game winter range is needed to assure future big game hunting. The management areas serve to provide the most public hunting opportunity possible. We have almost completed the purchase of a large waterfowl hunting and production area in northern Idaho and are in the process of acquiring one near Pocatello.

Boise River Game Range

This project contains approximately 20,000 acres of critical deer winter range in the lower portions of the Boise River upstream from the City of Boise. It is in management unit 39 and supports a good share of the total wintering deer herd for the critical period during late winter and early spring. The management of these lands includes planting browse, grasses and legumes for feed and cover for deer and upland game birds. A livestock rest-rotation grazing program is being used to improve the browse and other range plants for mule deer. Three private landowners are participating in the program with their land and livestock. There is good chukar, Hungarian partridge, quail and dove hunting. There is also some good late season deer hunting. Several springs were developed to attain better distribution of livestock and provide more water for upland game birds and deer.

Over 400 acres were seeded to bitterbrush during the biennium on this project. Over 500 acres were planted with 35,000 bitterbrush seedlings during the two spring periods. Approximately 1,100 pounds of grasses and legumes (including alfalfa, sweet clover, wheat grass, millets, and rye), were also seeded on the project during this two-year period. Sagebrush, rabbitbrush, Idaho fescue, filagree, leadplant and cliffrose were also seeded on project lands.

Clearwater Wildlife Management Areas

This unit includes the St. Maries Game Range, the Coeur d'Alene River Wildlife Management Area and several public hunting and fishing access areas in the St. Maries-Lewiston areas. Roads on the St. Maries

Game Range were repaired, including placement of 150 cubic yards of rock where needed, removing encroaching vegetation and installing five drainage culverts. Another one-half mile of new boundary fence was constructed during the biennium to prevent cattle trespass. One prefabricated cattle guard was installed. Range riders were hired to remove a total of 674 head of trespass cattle. Three miles of new fence line was seeded to white Dutch clover for grouse and deer. The small administrative cabin on the Coeur d'Alene River Wildlife Management Area was repaired, boat channels and foot trails were cleared of vegetation and debris. A total of 130 wood duck nest boxes were constructed. Eighty were used on project areas, and the other 50 were installed in the St. Joe drainage by the local sportsmen's club. Approximately three acres of wheat was grown on Hidden Lake Island for waterfowl. Four bushels of wild rice were seeded in the various marshlands of the project. All access areas received routine maintenance by project personnel or by contract.

Fort Boise Wildlife Management Area

This management unit consists of over 1,000 acres of waterfowl and upland game bird habitat in Canyon County at the mouth of the Boise River near Parma, and other scattered management and access areas on the Lower Boise and Payette Rivers. The dikes constructed previously on the Headquarters unit were raised to impound an additional 60 acres of marsh. Channels were dug and islands were built in the impoundment for waterfowl nesting, brooding and loafing areas. Construction of a dike across Sand Hollow drain was started by the Marsing Job Corps that will eventually create a 100 acre impoundment between Sand Hollow drain and the Boise River. Fences were restored on the Kiefer Segment on the Payette River to control livestock and vehicle use on the area. The Gold Island Ferry was repaired. Testing of the various species of waterfowl plant foods was continued in cooperation with the Soil Conservation Service's Plant Material Center. Pastures were grazed with livestock to keep them short but productive and make them more attractive to Canadian geese. Approximately 220 acres of farmland on the management area were planted to corn, wheat, barley, millet, burnet, vetch, and other legumes for waterfowl and upland game birds. Millet was planted along the edge of the new impoundment areas with good results. The management area continues to provide some good fishing and, at times, good public hunting for waterfowl and upland game birds.

Market Lake Wildlife Management Area

This project is headquartered near the town of Roberts in Jefferson County. The management area is heavily used by waterfowl during the fall and spring migrations. Hunting pressure and success is still increasing. Grain is grown for waterfowl and upland game birds. An additional 600 acres of shallow waters were impounded during the biennium to increase the carrying capacity for waterfowl and 35 nesting islands were constructed in the new impoundment. Excellent trout fishing has developed in the channels in the new impoundment while good catches of perch and bullheads are taken from the main marsh. Several dozen elk, a few moose and over 340 antelope used the area the last winter of the

biennium. Deer are present all year. Pheasants are common on the area. Approximately 40,000 people visited the area during the biennium. Project personnel also serviced access areas in the American Falls and Preston areas.

North Lake Wildlife Management Area

The main unit of this project is located in the northwest part of Jefferson County. It surrounds the Mud Lake irrigation reservoir. The project also services the access areas in the Mud Lake-Salmon-Mackay vicinity. The area surrounding Mud Lake is managed primarily for waterfowl and upland game birds and public hunting. Antelope and deer are resident on the area and an occasional elk and moose have been observed. Numerous shorebirds, as well as hundreds of ducks and Canada geese, nest within the project boundaries. The highest count of the waterfowl migration was estimated at 200,000 ducks, 45,000 snow geese, 1,000 swans, and 600 Canadian geese during this biennium. An average of approximately 100 acres of grain was raised each year to alleviate waterfowl depredation complaints on nearby private property and to afford winter and spring feed and cover for waterfowl and pheasants. There were 22 waterfowl complaints serviced during the biennium. Seventeen of these were for waterfowl in swathed grain, five concerned new alfalfa seedings. Winter grazing was used to reduce excess dry vegetation in the slough area. Total public use was estimated at 23,500 visits during the two-year period.

Panhandle Wildlife Management Areas

This land unit includes the Boundary County Wildlife Management Area and a multitude of access areas on the various lakes in the northern five counties of Idaho. Project roads were graded and improved, gravel was added where necessary, and dams and outlets at Shepherd Lake and the Boundary County WMA were maintained. The interior fences on the Boundary County Area were removed. At the present time, livestock grazing has been discontinued there and the goose pasture will be mowed, instead. Several wild rice plantings at Boundary County WMA and nearby private waters were made, with limited success. Grain was grown at the Boundary County WMA for waterfowl use. Twenty-seven floating goose nesting platforms were placed in Boundary County WMA. They had 75 percent use. About 140 geese and 1;000 ducks were raised each year on the Boundary County WMA along with myriads of marsh birds and muskrats. Waterfowl hunting pressure has been extremely light. Fishing for trout and perch has been exceptionally good.

Sand Creek Wildlife Management Area

This large winter elk range includes over 40,000 acres of Department, federal and privately owned lands north of St. Anthony in Fremont County. The lands are managed primarily for about 1,000 head of elk, 1,200 deer and 100 moose. Approximately 300 antelope utilize the area during the spring, summer and fall. Sage and sharp-tailed grouse are common, and many sandhill cranes and a large number of ducks and geese are also produced. Four water impoundments, consisting of 142 surface acres, provide excellent trout fishing as well as a production area

for waterfowl, muskrats and beaver. Controlled livestock grazing is permitted on portions of the management area in exchange for wildlife use on the private lands. Management agreements with private land operators are being used to stress rest and rest-rotation type grazing and public recreation on their lands. Approximately 50,000 acres of private land is included in this type of agreement to date. Access areas for hunting and fishing in the St. Anthony area were maintained by project personnel.

Snake River Wildlife Management Area

This management unit includes C. J. Strike Wildlife Management Area near Bruneau, the Hagerman Wildlife Management Area, the Carey Lake Wildlife Management Area, and several access areas scattered throughout the Mountain Home to Burley area. The duck ponds near Bruneau Bridge continued to provide nesting, brooding and resting areas for a large number of waterfowl. The ponds also provided some good waterfowl hunting during certain periods. Two bridges at the Hagerman Wildlife Management Area were rebuilt. That portion of the west shoreline of Carey Lake was fenced off from the farmland to provide waterfowl grazing. Corn, wheat, barley, legumes and grasses were planted on farmlands at all management areas to provide nesting, brooding, and hunting cover for upland game birds and waterfowl. Access areas were maintained by project personnel or by local contract.

Primitive Area Ranches

Six of the twelve Idaho Primitive Area Department ranches were leased to licensed outfitters who have the surrounding areas assigned to them for hunting by the Outfitters and Guides Licensing Board. This policy permits continued public hunting use of Department lands and the adjacent federally owned lands. The other areas are held or used for administrative purposes by the Department. Five of these small ranches are on the Middle Fork of the Salmon River, two are on tributaries to the Middle Fork, two are in Chamberlain Basin and three are on the South Fork of the Salmon River.

FURBEARERS AND PREDATORS

Furbearers

The number of license sales decreased 9 percent, catch 6 percent, and revenue received 12 percent from the previous biennium.

ANNUAL FUR HARVEST

Species	1970-71 Season		1971-72 Season	
	No. Pelts	Av. Price	No. Pelts	Av. Price
Beaver	2,936	$10.24	3,194	$13.79
Muskrat	75,878	.91	92,351	1.26
Mink	1,819	4.72	1,444	5.32
Marten	193	5.09	189	5.39
Otter	40	22.11	0	0.00
Raccoon	442	1.95	408	3.85
Fox	614	8.00	623	9.78
Bobcat	1,318	14.02	901	21.71
Weasel	326	.80	101	.55
Coyote	788	7.36	1,095	8.97
Skunk	249	1.16	168	.81
Civet	43	.55	31	1.50
Badger	112	3.36	101	3.24
Lynx	70*	15.29	65*	22.44
Nutria	0	0.00	15	0.00
TOTAL	84,828	$141,637.92	100,686	$208,354.23

*Most of the Canada Lynx were misidentified bobcats based on correspondence with 13 trappers who reported catching Canada Lynx in 1971-72.

Fisher

Reported observations of fisher sighted during the biennium indicated that this species has been successfully reestablished in Idaho as a result of the transplants from British Columbia in 1962 and 1963. The species is still relatively scarce, however, and trapping seasons remained closed during the biennium.

Beaver

It has been necessary to remove beaver from extensive agricultural areas to reduce damage complaints. The general season trapping has permitted all licensed trappers to participate. Beaver continued to lead all wildlife species in source of depredation complaints. Efforts were continued to improve management techniques that will permit us to maintain beaver at the capacity of their habitat and avoid excessive conflict with other land uses.

Beaver population trend counts were continued by annual counts of beaver colonies on sample streams with suitable habitat. Additional areas have been closed to beaver trapping and a quota system on a drawing

basis was instigated to maintain beaver in areas vulnerable to over-trapping.

Comparison of beaver colonies counted on comparable routes during the biennium is listed in the following table:

BEAVER COLONY TREND ROUTES

Region	No. of Routes	Stream Miles	Number of Colonies 1970	1971
1	7	45.0	12	19
2	4	23.0	8	5
3	2	12.0	3	3
4	2	11.0	0	3
5	7	34.0	21	18
6	2	8.0	9	8
7	6	30.5	11	15
8	2	10.0	4	1
State	30	173.5	68	72

Cougar

Continued public concern for the future of this species in Idaho was apparent during the biennium, including legislative action which resulted in classifying the cougar as a game animal effective April 1, 1972.

The interest in hunting cougar was indicated by the greatly increased harvest the second half of the biennium before restrictions on the hunting became effective.

The kill during the biennium was 36 percent higher than during the preceding two years.

COUGAR KILL

Region	1970-71	1971-72
1	22	47
2	23	53
3	14	27
4	12	56
5	4	16
6	0	1
7	8	15
8	31	88
TOTAL	114	303

PREDATORS

Cooperative Predator Control Program

The Division of Wildlife Services, U.S. Fish and Wildlife Service, administers the Cooperative Predator Control Fund and carried out actual control operations. The department's participation consisted entirely of financial support to the cooperative program. Included are various federal, state, and county agencies and livestock associations. During the biennium the department contributed $60,000.00 to this program.

WILDLFE DEPREDATIONS

Depredation complaints increased 7 percent, service trips 1 percent, and expenditures increased 17 percent. The number of animals removed was down 17 percent from the previous two years.

DEPREDATIONS COMPLAINTS BY SPECIES

Species	1970	1971
Antelope	6	5
Bear	53	93
Deer	31	45
Elk	12	22
Other Big Game	0	2
Ducks	31	39
Geese	23	22
Other Waterfowl	36	25
Pheasants	84	112
Other Game Birds	2	10
Non-Game Birds	12	0
Beaver	146	186
Other Furbearers	4	13
Predators	6	2
Other Mammals	3	9
TOTAL	449	585

DEPREDATION COMPLAINTS RECEIVED AND COST OF SERVICING

Year	Complaints	Service Trips	Animals Removed	Servicing Cost
1970	449	953	139	$14,158.75
1971	585	1,254	258	24,271.49
TOTAL	1,034	2,207	397	$38,430.24

GAME RESEARCH

The elk ecology project was continued with emphasis directed at burning selected brush fields in north Idaho to enhance winter range browse. The elk movement, migration and range management project in the Dworshak reservoir area continued.

The mule deer ecology project was continued with initial management techniques being exercised as a result of data from herd chronology studies. During this same period big game winter range rehabilitation efforts continued with seeding, planting and rest rotation being the primary tools of management.

The moose ecology, mountain goat ecology, and bighorn sheep ecology projects progressed in relation to range uses, needs, and availability in relationship to the specific species involved.

The sage grouse research project progressed to a point where it was possible to recommend sagebrush requirements to provide nesting areas, booming grounds, brooding areas, winter areas, resting and loafing areas for all seasons of the year for sage grouse.

The laboratory project developed a service to provide age of animals by sectioning teeth, food habits from rumen analysis and plant identification for other research projects and game managers.

The big game winter range inventory project completed pilot studies and progress was made on the survey of all winter range in the state.

IDAHO COOPERATIVE WILDLIFE RESEARCH UNIT

The Idaho Cooperative Wildlife Research Unit completed its 24th year of service at the end of the biennium. One of 20 such facilities established throughout the United States, the Idaho Unit gets its support from a cooperative agreement between the Idaho Fish and Game Department, the University of Idaho, the U. S. Bureau of Sport Fisheries and Wildlife, and the Wildlife Management Institute. Objectives of the Unit program are: (1) to undertake needed wildlife research programs in Idaho and publicize the findings (2) to train graduate students in wildlife research.

Eight research projects were completed and 23 graduate students were in training during the 2-year period. Following are brief highlights of Unit research projects completed during the biennium.

Radio telemetry and individual collar-marking were used to follow movements of the Lochsa elk herd for a 2-year period. Elevational movements ranged from 1,500 to 5,500 feet on winter range and 2,100 to 7,200 feet on summer range. Two herd segments were identified. Lochsa elk intermingled with elk from adjoining herds on summer range but homed back to their original winter range. A low hunter harvest of about 8 percent of the marked elk occurred each year.

White-tailed deer in Unit 8 were the subject of a 3-year investigation. Productivity of the herd measured at the start of the hunting season

was about 30 percent with a loss of 1/3 of the fawn crop between birth and hunting season. Hunters averaged 100 hunting hours per whitetail bagged. The study indicated that low hunting success in Unit 8 was due to inability of hunters to harvest available whitetails and not to low deer density.

Research on Potlatch Forests lands in northern Idaho to assess the effects of elk and cattle trampling on reforestation showed that mortality to tree seedlings as a result of elk and cattle use was highly insignificant in all phases of the study.

Physiologic values were obtained from 220 bighorn sheep from diverse parts of their range in the U. S. and Canada during a 3-year period. Application to bighorn management was demonstrated with (1) blood-urea-nitrogen values reflecting protein intake and (2) packed cell volume representing condition.

A 2-season exploration of the effects of commonly used insecticides on pheasants in Canyon County farmlands indicated that (1) organochlorine residues, such as DDT, were low in pheasants and pheasant foods; (2) while organophosphates, such as parathion and demeton, may kill some young pheasants, they are not likely to cause major pheasant losses in southwestern Idaho when used at recommended crop application rates.

A study on responses of redstem ceanothus, an important northern Idaho big game browse plant, showed that intentional killing of the crowns of redstem at different stages in its annual growth cycle resulted in different sprouting responses. Killing crowns at different stages of phenology decreased browse production by 51 to 83 percent of that before treatment and there was very little second-year recovery for three of the five treatment groups.

Three seasons of study on the dense golden eagle population in southwestern Idaho, financed by the Bureau of Sport Fisheries and Wildlife, provided background data which assisted materially in the establishment of the first Birds of Prey Natural Area in the United States. Sixty-six breeding pairs of eagles were under observation in 1971 with 1.1 eaglets fledged per nesting attempt. Rabbits constituted 72 percent of the prey items found in eagle nests. Organochlorine residues in eagle eggs and tissues were relatively low. The study concluded that this important eagle population is stable and reproductively healthy.

Other studies beginning or in progress included investigations on various aspects of habitat manipulation for deer and elk; ecological studies on the bobcat, the prairie falcon, the mountain lion, and the rare greater sandhill crane; deer and elk range and vegetation analysis on the Salmon River; pocket gopher damage to forest seedlings; range use and food habits of mule deer in the Pahsimeroi.

FISHERIES

In 1967, the Fish and Game Department initiated a two-year study documenting — "The Extent and Effects of Stream Channel Alterations on Fish Production". Data collected in this survey was instrumental in the passage of Senate Bill 1119, a Stream Protection Law, by the Idaho Legislature in 1971. This bill has been a milestone in Idaho conservation legislation and has attracted national attention. Applications must now be made through the Idaho Department of Water Administration for a permit to do any work within the high water mark of a stream channel. These applications are reviewed by field personnel of the Fish and Game Department, State Parks Department, and Department of Environmental Protection and Health, and their recommendations incorporated in the permit. The law further provides for penalty for unauthorized work and liability for repair of damage to a stream.

During the biennium, 12 pollution-caused fish kills were recorded in Idaho waters. An estimated 300,000 fish were killed over 44 miles of streams. Within the past 12 years, 38 pollution-caused fish kills have been observed, involving 1,866,000 fish in 136 miles of streams and 1,860 surface acres of lakes and reservoirs. Twenty-five percent of the fish killed have been game species. Industrial operations were responsible for 46 percent of the fish kills; agricultural operations, 33 percent; municipal operations, 5 percent; transportation operations, 5 percent; and the remainder miscellaneous.

During 1970-1971, the Idaho Fish and Game Department collected 1,096 fish of 26 different species, 3 samples of aquatic organisms, 60 water samples, and 17 sediment samples from 93 geographical locations to determine the extent of mercury contamination in Idaho waters. Although sources of mercury could not be identified, sample testing by the Idaho Department of Environmental Protection and Health found mercury to be widespread in both waters and fish. Fifty-nine fish (5.3 percent) of the total number of fish collected exceeded the 0.50 ppm mercury residue level set by FDA as safe for human consumption. The highest mercury residue found was 1.70 ppm in a squawfish.

Grayling were first introduced in four alpine lakes in 1968. During 1970-1971, an additional 30 alpine lakes were stocked with this new game fish. Coho plantings have been now limited to only a few lakes and reservoirs. Experience has shown on a number of waters that coho retain their migratory tendency and migrate downstream within one year after stocking. Brown trout have been introduced into several new waters: Little Wood River where excellent fishing has resulted on browns, Sublett Reservoir, Salmon Falls Reservoir, Payette River, and St. Maries River. Stocking of channel catfish and smallmouth bass was continued in Snake River between C. J. Strike and Minidoka dams. Smallmouth bass were also released in Anderson Ranch Reservoir in 1972.

Six lakes were chemically treated to control nongame fish species. One of these, Hell Roaring Lake, is located within the Sawtooth Primitive Area and a helicopter was used to disperse the fish toxin. The lake was restocked in 1972 with grayling. The largest lake treated was Little Payette Lake, 1,250 surface acres. The following year, the lake was producing rainbow 2½ to 3 pounds in weight.

LAKE REHABILITATION — 1970

Name	County	Surface Acres	Volume Acre-Feet	Undesirable Species	Species Restocked	Toxicant
Campbell's Pond	Clearwater	10	22	Stunted Largemouth Bass and Bullheads	Brook and Rainbow Trout	Rotenone
Bonner	Boundary	23	200	Pumpkinseed	Rainbow	Fintrol
Upper Payette Lake	Valley	300	3,100	Squawfish, Suckers, Shiners	Rainbow	Fintrol
Windor Reservoir	Franklin	10	30	Sunfish	Rainbow	Rotenone

LAKE REHABILITATION — 1971

Name	County	Surface Acres	Volume Acre-Feet	Undesirable Species	Species Restocked	Toxicant
Hell Roaring Lake	Custer	59	1,778	Suckers, Shiners, Dace	Grayling Kokanee,	Fintrol
Little Payette Lake	Valley	1,250	18,000	Suckers, Shiners, Dace	Rainbow	Fintrol

STREAM REHABILITATION — 1970-1971

Year	Name	County	Volume	Miles Treated	Undesirable Species	Species Restocked	Toxicant
1970 & 1971	St. Joe River	Shoshone, Benewah	1,300 cfs	22	Squawfish	None	Squoxin
1970 & 1971	North Fork Payette River	Valley	200 cfs	18	Squawfish	None	Squoxin
1970 & 1971	Lake Fork	Valley	100 cfs	18	Squawfish	None	Squoxin
1970 & 1971	Gold Fork	Valley	50 cfs	4	Squawfish	None	Squoxin
1971	North Fork Clearwater	Clearwater	1,600 cfs	110	Squawfish	None	Squoxin

FISHERIES RESEARCH

Lake and Reservoir Investigations

Dworshak Fishery Studies

Pre-impoundment studies of the North Fork of the Clearwater River above the reservoir have continued since June, 1969. Dworshak Dam closed in September, 1971, and filled to within 60 feet of full pool by July, 1972.

During August, 1971, department personnel treated 103 miles of the North Fork and tributaries with the selective chemical "squoxin" in an attempt to selectively eradicate Northern Squawfish from the drainage prior to closure of the dam.

Since 1969, all adult steelhead entering the North Fork have been spawned at Dworshak National Fish Hatchery and the reduction of juveniles monitored by tributary trend samples. Angler harvest, assessed by creel census on the North Fork above the reservoir, reflects the reduction in catch of juvenile steelhead. Mountain whitefish have shown more prominence in the catch.

The creel census conducted on the lower Clearwater River reveals a downward trend in the catch of smallmouth bass. Juvenile steelhead from Dworshak Hatchery are an important portion of the below-dam catch.

Angler success during the fall steelhead season has remained constant at about 25 hours per fish since 1969; but effort, harvest, and Lewiston Dam counts have decreased.

Temperature and water quality are monitored at various sites above and below Dworshak Reservoir.

Anderson Ranch Reservoir

The sport catch of kokanee increased from 7,500 fish in 1970 to 17,000 in 1971 and 34,000 in 1972. The increased catch was brought about by an increase in the kokanee population and a change in angler habits. Anglers have learned that they can catch more kokanee trolling slow and deep with weighted line.

Shoreline rotenone treatments to control squawfish fry have been discontinued. Smallmouth bass have been introduced as a competitor and predator of squawfish. Fisheries personnel transplanted approximately 600 adult smallmouth bass from Brownlee Reservoir and 26,000 fingerling smallmouth from the Montana Federal Fish Hatchery into Anderson Ranch Reservoir in June, 1972. The adults spawned successfully and fry have survived well.

Cascade Reservoir

Squawfish spawning runs in the North Fork of the Payette River above Cascade Reservoir were treated with squoxin in 1971 and 1972 for the fourth and fifth consecutive years as a means of controlling the squawfish population in the reservoir. Gold Fork Creek received treatment for the third and fourth times while Lake Fork Creek had no significant spawning runs in either year and was not treated. Estimated kills in the North Fork were 20,000 in 1971 and 15,000 in 1972 compared

to 65,000 in 1970; 100,000 in 1969 and 200,000 in 1968. Squawfish catch rates continued to decrease (.16 fish per hour in 1972 compared to .71 in 1968) indicating a significant reduction in the squawfish population at Cascade Reservoir.

Studies to evaluate trends in gamefish populations were also continued at Cascade during 1971-72. Estimated catch rates for rainbow trout (.24 fish per hour in 1972 compared to .19 in 1970), yellow perch (.86 to .23), and brown bullhead (.18 to .02) all showed increases during the biennium. The coho salmon catch decreased slightly in 1971 but the estimated catch in 1972 was 35,400 fish as compared to a previous high of 13,400 in 1970.

The 1971 census tabulations show that anglers took a mixed bag of 20,256 rainbow trout, 8,698 coho salmon, 38,011 yellow perch, 4,230 bullheads and 17,815 squawfish in 84,854 hours of effort. The variety and quality of the Cascade catch and its proximity to the southwest Idaho population center makes this one of Idaho's most important resident fisheries.

Priest Lake and Upper Priest Lake

In May and June of 1970, the incubation channels at Kalispell and Hunt creeks received 307,280 and 374,040 eyed cutthroat trout eggs, respectively. In two years (1970 and 1971) only 24 cutthroat trout spawners entered the Hunt Creek trap. Continued low trap captures indicate that survival of eyed eggs to catchable-size fish is minimal.

In 1970 and 1971 we planted 16,455 and 26,650 catchable-size cutthroat trout in Upper Priest Lake. Only 91 of these 43,105 catchables or only one of every 474 fish caught have entered the sportsmen's creel in two years at Upper Priest Lake.

Between June 6 and August 27, 1971, fisheries personnel sampled with hook-and-line 15 streams tributary to Priest and Upper Priest Lake. Cutthroat trout are the dominant fish species in nearly all the tributaries. No marked cutthroat from our lake plants were found in these spawning tributaries. We found lake cutthroat spawners, in any number, only in Upper Priest River.

Pend Oreille Lake

The creel census was continued in 1970 and 1971. We now contact and interview a larger percentage of the anglers fishing the lake. Catch data indicates a significant decline in the kokanee catch on the south end of the lake during the summer of the past six years. On the north end, kokanee catches have increased in the summer.

The total kokanee catches for 1970 and 1971 were 662,000 and 590,000. These low catches result primarily from declines in catch rate and pressure in the spring fisheries.

Preliminary analysis indicates that water drawdowns after November 15 are directly correlated with poor kokanee fishing.

Mysis Shrimp Introductions

Sampling indicates that Mysis have become established and are abundant in Priest Lake. However, it is too early to evaluate survival in the other 13 lakes and reservoirs stocked between 1965 and 1970.

Stream Investigations

St. Joe River Cutthroat Trout

Study results indicate that cutthroat trout are vulnerable to angling and that populations are progressively low to high in areas heavily fished to lightly fished.

Regulations to reduce the harvest of cutthroat along roaded areas have been implemented and are being evaluated.

Kelly Creek Cutthroat Trout

Creel census and underwater counts show that cutthroat trout are now much more abundant along roaded areas after only two years of a catch-and-release program.

Snake River Investigations

A team of biologists are surveying sections of the Snake River above Brownlee Reservoir to American Falls to describe recreation use, access, and water quality characteristics in free flowing and impounded sections.

Basically, reservoir pools such as Swan Falls, Milner and Walcott provide few game fish while free flowing sections below American Falls and Swan Falls provide good fishing.

Turbidity, primarily from irrigation returns, seriously reduce the fishability of the Snake River above Hagerman.

Salmon Harvest Check Station

In 1970, three check stations were operated to monitor the salmon sport harvest from the upper main Salmon River and Middle Fork during June and July. In 1970, check station operators interviewed 3,512 anglers who fished 42,429 hours to catch 1,198 salmon. Nonresidents comprised 15 percent of the salmon anglers, fished 21 percent of the total hours and caught 20 percent of the harvest. The check stations recorded 8,508 man-days spent fishing for salmon in 1970, or 7.1 man-days per fish.

In 1971, the check station operators contacted 1,137 anglers who fished 18,428 hours to catch 706 salmon. This is about one-third of the effort and harvest compared to 1970. Extended high water runoff and fish losses at dams and from nitrogen gas disease is believed to have combined to create the lowest state harvest figure on record for chinook salmon. Nonresidents comprised 18 percent of the salmon anglers in 1971, and spent 26 percent of the total hours fished to catch 26 percent of the harvest. We recorded 3,864 man-days spent fishing for 706 adult salmon, or 5.5 man-days per fish in 1971.

Evaluation of Snake River Steelhead Transplants

Approximately 1.6 million steelhead smolts have been planted each year in the Pahsimeroi River since 1967 as part of the Idaho Power Company obligation to transfer steelhead runs blocked by Hells Canyon Dam.

The Department monitors the success of these steelhead plantings and improves handling and planting techniques by enumeration of the

emigration patterns from the Pahsimeroi and by enumeration of the smolt migration past traps at Federal dams downstream.

In the spring of 1971, only 713 adult steelhead returned from smolt releases in the Pahsimeroi. These yielded over 1.75 million eggs which were reared at Niagara Springs Hatchery and released as smolts in the spring of 1972. An excellent return of over 4,900 adult steelhead came back to Pahsimeroi in the spring of 1972. Hatchery fish also contributed over 60 percent of the steelhead sport catch in the main Salmon River between the South Fork of the Salmon and the Pahsimeroi River in the fall of 1971 and spring of 1972. These adults were the first fish to return from ocean-going parent stock that homed back on the Pahsimeroi from the first smolt plants. Prior egg stock came from fish trapped at Hells Canyon Dam. Over 10 million eggs were shipped from the Pahsimeroi in 1972.

Decker Flat Chinook Rearing Pond

Decker Flat pond is a five acre pond located near Stanley, modified and equipped for experimental rearing and release of yearling chinook salmon. Various experiments on overwinter holding survival and release techniques led us into a summer rearing-fall release program for the 1970-72 biennium. Some 350,000 fish were released in October, 1971, and 400,000 are due for release in September and October, 1972.

Marking programs are conducted to determine survival from various release times. The first adults should return in the summer of 1973.

Hayden Creek Research Station

The primary function of the Hayden Creek station is to develop pond rearing techniques for juvenile steelhead and salmon. Steelhead are released in the spring of the year and chinook in the fall from two 0.6 acre ponds.

There were 187,000 steelhead released in the spring of 1970, 150,000 in 1971, and 90,000 in 1972. Also, there were approximately 150,000 chinook salmon released in the fall of 1970 and 200,000 in the fall of 1971.

Returns of adult steelhead have been low to date so we have modified experimental techniques of rearing and releasing smolts to induce a strong seaward-migrating urge. The first adult salmon are expected back to the station in the summer of 1973.

Various other research projects are carried on at the station in conjunction with the Idaho Cooperative Fishery Unit.

Juvenile Salmon-Steelhead Yield Studies

The objectives of studies at Big Springs Creek, a tributary of the Lemhi River, are to determine the yield of salmon and steelhead smolts.

In 1971, for the first time, we were able to establish a large juvenile chinook salmon population in Big Springs Creek during the summer rearing period and observe the yield of salmon and trout with both species present.

We released 264,400 chinook fingerling into the creek in early June, 1971. Nearly all of the 8,900 larger chinook fingerlings left the stream within a month after release, but few of the 255,500 smaller chinook left the stream until fall.

We released 136,800 steelhead trout fry into the creek on August 2, 1971. Only 2,000 age 0 rainbow-steelhead migrated from the stream in the fall of 1971, the smallest number ever counted. The small number of migrants was due to: (1) the small number of fry released, (2) the late date of release, and/or (3) competition and predation with chinook salmon.

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 Lehmi 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	297,000
1969	743	328	129,000
1970	1,217	358	
1971	832	392	

*Partial Count

The number of salmon counted at the weir in 1971 decreased from 1970 but the number of redds counted was about the same both years.

Only 129,000 smolts of the 1969 year class left the Lemhi River during 1970 and 1971. The weir and redd counts in 1969 were the smallest on record.

Smolt to adult survival for Lemhi River chinook has ranged from 0.25 percent to 1.22 percent. The lower survival rates of the 1964 and 1965 year classes may reflect losses of migrants due to nitrogen disease.

	Parent Run			
Year	Weir Count	Smolts	Returning Adults	Percentage Survival
1963		174,000	2,123	1.22
1964	1,075*	401,000	1,016	0.25
1965	765	185,000	1,074	0.58
1966	1,473	108,000	870	0.81

*Partial Count

SALMON-STEELHEAD

Spring Chinook

The upriver spring chinook run that entered the Columbia River during 1970 was slightly above the 10-year average. The Ice Harbor count of approximately 48,000 was 28 percent above the five-year average and the count of 43,600 at Little Goose Dam was considerably above the established escapement goal of 32,000 spring chinook at the uppermost dam. This relatively good count at Little Goose Dam normally would have meant an adequate spawning population and reasonably good fishing in the Salmon River drainage.

However, excessive spilling at Little Goose Dam and a large runoff caused nitrogen supersaturation problems throughout the Snake and Columbia rivers. An estimated 45 percent of the spring chinook run suffered delayed mortalities after passing Little Goose Dam.

In 1970, the Salmon River ran high and turbid from early May through June and chinook angling did not become good until after the first part of July (90 percent of the total harvest occurred after July 5). Information collected at three check stations on the Upper Salmon River indicated that anglers spent an average of 35.4 hours to catch a salmon. Nonresidents made up 15 percent of the salmon anglers and spent 21 percent of the total hours fished to catch 20 percent of the harvest recorded at our stations. The 1970 catch estimate of 5,500 was the lowest Idaho sport harvest on record.

Idaho's spring chinook redd counts were down 18 percent from the previous five-year averages.

In addition to the extreme losses that the adult spring chinook suffered, large losses of migrating smolts occurred due to nitrogen disease. An estimated 70 percent of the Salmon River wild chinook smolts and 90 percent of the Rapid River Hatchery production were lost prior to Ice Harbor Dam during 1970 as a result of gas bubble disease.

If these losses prove to be as extreme as observations indicate, then the 1972 returns may be severely reduced.

The upriver spring chinook run into the Columbia River in 1971 was slightly above the ten-year average. The Ice Harbor Count of approximately 32,641 was 27 percent below the five-year average and the count of 28,432 at Little Goose Dam was considerably below the established minimum escapement goal of 32,000 spring chinook at the uppermost dam.

Excessive spilling of water at the Snake River dams cause nitrogen supersaturation throughout the Snake and Columbia rivers throughout the entire spring migration period. Nitrogen concentration in the Snake River reached 125 to 130 percent of saturation in early April and remained 130 percent or higher until late June. Evidence throughout the summer indicated that a large prespawning mortality was occurring throughout Idaho waters. An estimated 34 percent of the fish passing the Snake River dams died prior to reaching Idaho major fishing and/or spawning areas. We attributed these losses primarily to delayed mortality due to nitrogen disease.

In 1971, the Salmon ran high and turbid from early May through early July and chinook angling did not pick up until after the Fourth of

July and was not really good until the last two weeks of July. The extended spring runoff undoubtedly reduced the harvest of chinook salmon in May, June, and early July. Salmon anglers interviewed at three check stations on the upper Salmon River averaged 26 hours per fish. Approximately 23 percent of the salmon checked at the check stations were jacks. The 1971 catch of 3,500 chinook was the lowest sport harvest on record. Angler participation was down considerably from past years while prolonged high water in June and early July and nitrogen related losses of chinook also contributed to the low harvest.

Salmon spawning surveys for streams of the upper Salmon River drainage showed that the spawning escapement was down 38.5 percent for the 1960 to 1968 mean.

In addition to the severe losses that the adult spring chinook suffered, large losses of migrating smolts due to nitrogen disease were also reported.

Summer Chinook

The summer chinook run entering the Columbia River during 1970 was the second smallest run since 1950. The 23,174 summer chinook that passed Little Goose Dam was considerably below the established 32,000 minimum escapement goal over the last dam. Approximately 90 percent of the summer chinook run passed through the Columbia and Snake rivers where nitrogen supersaturation levels were high. Spawning ground surveys revealed an overall summer chinook redd decrease of 36 percent from the 1965-1969 average.

The summer chinook run entering the Columbia River was made up of approximately 90,700 fish during 1971. No commercial fishing season was allowed specifically for summer chinook during 1971. However, 20 percent of the run was harvested downriver by sport anglers or as incidental commercial harvest during the sockeye and shad seasons. The 26,830 summer chinook that passed Little Goose Dam was considerably below the established 32,000 minimum escapement goal past the last dam. Spawning ground surveys revealed an overall summer chinook redd decrease of 19 percent from the five-year average. These low redd counts indicate that at least a portion of the summer chinook may have also been severely affected by high nitrogen levels and generally poor river conditions.

Summer Steelhead

1969-1970 Run

The estimated run of 180,000 summer steelhead that entered the mouth of the Columbia River during 1969 was below the five-year average and was reflected in below average counts at Ice Harbor and Lewiston dams.

The steelhead harvest from the 1969-1970 run was an estimated 18,500. Fishing was fairly good during the fall months but relatively poor during the spring. Over 20 percent of the steelhead checked at the North Fork check station were of hatchery origin.

1970-1971 Run

The estimated run of 138,700 summer steelhead that entered the

mouth of the Columbia River during 1970 was 48,200 fish below the average for recent years and the smallest run on record. This below average run of fish was reflected in poor Ice Harbor Dam and Lewiston Dam counts.

The steelhead harvest from the 1970-71 run was estimated at 16,500 compared with the five-year average of 21,500.

A checking station located near Riggins (Shorts Bar) monitored steelhead angling on the Salmon River from the Little Salmon River upstream to the South Fork. Anglers checked at this station during the fall of 1970 averaged 16.8 hours per fish and about one percent of the fish were of hatchery origin.

The 1971 spring harvest for this section of river contained 3.2 percent hatchery fish while anglers averaged 31.4 hours per steelhead. The North Fork check station monitored steelhead angling on the Salmon River from the South Fork to the North Fork. Anglers checked in the fall of 1972 averaged 22.4 hours per fish and 16.6 percent of the fish were of hatchery origin. Anglers checked at the North Fork station during the spring of 1971 averaged 30.8 hours per fish with a total of 17.2 percent of their harvest hatchery origin steelhead.

COLUMBIA RIVER FISHERY DEVELOPMENT PROGRAM

Spring Chinook

A total of 1,700 and 2,187 chinook were counted over the Lewiston Dam near the mouth of the Clearwater River in the spring and summer of 1970 and 1971, respectively. The return of 1,700 fish in 1970 was smaller than the record 2,529 that returned in 1969 while the return of 2,187 fish in 1971 was the second highest chinook return to the Clearwater River. Based on past records, it appears that the majority of fish returning in 1970 and 1971 were the result of the reintroduction program.

Approximately 7,579,000 eyed spring chinook eggs were placed in incubation channels in the Clearwater River during 1970. The Selway River received 4,339,155 of the eyed eggs and the South Fork Clearwater River received 3,239,762. This was the first introduction of chinook into the South Fork. During 1971, approximately 2,423,000 eyed spring chinook eggs were placed in incubation channels in the Clearwater River. The Selway River received 1,623,080 of the eyed eggs and the South Fork Clearwater River received 800,000.

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 this drainage in 1963 after access to the drainage had been blocked for 14 years.

Approximately 2,007,500 eyed steelhead eggs were planted in controlled flow hatching channels in tributaries of the South Fork of the Clearwater River in June, 1970. Approximately 256,000 eyed steelhead eggs were planted in controlled flow hatching channels in tributaries of the South Fork of the Clearwater River during 1971. Approximately

6,456,000 eyed steelhead eggs have been planted in channels in the South Fork of the Clearwater River since 1962.

The numbers of adult steelhead sighted in the drainages have been more frequent with each passing year. Many adult steelhead have been observed by local residents of the area and frequent reports of accidental catches were noted in 1970 and 1971.

Coho Salmon

The count of coho over Lewiston Dam totaled 40 in 1970 and 61 in 1971. Due to insignificant returns of adults, the reintroduction of coho was terminated.

Fall Chinook

Totals of 109 and 66 fall chinook were counted over Lewiston Dam during 1970 and 1971, respectively. Due to insignificant returns of fall-run chinook, the reintroduction has been terminated.

FISH HATCHERIES

American Falls Fish Hatchery

A 6-inch fish pump for loading and moving fish was purchased and placed in service at the station. This has eliminated much of the dip net use in handling fish. Steel walkways were placed over raceways to provide additional safety. A new residence was constructed to replace one which had been built in the early 1930's.

Ashton Fish Hatchery

Improvements at the station included the repair of the automatic fish feeders and repairs to the concrete head structure on the hatchery water supply pond.

A new residence was authorized and constructed. This will replace the old superintendent's residence which had deteriorated beyond repair.

Clark Fork Fish Hatchery

North Idaho cutthroat eggs were taken from spawners at Fish Lake and are being held for future brood stock. Raceway construction has been authorized; however, the project has been postponed until next year.

Eagle Fish Hatchery

This station operated a kokanee spawning trap on Trinity Creek with 1,712,280 eggs taken in 1971. A bedroom was added to house #1 and a new oil furnace installed. Other improvements included the pouring of a 6-inch concrete border around the raceways to eliminate hand trimming of grass.

Grace Fish Hatchery

The bulk fish feed storage bin was moved to a better location to improve feed handling. A land purchase of 1.43 acres was completed to provide space for a sewage lagoon. This lagoon was completed in 1972. Preliminary construction was started on an office and bachelor quarters building.

Hagerman Fish Hatchery

Improvements included the construction of a new 12-ton bulk feed storage bin and replacement of a wooden pipeline with steel pipe to provide water to the hatchery vats and fingerling raceways. During 1972, a project to rear steelhead for the upper Salmon River was authorized and four 570-foot long production raceways were constructed for steelhead production. New plank decking was placed on the Riley Creek bridge.

Hayspur Fish Hatchery

Spawntaking from the rainbow brood stock produced 3,135,918 eggs in 1971 with an eye up of 92.3 percent.

New construction included a sewage lagoon and the replacement of the steel pipeline from the spring to the hatchery. Public rest rooms were also added to this station.

In 1972 a new residence was constructed to replace a house built in the early 1930's.

Henrys Lake Fish Hatchery

A random sample of 1,038 cutthroat adult spawners were jaw tagged for survival and catch rate study. The department acquired 1.4 acres of additional land at the hatchery site for possible development. Improvements were made on the spawning trap discharge chute and a new aeration pipeline was placed in Henrys Lake to provide aeration for the concentration of spawners at the mouth of Hatchery Creek.

Mackay Fish Hatchery

In 1971, a new sewage tank and drain field was established to service all the hatchery's needs. Improvements in 1972 included the removal of an old residence and the construction of a new three-bedroom home.

All of the rainbow brood fish were planted as it was determined that the facilities at this station were not suitable for optimum brood fish production.

McCall Fish Hatchery

During 1971, 52,550 pounds of catchable size rainbow trout transferred from Hagerman Hatchery were redistributed in the McCall region.

Over 150 high mountain lakes were stocked from this station during each of the two years of 1971 and 1972. Catchable size rainbow trout planted in 1972 weighed 58,515 pounds. These were fish reared at the Hagerman Hatchery and redistributed in the McCall region.

Mullan Fish Hatchery

During 1971, production from this station totaled 2,133 pounds of kokanee salmon, coho salmon, and cutthroat trout. Catchable rainbow trout planted in the area weighed 41,750 pounds. All catchable rainbow had been transferred from Hagerman and were redistributed. In 1972, 51,085 pounds of Hagerman trout were planted from the Mullan Hatchery.

Niagara Springs Hatchery

A total of 1,630,000 steelhead smolts weighing 197,778 pounds were released in the Pahsimeroi River and an additional 138,171 steelhead weighing 7,778 pounds were transported to the Pahsimeroi release ponds and reared until the spring of 1972. From March to May of 1972, 1,555,050 steelhead smolts weighing 233,500 pounds were released in the Pahsimeroi River. During the spring of 1972, 10,670,485 eyed steelhead eggs were received from the Pahsimeroi trap for incubation.

Oxbow Fish Hatchery

During the 1971 steelhead trapping season at Hells Canyon, 284 steelhead adults were received at the Oxbow Hatchery. A total of 773,244 eggs were taken and shipped to the Niagara Springs Hatchery. In 1972, 700 adult steelhead were received at the Oxbow Hatchery, producing a total of 1,949,662 eggs.

Pahsimeroi Trap

A total of 713 adult steelhead entered the Pahsimeroi trapping facility producing 1,757,972 eggs in 1971. Total summer chinook salmon adults trapped was 262 producing 445,772 eggs. In 1972, 4,578 adult steelhead returned to the trapping station with a total egg production of 11,080,842 eggs. The eyed eggs were shipped to the Niagara Springs Hatchery and Hagerman Hatchery for rearing. Improvements were made on the trap facility during the year by Idaho Power Company.

Rapid River Fish Hatchery

During April, 1971, 2,718,720 chinook salmon smolts were released to Rapid River at an average of 21 fish per pound. Total production for the year was 129,463 pounds.

A total of 5,111 spring chinook salmon jacks and adults returned to the Rapid River trap in 1971 with 6,038,785 eggs taken.

A new 10' x 20' metal storage building was added to the hatchery facility, and a spawntaking platform was constructed. In 1972, 8,081 adult chinook were trapped and held for spawning. During August and September 15,102,604 eggs were taken which was a record egg take for this station.

Sandpoint Fish Hatchery

Production of cutthroat, brook trout, and kokanee salmon from this station in 1971 totaled 6,093 pounds. Improvements during 1971 was the installation of a new 12-inch steel pipeline between the water supply spring and the hatchery. During 1972, 95,275 spring chinook salmon smolts were reared and planted in the Lochsa River.

Twin Falls Fish Hatchery

A total of 22,051 pounds of fish were planted from the Twin Falls Hatchery in 1971. Species planted included rainbow trout, cutthroat trout, and kokanee salmon. In 1972, 23,992 pounds of fish were planted in the area. No major improvements were undertaken in either year.

Warm River Fish Hatchery

A total of 856,144 cutthroat weighing 702 pounds were planted from Warm River Hatchery in 1971. Waters planted were mainly in the drainages of the Teton River, South Fork of the Snake River and Island Park Reservoir. In 1972, fish planting totaled 1,741 pounds from this station.

No major improvements were undertaken in 1972.

EGGS RECEIVED BY PURCHASE OR EXCHANGE FROM OTHER AGENCIES
(October 1, 1970 - September 30, 1972)

Species	Year	Number
Rainbow	1971	5,372,042
	1972	4,371,604
Brook	1971	310,016
	1972	775,860
Brown	1971	811,659
	1972	745,680
Coho	1971	3,284,552
	1972	2,109,272
Grayling	1971	112,000
	1972	30,100
Kokanee	1971	460,800
Mackinaw	1971	151,730
Spring Chinook	1972	2,423,080
TOTALS	1971	10,502,799
	1972	10,455,596
BIENNIUM TOTALS		20,958,395

FISH FEED
(October 1, 1970 - September 30, 1972)

Item	Year	Pounds	Cost
Idaho Open Formula Diet	1971	2,287,938	$208,065.35
	1972	2,728,913	267,629.35
Oregon Moist Pellets	1971	292,081	50,346.97
	1972	290,387	48,691.64
Liver	1971	180	36.00
	1972	159	28.62
TOTALS	1971	2,580,199	$258,448.32
	1972	3,019,459	316,350.61
BIENNIUM TOTALS		5,599,658	$574,798.93

EGGS TAKEN BY STATE
(October 1, 1970 - September 30, 1972)

Station	Year	Species	Number Green Eggs	Percent Eye Up	Number Eyed Eggs
American Falls	1971	Rainbow	2,948,640	81.2	2,394,240
	1972	Rainbow	2,649,112	85.9	2,269,112
Clark Fork	1971	Cutthroat	36,720	88.9	32,640
	1972	Cutthroat	57,732	77.9	45,025
	1971	Kamloops	592,364	69.0	408,731
	1972	Kamloops	492,268	80.8	398,737
	1971	Kokanee	1,192,304	71.0	846,535
	1972	Kokanee	801,226	91.4	732,320
	1971	Dolly Varden	1,149,986	72.0	827,989
	1972	Dolly Varden	1,429,935	79.9	1,143,539
Eagle	1971	Kokanee	1,712,280	81.2	1,389,460
	1972	Kokanee	1,700,000	89.3	1,518,792
Grace	1971	Rainbow	174,168	85.3	148,707
Hayden Creek	1971	Steelhead	138,088	90.1	124,362
	1972	Steelhead	320,179	82.1	262,793
Hayspur	1971	Rainbow	3,135,918	92.2	2,892,886
	1972	Rainbow	3,897,628	93.9	3,660,029
Henrys Lake	1971	Cutthroat	9,462,258	91.4	8,651,448
	1972	Cutthroat	9,844,848	89.0	8,760,960
	1971	Cutthroat & Rainbow	729,378	90.7	661,284
	1972	Cutthroat & Rainbow	463,320	86.2	399,438
Mackay	1971	Rainbow	1,051,156	63.9	671,362
	1972	Rainbow	1,159,144	69.0	800,756
Oxbow	1971	Steelhead	773,244	90.4	700,161
	1972	Steelhead	2,232,670	94.4	2,099,729
Pahsimeroi	1971	Steelhead	1,757,972	81.9	1,439,842
	1972	Steelhead	11,080,842	90.3	10,010,916
	1971	Chinook	445,772	76.5	339,396
Rapid River	1972	Chinook	15,102,604	89.0	13,441,317
	1971	Chinook	6,038,785	82.7	4,994,075
Sandpoint	1971	Kokanee	267,157	86.0	230,736
U. S. Dworshak	1971	Kokanee	1,700,000	91.0	1,540,000
TOTALS	1971		33,132,022	84.9	28,145,147
	1972		51,405,676	88.8	45,692,170
BIENNIUM TOTALS			84,537,698	87.3	73,837,317

HATCHERY PRODUCTION
(October 1, 1970 - September 30, 1972)

Hatchery	Year	Rainbow No.	Rainbow Lbs.	Cutthroat No.	Cutthroat Lbs.	Brook No.	Brook Lbs.	Kamloops No.	Kamloops Lbs.	Mackinaw No.	Mackinaw Lbs.	Kokanee No.	Kokanee Lbs.	Brown No.	Brown Lbs.	Spring Chinook No.	Spring Chinook Lbs.
American Falls	1971	721,963	141,493	966,000	322									180,879	2,757		
	1972	525,505	146,666	721,286	586									324,472	3,371		
Ashton	1971	526,466	54,111														
	1972	1,080,115	55,055	499,200	195			190,249	4,577			826,360	450				
Clark Fork	1971		25,857[1]	587,181	1,186			192,367	3,985			544,312	367				
	1972		20,930[2]	26,226	172							228,435	1,479				
Eagle	1971	320,571	30,756									372,238	1,044	4,212	156		
	1972	540,157	26,446														
Grace	1971	951,246	91,191	1,457,073	3,144	43,869	214										
	1972	1,090,565	119,787	1,710,775	3,213	248,944	1,997										
Hagerman	1971	2,378,679	345,695					72,350	3,050								
	1972	1,011,150	492,319					67,775	4,500								
Hayden Creek	1971															405,988	14,999
	1972															546,214	22,027
Hayspur	1971	1,243,627	113,493									169,900	860	98,612	99		
	1972	1,842,992	146,355									249,750	1,530	134,459	221		
Henry's Lake	1971			763,110	1,183												
	1972			373,526	478												
Mackay	1971	807,448	88,692	166,366	150					9,350	3,020	145,976	778			262,340	590
	1972	635,976	98,989	138,526	202						1,660	146,570	900				
McCall	1971	131,544	40	430,700	230												
	1972	247,325	158	433,245	236	7,840	32					241,832	817				
Mullan	1971			373,376	665							608,264	313				
	1972			286,102	351	20,776	56					231,016	67				
Niagara Springs	1971																
	1972																
Oxbow	1971																12,121[3]
Pahsimeroi	1971															3,695,449	131,882
	1972															4,826,073[4]	164,750
Rapid River	1971																429[5]
	1972															195,258	4,237
Sandpoint	1971			157,587	4,984	10,064	653					120,312	27				
	1972			372,330	3,739	47,250	189	91,160	73								
Twin Falls	1971	396,722	20,646	41,707	61							232,018	124				
	1972	307,602	20,683	82,053	168							246,776	166				
Warm River	1971			712,580	487												
	1972			879,328	1,571												
TOTALS	1971	7,478,266	911,974	5,655,680	12,412	53,933	867	262,599	7,627	9,350	3,020	2,331,265	4,021	279,521	2,856	4,363,777	160,021
	1972	7,281,387	1,127,388	5,522,597	10,911	324,810	2,274	351,302	8,558		1,660	2,032,494	4,891	463,143	3,748	5,567,345	191,014
BIENNIUM TOTALS		14,759,653	1,039,362	11,178,277	23,323	378,743	3,141	613,901	16,185	9,350	4,680	4,363,759	8,012	742,664	6,604	9,931,322	351,035

[1]Clark Fork Hatchery weight increase in rainbow transferred from Hagerman.
[2]Weight gain on fish transferred from Hagerman.
[3]Pahsimeroi weight increase from chinook transferred from Mackay and Hayden Creek.
[4]624,292 eyed egg plants.
[5]Sandpoint weight gain from chinook transferred from Rapid River.
[6]Pahsimeroi weight increase from steelhead transferred from Niagara.
[7]Weight gain on steelhead transferred from Niagara.

HATCHERY PRODUCTION

(October 1, 1970 - September 30, 1972)

Hatchery	Year	Summer-Chinook No.	Summer-Chinook Lbs.	Rainbow and Cutthroat No.	Rainbow and Cutthroat Lbs.	Steelhead No.	Steelhead Lbs.	Coho No.	Coho Lbs.	Grayling No.	Grayling Lbs.	Dolly Varden No.	Dolly Varden Lbs.	Total No.	Total Lbs.
American Falls	1971							285,480	2,745					2,154,322	147,317
	1972							171,350	4,100					1,742,613	154,723
Ashton	1971							387,200	4,400					913,666	58,511
	1972							358,975	4,325					1,938,290	59,575
Clark Fork	1971											577,680	974	2,181,470	33,044
	1972											619,876	1,019	1,382,781	26,473
Eagle	1971							156,950	700					705,956	32,935
	1972							221,980	1,226					1,138,587	28,872
Grace	1971							192,710	1,965					2,644,898	96,514
	1972													3,050,284	124,997
Hagerman	1971							331,560	657					2,782,589	349,402
	1972					653,127	10,830	256,170	3,539					1,988,222	511,188
Hayden Creek	1971					84,132	24,201							490,120	39,200
	1972					149,913	5,041							696,127	27,068
Hayspur	1971							176,000	640					1,688,169	115,082
	1972													2,227,201	148,106
Henrys Lake	1971			183,920	53									947,030	1,236
	1972													373,526	478
Mackay	1971							380,800	2,800	29,120	3			1,801,400	96,033
	1972	245,007	1,016			358,190	85			28,000	3			1,552,269	102,855
McCall	1971									60,000	10			622,244	280
	1972													930,242	1,243
Mullan	1971							514,424	1,155					1,496,064	2,133
	1972							376,670	514			41,400	23	955,964	1,011
Niagara Springs	1971					1,785,866	200,063							1,785,866	200,063
	1972					7,823,516	248,068							7,823,516	248,068
Oxbow	1972													-----	-----
Pahsimeroi	1971						22,040[6]								34,161
	1972	231,690	13,646				5,420[7]							231,690	19,066
Rapid River	1971													3,695,449	131,882
	1972													4,826,073	164,750
Sandpoint	1971													287,963	6,093
	1972													705,998	8,238
Twin Falls	1971													670,447	20,831
	1972													636,431	21,017
Warm River	1971			125,660	206									838,240	693
	1972			349,520	170									1,228,848	1,741
TOTALS	1971			309,580	259	1,869,998	246,304	2,425,124	15,062	89,120	13	577,680	974	25,705,893	1,365,410
	1972	476,697	14,662	349,520	170	8,984,746	269,444	1,385,145	13,704	28,000	3	661,276	1,042	33,428,662	1,649,469
BIENNIUM TOTALS		476,697	14,662	659,100	429	10,854,744	515,748	3,810,269	28,766	117,120	16	1,238,956	2,016	59,134,555	3,014,879

IDAHO FISH PLANTINGS*

By Species, Size — All Agencies

(October 1, 1970 - September 30, 1972)

Species	Year	0-3"	3-6"	6"-Up	Total	Pounds
Rainbow	1971	2,691,236	886,954	3,332,487	6,910,677	1,001,778
	1972	3,774,746	2,131,949	3,605,872	9,512,567	1,289,848
Cutthroat	1971	5,342,161	301,192	217,530	5,860,883	50,605
	1972	5,690,015	202,330	276,491	6,168,836	51,548
Rainbow and Cutthroat	1971	309,580			309,580	259
	1972	349,520			349,520	170
Brook	1971	56,480	57,283		113,763	1,854
	1972	259,773	9,880		269,653	2,089
Coho Salmon	1971	2,430,953			2,430,953	15,107
	1972	1,385,145		2,160	1,387,305	14,004
Chinook Salmon	1971	1,128,615	3,469,036		4,597,651	187,946
Spring Chinook Salmon	1972	4,843,831[1]	3,642,955	96,032	8,582,818	160,766
Summer Chinook Salmon	1972		102,508	129,182	231,690	13,646
Kamloops	1971	176,167	50,525	16,127	242,819	7,630
	1972	135,928	100	17,950	153,978	4,666
Kokanee	1971	2,331,265			2,331,265	4,021
	1972	2,028,731	764,150		2,792,881	14,347
Grayling	1971	89,120			89,120	13
	1972	28,000			28,000	3
Steelhead	1971	392,800[2]	742,911	2,737,887	3,873,598	381,601
	1972	2,733,779		2,796,194	5,529,973	462,495
Brown	1971	116,858	162,663		279,521	2,878
	1972	430,707	4,212		434,919	3,692
Dolly Varden	1971	574,001	3,750	1,113	578,864	801
	1972	660,199		2,196	662,395	1,061
Channel Catfish	1971	90,000			90,000	71
	1972	150,214			150,214	118
Smallmouth Bass	1971		9,440		9,440	70
	1972	85,280			85,280	260
Mackinaw	1971		30,000	32,670	62,670	4,040
	1972		94,350	18,156	112,506	2,927
TOTALS	1971	15,729,236	5,713,754	6,337,814	27,780,804	1,658,674
	1972	22,555,868	6,952,434	6,944,233	36,452,535	2,021,640
BIENNIUM TOTALS		38,285,104	12,666,188	13,282,047	64,233,339	3,680,314

*Excludes all salvaged fish. These are reported in another table.
[1]3,047,372 planted as eyed eggs.
[2]256,000 planted as eyed eggs.

FISH PLANTINGS IN IDAHO BY OTHER AGENCIES

(October 1, 1970 - September 30, 1972)

Station	Year	Rainbow		Cutthroat		Steelhead		Chinook Salmon		Smallmouth Bass	
		No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.
U.S. Jackson (Wyoming)	1971			424,589	37,865						
	1972			327,233	39,214						
U.S. Hagerman (Idaho)	1971	795,881	140,224								
	1972	801,924	116,229								
U.S. Dworshak (Idaho)	1971					1,551,384[1]	184,336				
	1972	1,043,506	99,935			977,315	172,329				
U.S. Miles City (Montana)	1971									9,440	70
	1972									85,280	260
U.S. Kooskia (Idaho)	1971							185,950	19,538		
	1972							933,488	12,368		
Idaho Power	1971	13,649	7,000								
	1972	17,515	7,006								
Utah State	1971			107,600	142						
Wyoming State	1971			7,831	1,098						
	1972			1,020	6						
U.S. Carson (Washington)	1972							2,423,080[2]			
TOTALS	1971	809,530	147,224	540,020	39,105	1,551,384	184,336	185,950	19,538	9,440	70
	1972	1,862,945	223,170	328,253	39,220	977,315	172,329	3,356,568	12,368	85,280	260
BIENNIUM TOTAL		2,672,475	370,394	868,273	78,325	2,528,699	356,665	3,542,518	31,906	94,720	330

[1]256,000 of these planted as eyed eggs.
[2]Planted as eyed eggs.

FISH PLANTINGS IN IDAHO BY OTHER AGENCIES

(October 1, 1970 - September 30, 1972)

Station	Year	Channel Catfish		Mackinaw		Coho		Kokanee		Total	
		No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.	No.	Lbs.
U.S. Jackson (Wyoming)	1971			30,000	340					454,589	38,205
	1972			94,350	747					421,583	39,961
U.S. Hagerman (Idaho)	1971					5,829	45			801,710	140,269
	1972					2,160	300			804,084	116,529
U.S. Dworshak (Idaho)	1971									1,551,384	184,336
	1972							1,012,745	10,176	3,033,566	282,440
U.S. Miles City (Montana)	1971	90,000	71							99,440	141
	1972	150,214	118							235,494	378
U.S. Kooskia (Idaho)	1971									185,950	19,538
	1972									933,488	12,368
Idaho Power	1971									13,649	7,000
	1972									17,515	7,006
Utah State	1971									107,600	142
Wyoming State	1971									7,831	1,098
	1972									1,020	6
U.S. Carson (Washington)	1972									2,423,080	
TOTALS	1971	90,000	71	30,000	340	5,829	45			3,222,153	390,729
	1972	150,214	118	94,350	747	2,160	300	1,012,745	10,176	7,869,830	458,688
BIENNIUM TOTAL		240,214	189	124,350	1,087	7,989	345	1,012,745	10,176	11,091,983	849,417

FISH SALVAGED AND PLANTED

(October 1, 1970 - September 30, 1972)

Station Area	Year	Trout	Bluegill	Kokanee	Largemouth Bass	Smallmouth Bass	Catfish*	Perch	Whitefish	Total Number	Total Pounds
Eagle	1971					251	16,950			17,201	804
	1972		6		700					706	104
Mackay	1971	15		15						30	3
	1972	1,959							430	2,389	550
Hayspur	1971	1,581								1,581	2,705
Grace	1972				60			300		360	47
Ashton	1972	75								75	75
TOTALS	1971	1,596		15		251	16,950			18,812	3,512
	1972	2,034	6		760			300	430	3,530	776
BIENNIUM TOTALS		3,630	6	15	760	251	16,950	300	430	12,342	4,288

*Bullheads, crappie, perch.

BASIN INVESTIGATIONS

Columbia River Dams

Supersaturation of dissolved gases in the waters of the Columbia River has been the most important issue surrounding hydroelectric development in the last two years. Research has been very active during that time attempting to develop methods of passing large amounts of excess water over the dams without causing adverse effects on both upstream and downstream migrant salmon and steelhead. Additional turbines are being installed and in this manner, spill will be reduced. Increased efforts in flow regulation have decreased the dissolved gas problem during critical periods of fish migration.

Installation of vertical window counting stations should provide more accurate fish counts. Research to improve fish passage conditions continues.

Lower Snake River Dams

Lower Granite Dam is being constructed and the design incorporates all of the latest fish protection measures. Slotted bulkheads were installed in the skeleton bays of Ice Harbor, Lower Monumental, and Little Goose dams for spring, 1972. These devices passed the bulk of the high water in the lower Snake River for 1972 without increasing the dissolved gas levels, and provided the needed protection from gas bubble disease to the adult spring chinook migrants.

During the peak of the downstream migration of juvenile salmon and and steelhead in the Lower Snake River, it was discovered that the slotted bulkheads were causing mortalities of the downstream migrants. The bulkheads were removed and spillways were activated for the remainder of out migration period. The bulkheads were replaced following the downstream migration to provide protection from dissolved gases to the adult spring chinook. Orifice modification of the slotted bulkheads is being researched to determine if juveniles can be passed through the slots without harm.

Preliminary tests of spillway modification at Lower Monumental Dam are promising and it appears that this method of reducing dissolved gases is feasible. Plans are being made to modify all spillways on the Lower Snake and Columbia rivers.

Middle Snake Dams

Private power concerns remain deeply interested in building any of the proposed projects. Environmental concerns have dominated the Hells Canyon Dam issue in the last two years. Public opinion is now in favor of protection of the remaining portions of the Snake River and Hells Canyon Dam. Recent arguments have been directed to the method of protecting the environment as opposed to the earlier argument of dam construction or no dam construction. Asotin Dam project has been inactive, but the project has been approved by Congress.

Upper Snake Basin Projects

The Bureau of Reclamation is constructing Teton Dam. The dam construction has had immediate impact on fishery resources, and the long term effects on fish and wildlife are predicted to be adverse. The Guffey joint venture planning continued despite public concern over the environmental impact of this project.

INFORMATION AND EDUCATION

The organization of the division was realigned during the biennium to conform with the recommendations of the survey of the Department by the State Division of Management Services. Chiefly, the changes clarified the supervision of the field activities of the division, and established the staffing pattern for state office information personnel.

Another recommendation of the survey was to purge the file of the IDAHO WILDLIFE REVIEW subscriptions of duplicate addresses and superfluous mailings. The list had grown to almost 30,000 names. The "purging" was completed by July, 1972, and the list reduced to about 17,000. Publication of the popular bimonthly magazine will continue on a free subscription basis to all those who write and request that their names be placed on the mailing list.

Hunter safety training received a boost by the latter part of the biennium with the addition of a new Federal Aid program, an adjunct to the Pittman-Robertson Act ordered by the Congress. It will mean about $40,000 a year for the program, and the monies will go into youth training facilities and outdoor firing ranges for training purposes. Presently, about 15,000 Idaho school children are receiving a basic course in firearms and wildlife each year taught by district conservation officers and regional conservation educators.

The Idaho Landholder-Sportsman Council continued sponsorship of the OPERATION RESPECT program. One of the most successful projects of OPERATION RESPECT was conducted in the Moreland-Blackfoot pheasant hunting area in eastern Idaho, where the landholders banded together and decided to exclude all hunters from their lands except those wearing the familiar triangle badge of the Council. In 1970, the Council awarded the Landholder-Sportsman of the Year title to ranchers Don and Gene Davis of Bruneau. Runnerup awards went to Edward H. Lampert, Worley; Richard W. Lloyd, Lewiston; Wayne Brown, Heyburn; and Don Worrell of St. Anthony. The 1971 statewide honor award went to Nelson Howard, who operates a ranch on Craig Mountain south of Lewiston. District awards for that year were given to E. E. "Red" Meyers of Coeur d'Alene; Louis Breshears, Homedale; Lloyd Clark, Leadore; and Jesse Griffiths of Blackfoot.

Idaho was singled out for special honors in June, 1972, when the American Association for Conservation Information presented the division with a plaque for an international first place for a special public relations program on stream degradation. The program, highlighted by a Department produced film entitled "The Vanishing Stream", was culminated in the winter of 1971 with the passage of the new Idaho Stream Protection Code, considered by conservationists to be one of the most significant conservation laws since the passage of the Initiative Act of 1938, creating the Fish and Game Commission.

Other highlights of the division's operations during the biennium included aid to the Boy Scouts of America in planning for the National Jamboree for 1973; staging the 13th biennial In-Service Training School for over 200 department personnel at Gowen Field National Guard facilities; and supervision of the Department's operational safety program.

Information

Information requests by mail continued at a high level with 52,752 handled by the headquarters I&E staff during the biennium. Walk-in and telephone requests continued to increase although the Western Regional Office in Garden City began to take over many of the information calls.

News coverage continued from the headquarters office with the regular news package going out each week. The package consisted of four dated releases, a weekly column and picture mat, and a weekly feature story with pictures – all about Idaho wildlife and Department operations. Many requests for information were handled individually from outdoor writers, columnists and outdoor editors.

Emphasis was placed on improving information services to all news media through the local press, radio and television on a regional basis. In 1972, a new weekly one-half hour television program was produced through the cooperation of KAID TV, Channel 4, Boise State College's ETV station.

Miscellaneous leaflets and brochures were printed and reprinted as part of the normal information program. All hunting and fishing regulations were published by the Division.

Radio and Television

Tape recorded radio programs entitled the "Field and Stream Report" covering department activities and field information were issued during the entire biennium on a statewide weekly basis to an average of 30 radio stations.

Spot announcement tapes were supplied to the stations for use during the active fishing and hunting seasons. Such tapes carry regulatory information and current news on hunting and fishing conditions, and emergency announcements on "Sportsman Alert" broadcasts. Department personnel also participate in direct telephone interviews over the air, and in Public Question and Answer programs over some stations.

Television program activities once a week plus film clips supplied for T.V. news releases concerning department activities – Narrated sound on film clips and film clips with written narration for use at station conveniences.

Education

Environmental education continued to get increasing attention from natural resource agencies during the biennium. The State Advisory Committee on Environmental Education is the primary contact the agencies have with the Department of Education. The Committee has established several objectives toward the implementation of Environmental Education in the public schools. Particular priority has been placed on attaining:

1 The assignment of full-time Environmental Education Specialist to the staff of the Department of Education.
2 The development of a comprehensive statewide Environmental Education plan.

3 The requirement of Environmental Education course work at the college level.

4 The encouragement of short-term Environmental Education Teacher Workshops throughout the state for those teachers already in the school systems.

The Annual Teachers Environmental Workshop at Donnelly continued to be an outstanding environmental workshop for teachers in Idaho. It has been in operation five years and the Department has been a participant in this workshop from the outset.

In 1971 the State Advisory Committee made a significant step forward by creating regional advisory committees throughout the state. The regional committees are comprised of natural resource agencies personnel and local school officials. Each of the Fish and Game Department's Regional Conservation Educators is a member of the respective committee for his region. These committees will be able to form a much closer liaison with local educators than the state committee did. They can assist local schools in identifying potential outdoor environmental education sites and instructing teacher and student workshops.

The Idaho Fish and Game Department has an active environmental education program aside from the State Advisory Committee participation. The statewide gun safety program, sponsored and taught basically by Department personnel, reached nearly 16,500 seventh and eighth graders annually. The course content includes wildlife related subject matter in addition to actual gun safety instruction.

Each Regional Conservation Educator has a wide variety of wildlife and environmentally oriented programs available to schools and other interested organizations in his region. The colored slide series continued to be the most versatile teaching technique in use. These series are used to depict environmental degradation, life history information, land management activities and on-going Department programs.

The supervisor of education gave over 200 presentations on Department activities to interested groups throughout Idaho during the biennium. The demand for this type of programming has continued to accelerate each year. An expansive colored slide inventory is maintained for this kind of presentation. Slide series assistance was provided to other staff members, regional personnel and sister agencies.

Library

Cataloging library publications continued with 1,022 processed during the biennium. There are now a total of 7,872 publications cataloged, most of them being fisheries publications. Processing of bird and mammal publications was begun. More and more use of the library is being made by department personnel and by students from local schools and Boise State College.

The use of the film library continued to increase with an average of 250 films per month checked out to schools, outdoor clubs, civic organizations, church groups and others. There are 97 individual films in the library with multiple copies of some, making a total of 135 films.

REGIONAL OPERATIONS

Panhandle Region

Environmental education continues to be the major activity for the Regional Conservation Educator. Over 6,500 youngsters received instruction in some phase of the environment through contacts with schools, youth groups, and summer camps. In addition there is increasing time being spent instructing teachers in the methods of teaching about the environment. One week-long session with a small group of Coeur d'Alene teachers has been the best class of this nature to date.

Gun safety instruction has emphasized game management and hunting ethics in addition to safe gun handling. Upwards of 90% of the region's 7th grade students receive some gun safety instruction and over half of those were issued NRA certificates for completing a minimum of 4 hours of instruction and satisfactorily passing a test and firing a gun. District conservation officers do much of the instruction with considerable help from other agencies and clubs.

Two hundred, forty-one presentations were given by the Regional Educator during the biennium to nearly 3,000 adults in addition to the youngsters. One hundred, five meetings were attended with the emphasis still being to civic and fraternal groups and less so to wildlife clubs.

The use of colored slides continues to be the most popular form of program. Seventy-six programs of that type were presented by the R.C.E., and other personnel also made use of the slide file. Approximately 400 slides were added to the regional file during the biennium and another 194 were sent to the State Office file. Others were given to other Department employees for their specific use. One hundred, ninety-three negatives for black and white prints were submitted to Boise and over 200 were filed in Coeur d'Alene.

Little use is made of the regional movie library by Department employees, but use of these movies by schools and clubs steadily increased. Two-hundred sixteen movies were loaned from the small movie library maintained in the region.

Weekly radio programs were submitted to the four radio stations now operating in this region. The script is also used as a by-lined column by the four daily newspapers in the region. Fifty-nine news releases were also written and 2 Wildlife Review articles were submitted. Most news releases are sent to 14 newspapers throughout northern Idaho and eastern Washington.

A substantial amount of time was devoted to the regional office. The walk-in and telephone traffic at times was heavy and that, plus answering letters of inquiry, require considerable time. Assistance was also provided other divisions when needed. The R.C.E. continued to serve as secretary-treasurer of the Panhandle Landholder-Sportsman Council and as Committee Chairman for the wildlife oriented Explorer Post in Coeur d'Alene.

Clearwater Region

The Regional Conservation Educator was transferred from Jerome to Lewiston and the Clearwater Region in June, 1971. This is the report of his activities and not of the Clearwater Region for this biennium.

Activities of the Regional Educator for this biennium included attendance at 163 meetings with sportsmen, civic groups and other groups. There were 135 programs presented on conservation subjects to 1,887 adults and 5,284 youth. In addition, 588 movie loans were made from the film library to various groups for showing.

Firearm Safety Classes were given in all schools to both boys and girls at the seventh grade level. These were conducted in most instances by the District Conservation Officer assisted by the Regional Conservation Educator. There were 4,488 students trained in gun safety.

Many thousands of people viewed exhibits set up at county fairs. In all, six exhibits and displays were set up.

Information to the public was presented through newspaper articles, and radio and television programs. There were 77 television presentations, 129 radio programs and 101 news releases written during the two year period.

Photography is an important part of any I & E operation. Many hundred feet of 16mm movie film were taken and used on TV programs and footage sent to Boise. Also, there were 175 black and white photos and 226 colored slides sent to the Boise office. Hundreds of slides were added to the local area file on all wildlife subjects.

Working with the Boy Scout program is part of the regular work. Many programs were presented to Cub Scouts, Boy Scouts and Explorer Posts. A Fish and Game Specialty Explorer Post is active in the region and helps on many projects of the Fish and Game Department.

Western and McCall Regions

A large number of programs were presented in schools, summer camps and to other youth groups reaching some 24,000 boys and girls from kindergarten through grade twelve. These presentations included several outdoor conservation environment programs for sixth graders of the Boise, Caldwell and Homedale school districts as well as Riggins, McCall-Donnelly, Cambridge, Council, Cascade and New Meadows independent school districts. The outdoor classes were held at four different sites, two of which were sub-alpine and two were in a desert situation.

In addition to the classroom tours, the Regional Conservation Educator and other regional and state staff personnel assisted in a pilot experiment of conducting an entire classroom outdoors. A Boise sixth grade class moved their classroom to a campsite near Idaho City and lived there for four days. This proved to be a very rich learning experience for the students and an ideal environment to study ecology.

Wildlife displays were placed at the Western Idaho Fair in Boise,

attracting somewhere in the neighborhood of 160,000 visitors during the biennium. Materials and equipment were provided for use in displays at five county fairs and several small exhibits and displays were constructed and erected at conventions, conferences and public schools.

Twenty 30-minute television programs were produced and televised on KAID, the educational T.V. station at Boise State College. The programs were transmitted live in Boise and taped for distribution to T.V. stations in Pocatello and Moscow. In addition to the weekly series, twenty-four 5-minute and twenty-one 2-minute television presentations were taped for Boise T.V. stations covering a variety of subject matter. In addition to regular programming, several short film news stories were written and produced for use at television stations KBOI and KTVB.

A concerted effort was made to maintain close liaison with newspapers and radio stations throughout the regions. Informational articles accompanied by black and white photos were given weekly to daily and weekly newspapers in the two regions and editors were visited frequently.

As in the past, much time was devoted to the promotion of the "Operation Respect" program to improve landholder-sportsman relations. Although the program gained broad acceptance in the two regions, "Operation Respect" sponsored by the Landholder-Sportsman Council barely held its own.

The Regional Educator continued to serve as Post Committee Chairman for the department sponsored Explorer Post No. 60.

Cinematography and direction of the film, "The Vanishing Stream", a color documentary on the degradation of Idaho streams was done by the R.C.E. Photographic assistance was given to an inter-agency project between the Bureau of Sport Fisheries and Wildlife River Basin Studies and the Fish and Game Department. Film documentation of problems associated with new reservoir impoundments in big game winter ranges was initiated at Dworshak, Teton, Ririe and Lynn Crandall dam sites. Aerial flight time and film costs were paid by the Bureau.

Nearly 10,300 seventh grade students in 38 public and private schools received three hours of gun safety training and 323 college and high school students also received it. Most of the instruction was conducted by District Conservation Officers with the Regional Conservation Educator serving as coordinator and part-time teacher.

Work in the regions involved the educator with all department divisions. Assistance was provided the other divisions in field activities.

Magic Valley and Salmon Regions

Major emphasis was placed on work with the mass media in the Magic Valley and Salmon regions during the biennium. New radio programs were initiated at two area stations and T.V. coverage was extended to include 22 fifteen-minute and 5 half hour programs on prime time at KMVT-TV in Twin Falls. A weekly column was started in November, 1971, and was sent to the two dailies and eleven weeklies on a regular

basis. A total of 241 radio programs, 174 T.V. shows, 91 news releases and 28 weekly columns were prepared by the Regional Conservation Educator. In addition, the District Conservation Officers at Rupert and Burley began a weekly radio program at Burley which resulted in 52 programs, and the DCO at Hailey presented 52 spots at the radio station, and the DCO at Gooding had 52 weekly columns in the Gooding Leader.

The Regional Conservation Educator presented 145 programs to 5,243 youth and 4,543 adults in various civic, conservation, church and youth groups. Numerous programs, reaching thousands of people, were given by other division personnel in both regions. The RCE attended 166 meetings during the two year period and several public hearings were arranged by the RCE at which he acted as moderator.

A new Environmental Teaching Team was formed in the Magic Valley and two environmental workshops for teachers were taught by this team at Shoshone and Burley schools in the spring of 1972. This team, composed of members of federal and state resource agencies, was formed to teach new methods in outdoor education to teachers and the ultimate objective is to reach all the teachers in the Magic Valley. The RCE also participated in youth conservation tours at Burley, Ketchum, Shoshone and Buhl, which involved several hundred students.

Gun Safety instruction was taught to 5,263 students in both regions. Most of those students also had the opportunity to fire on local ranges with Department furnished ammunition and instruction. Several local gun club and Scout members helped with these shooting sessions.

The Twin Falls Fish and Game Explorer Post continued to be a successful operation and the boys were used in a variety of management projects during the biennium.

Exhibits were prepared for county fairs at Jerome, Burley, Gooding and Twin Falls which were viewed by thousands of visitors.

A great number of color slides, black and white photos and numerous rolls of 16mm film were taken for expansion of the Magic Valley picture file and use for T.V. and newspapers. Many of these were sent to Boise for statewide coverage.

Landholder-sportsman relations were of major concern in the pheasant hunting areas of Magic Valley and considerable effort was made to educate sportsmen in proper behavior and work with the landowners on their problems. A checking station was operated at Cotteral Port of Entry both years to contact nonresident pheasant hunters coming into the state prior to the season opening to acquaint them with the problems in southern Idaho. It is felt that this effort resulted in less friction and better relations during the period.

The RCE participated in many other activities such as operating game management checking stations, law enforcement patrol, fish and game research projects, and filling in wherever he was needed during opening weekends.

Eastern and Upper Snake River Regions

During the Biennium a total of 149 meetings were attended.

Ninety-four programs were given to various groups and organizations such as: sportsmen's groups, farmer organizations. chambers of commerce, schools, Scouts and civic groups. Programs were given in the form of talks, slide shows and movies. Attendance at these programs totaled 2,664 adults and 1,968 youth. In addition to specific requests for programs, the Regional Conservation Educator attended 55 meetings where, in nearly every case, questions were answered or impromptu talks on wildlife management were given.

A total of 731 radio programs were presented to radio stations at Rexburg, Idaho Falls, Blackfoot, Pocatello Montpelier. Most of these programs were used two or more times.

Television programs were presented over three stations located in Idaho Falls. Three hundred sixty-four programs were taped where almost every one of the programs was being shown twice.

Forty-one news releases were sent to newsppaers, radio and television stations throughout Eastern Idaho. Emphasis was placed on obtaining color movie footage of Department activities to be used on television programs throughout Eastern Idaho.

Concentrated effort by Conservation Officers and the Regional Conservation Educator on gun safety training in the Upper Snake River and Eastern Regions resulted in near total coverage of all schools in the area. During the Biennium, approximately 9,941 students were instructed in proper gun safety.

Displays were exhibited at Sportsman Jamborees, Fishermen's Breakfasts, Sport shows, and fairs. The Fish and Game display at the Eastern Idaho State Fair received the top award both years.

There was a definite increase in the use of Department owned movies. A total of 1,022 film loans were made from the regional offices at Pocatello and Idaho Falls to supplement the demand for programs.

A concentrated effort with regards to Operation Respect was enacted in the Tabor area. Most favorable results were obtained which improved Sportsman-Landowner relations.

Assistance was provided to game management, fish management and enforcement personnel for various departmental activities.

CONSERVATION ENFORCEMENT

General

The ultimate objective of a wildlife law enforcement program is to bring about the best public compliance and violation control possible within the limitations of the agency's available manpower and budget. The ever increasing human population is resulting in more and more sportsmen making competitive demands on the limited wildlife resource which, in turn, is dependent upon a constantly diminishing habitat.

The Conservation Enforcement Division's job is increasing in scope and difficulty as more restraints and controls over the human impact on both the wildlife and the habitat that produces it become necessary. An increasing amount of thought and attention have more recently been given to preserving the habitat base of our fish and wildlife resource. This is shown by a more active and aggressive role in a cooperative, inter-agency effort directed toward preventing, detecting and policing activities which result in stream pollution. On an after the fact basis several monetary settlements have been negotiated in recent years for damages incurred by wildlife as a result of stream pollution. Such a settlement involving a relatively substantial amount of money is presently pending. In addition to pollution prevention and control our Enforcement Division has maintained active surveillance against alteration of streams under the terms of the stream protection law passed by the 1971 legislature This work has been done in cooperation with the administrative agency concerned, the Department of Water Administration.

Conservation Officers have been increasingly active in locating, mapping and inventorying sites which fit into the Department's program of acquiring key areas for future public access and recreational needs. This effort has resulted in a number of acquisitions which now play a key role in this program.

In cooperation with the Health Department, a regulation was adopted aimed at controlling the importation and sale of certain animals as pets which may be rabies carriers. A related control program has now been implemented.

The average Idaho Conservation Officer District encompasses an area of 1,286 square miles and has a population of 10,742 people. Each officer supervises an average of 9.8 license vendors. Annual sales from each of these outlets average 706 licenses. Of these, approximately 435 are resident licenses for which the applications must be checked out in regard to unqualified or fraudulent purchases. In addition, each officer checks about 1,209 licenses in the field each year and, while doing so, collects and records pertinent and useful fish and game management data.

The Conservation Officer devotes about 65% of his time to his primary responsibility of enforcing wildlife laws. Eleven percent of his time is spent assisting in game or fishery management activities such as collecting biological data, trapping, and transplanting animals, birds and fish and releasing artificially propagated wildlife.

Over 4% of his time is devoted to information and education work, such as presenting information to sportsmen, civic clubs and service organizations and in conducting hunter safety classes. Each summer a number of officers are instrumental in setting up wildlife display booths at county fairs. Most conservation officers actively provide local newspapers with releases of area interest and several regularly write a weekly column.

Improvements require 5% of the officer's time. Primarily this includes maintenance and repair of Department facilities, installations and equipment. This includes responsibility for mountain top radio repeaters in the officer's district toward assuring their maintenance at proper operating level.

Administrative activities, including 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, occupy 14% of his time. This work category also takes in those administrative and miscellaneous enforcement duties which relate to permits and other requirements for furbuyers, taxidermists, private game farm and park operators, private and commercial fish ponds, commercial seiners, senior citizens, military personnel on furlough, falconers, dog trainers, field trials and scientific collectors, as well as various types of special permits.

Table I

MISCELLANEOUS PERMITS ISSUED

		1970	1971
1.	Dog Field Trial Permits	21	19
2.	Individual Dog Training Permits	10	6
3.	Bait Minnow Selling Permits	6	4
4.	Rough Fish Seining Permits	8	4
5.	Semi-private and private (non-commercial) fish pond permits	10	23
6.	Private Game Park	50	49
7.	Falconry Permits	44	54
8.	Scientific Collecting and Banding Permits	75	114
9.	Special Permits (captive, killing, mounted specimens, etc.)	48	71

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

Organization

Conservation Enforcement Division personnel consists of a Division Chief, a Supervisor at the state office, eight Regional Conservation Officers (field supervisors), and sixty-five district Conservation Officers.

Locations of district Conservation Officer's headquarters throughout the state are determined largely by the size of the human and wildlife populations in each locality. When considering the human factor, seasonal inflows and fluctuations are weighted as well as the stable, year

around resident population. At least one Conservation Officer is stationed in each county. However, in most instances district boundaries are determined by geographical features and other factors which frequently differ from county lines.

Our program of summer employment of college students (Enforcement Aides) was expanded in 1971. This provides both a financial boost and practical field training for the young men concerned and, as a result of sharing their work load, frees some of the Conservation Officers from part of their lesser, routine chores. The officers are then able to direct their efforts toward higher priority obligations during the summer work load peak. The aides also serve, at times, as a second man in a patrol unit when such is advisable, thus avoiding the only other alternative of doubling up regular officers. The success of this program suggests even further expansion in the future.

A legislative change in the Personnel Commission Act placed employees of our Department under the provisions of the overtime law. However, we had previously worked under the terms of that law and the required adjustment was not so great this time.

Being limited to a forty-hour week definitely requires good planning and making the best use of a person's work time and mileage. An incidental effect of the law is shown in more days being taken off duty; more use being made of annual leave and less average mileage per officer/month.

Enforcement

Comparable violation data of recent years is shown in the following table headed Violation Situations.

Table II

VIOLATION SITUATIONS

Year	Arrests	Warnings	Incidents	Annual Total of Violation Situations Detected And Recorded
1967	1,330	923	538	2,791
1968	1,641	1,062	663	3,366
1969	1,729	1,076	715	3,520
1970	1,617	1,165	811	3,593
1971	1,568	1,140	788	3,496

Maximum patrol pressure and coverage was maintained by shifting division personnel between districts and regions as local and seasonal demands and activities indicated. Effective results were also obtained by using several types of new equipment and a greater variety of transportation methods in working the back country. On a number of occasions, two or three different types of patrol efforts were combined into one overall enforcement operation. Float patrols of the Middle Fork of the Salmon River were increased by working in additional trips through participation in those made by U.S. Forest Service crews.

In both closed and open seasons, the use of impromptu, short-term checking stations has been a consistent and integral part of division operations for several decades. However, extra emphasis in the last few years has strongly reaffirmed the effectiveness of this tool as part of our enforcement work effort. In addition to arrests made, this enforcement device has definite deterrent values for subsequent periods of time. As a means of determining and better judging location, timing and quantity of our checking station effort and evaluating its effectiveness as to the preventive and apprehension results, the keeping of good records on same was reestablished on a statewide basis in August 1970. Compiled results for 1971 are shown in Table III.

In addition to the direct enforcement of laws and regulations, a great deal of each officer's time is devoted to preventive enforcement. This effort is largely aimed at increasing public knowledge and understanding of Department programs and objectives in hopes of obtaining better public acceptance and compliance with related laws and regulations. Prevention campaigns are undertaken through individual and group contacts, through the news media and by leaflets and posters distributed through license vendors or placed at appropriate field locations. Special emphasis is placed on disseminating information relating to residence requirements, particularly at colleges and universities, labor camps (posters in both English and Spanish), construction projects and other locations and situations which involve seasonal, temporary or nonresident groups.

During the year we continued our long established joint project with adjoining states of posting boundary lines at locations where unlawful trespass might most likely occur.

The use of readily identifiable vehicles was continued as conservation officers traveled a total of 2,684,193 miles during the biennium in their endeavor to maintain reasonable enforcement control. Unidentifi-

Table III

1971

OPERATION OF IMPROMPTU CHECK STATIONS—BY REGION

Region	Number of Check Stations	Number of Hours	Number of People Contacted	Number of Citations Issued	Number of Warnings Issued	Number of Incidents Recorded	TOTAL Wildlife Checked
Panhandle	84	152½	1,908	5	23	0	302
Clearwater	45	132½	1,907	1	4	1	608
McCall	17	60¼	694	2	4	1	1,058
Western	36	123¾	2,117	8	7	1	430
Magic Valley	34	98¼	1,699	12	6	0	6,420
Eastern	43	113¼	1,553	22	4	0	519
Upper Snake	156	477½	4,191	28	11	3	4,832
Salmon	35	64½	425	1	1	0	145
TOTALS	450	1,222½	14,494	79	60	6	14,314

able vehicles were occasionally pressed into service to cope with special situations and problems which justified their use.

Officers during 1970 and 1971 averaged two arrests per month, plus assisting with others. They took eight regular days off per month for both years but the use of annual leave increased from 7 days in 1970 to 11 in 1971 and sick leave from 1½ in 1970 to 3 days in 1971. They drove an average vehicle mileage of 1,712 and 1,738 per month for 1970 and 1971, respectively at an average operational cost of five cents per mile for both years. The average officer ate 59 and 38 meals in the field from camp groceries for 1970 and 1971, respectively and spent 20 and 21 nights in his sleeping bag during each of those twelve month periods.

Of the 1,617 arrests in 1970, 200 (12%) were concerned with licenses and permits; 578 (36%) related to resident fish; 33 (2%) anadromous fish; 506 (31%) big game; 80 (5%) upland game birds; 9 (.5%) small game; 79 (5%) migratory birds; 65 (4%) furbearers, and the miscellaneous column comprised 67 (4%). See Table IV.

Of the 1,568 arrests in 1971, 161 (10%) were related to licenses and permits; 597 (38%) concerned resident fish; 63 (4%) anadromous fish; 427 (27%) big game; 87 (5%) upland game birds; 9 (.6%) small game; 89 (6%) migratory birds; 60 (4%) furbearers, and the miscellaneous column comprised 75 (5%). See Table IV.

On the basis of type of violation committed, the 1970 total of 1,617 arrests breaks down into subtotals of 200 (12%) relating to license violations, principally purchase or possession of the wrong class; 447 (28%) were for hunting or fishing without a license; 37 (2%) related to areas or species for which there were no open general seasons at any time of the year; 300 (19%) involved taking wildlife during closed seasons; 101 (6%) dealt with overlimits of various kinds; 44 (3%) concerned the use of illegal gear and 488 (30%) had to do with unlawful procedure or methods.

The 1971 total of 1,568 breaks down into subtotals of 161 (10%) relating to license violations (principally purchase or possession of the wrong class); 499 (31%) for hunting or fishing without a license; 36 (2%) were related to areas or species for which there were no open general seasons at any time of the year; 281 (18%) involved taking wildlife during the closed seasons; 80 (5%) dealt with overlimits of various kinds; 33 (2%) concerned with the use of illegal gear and 478 (30%) had to do with unlawful procedure or methods.

The 477 (1970) and 499 (1971) prosecutions for hunting or fishing without a license were the product of 78,600 (1970) and 76,587 (1971) licenses field checked during the two years. This means a "no license" violation warranting prosecution for every 176 and 153 fishermen and hunters checked for 1970 and 1971, respectively (1:196 in 1969; 1:263 in 1968) and indicates that an increasing number of people are going hunting or fishing without a license – with most probably doing so on a calculated risk basis. This is a matter for real concern, in view of the relationship to the Department's primary source of revenue.

The liberalization of some regulations has reduced the probability of

Table IV

BREAKDOWN OF VIOLATIONS BY TYPE OF ACTIVITY AND KIND OF WILDLIFE INVOLVED

1970

Violation	License	Resident Fish	Anadr. Fish	Big Game	Upland Birds	Small Game	Migratory Birds	Furbearers Other Wild Animals	Misc.	TOTAL
License	200									200
No License		330	9	17	5	6	9	54	17	447
No Season		6	3	16	1		6	3	2	37
Closed Season		82	7	106	59	1	39	6		300
Over Limit		66		30	5					101
Illegal Gear		15	6	8			10		5	44
Unlawful Procedure		79	8	329	10	2	15	2	43	488
TOTAL	200	578	33	506	80	9	79	65	67	1,617

1971

Violation	License	Resident Fish	Anadr. Fish	Big Game	Upland Birds	Small Game	Migratory Birds	Furbearers Other Wild Animals	Misc.	TOTAL
License	161									161
No License		382	14	15	8	5	8	49	18	499
No Season			4	14			7	11		36
Closed Season		71	11	109	57	2	31			281
Over Limit		48	3	18	9		2			80
Illegal Gear		9	7	5	2		8		2	33
Unlawful Procedure		87	24	266	11	2	33		55	478
TOTAL	161	597	63	427	87	9	89	60	75	1,568

Table V

NUMBER OF ARRESTS, WARNINGS, AND INCIDENTS BY COUNTY AND REGION

1970-1971

Region and County	Jan. 1 - Dec. 31, 1970				Jan. 1 - Dec. 31, 1971			
	Arrests	Warn.	Incid.	Total	Arrests	Warn.	Incid.	Total
PANHANDLE								
Benewah	21	3	9	33	15	19	14	48
Bonner	57	20	15	92	20	16	25	61
Boundary	17	11	17	45	15	13	3	31
Kootenai	85	78	41	204	81	72	57	210
Shoshone	69	53	46	168	38	27	29	94
Total	249	165	128	542	169	147	128	444
CLEARWATER								
Clearwater	31	21	14	66	41	22	32	95
Idaho	91	41	68	200	106	39	53	198
Latah	14	12	11	37	13	19	11	43
Lewis	1	4	3	8	7	2	3	12
Nez Perce	51	30	14	95	82	28	10	120
Total	188	108	110	406	249	110	109	468
McCALL								
Adams	30	10	2	42	27	10	4	41
Valley	28	29	49	106	45	32	27	104
Total	58	39	51	148	72	42	31	145
WESTERN								
Ada	51	44	28	123	64	88	22	174
Boise	20	14	8	42	25	22	14	61
Canyon	25	21	20	66	26	45	13	84
Elmore	59	43	48	150	37	34	44	115
Gem	6	6	2	14	12	4	11	27
Owyhee	26	38	41	105	38	42	46	126
Payette	9	4	5	18	6	0	3	9
Washington	9	7	0	16	11	0	2	13
Total	205	177	152	534	219	235	155	609

Table V (Cont.)

Region and County	Jan. 1 - Dec. 31, 1970				Jan. 1 - Dec. 31, 1971			
	Arrests	Warn.	Incid.	Total	Arrests	Warn.	Incid.	Total
MAGIC VALLEY								
Blaine	94	65	15	174	105	71	9	185
Camas	6	3	4	13	13	21	9	43
Cassia	36	41	8	85	42	30	20	92
Gooding	23	17	17	57	36	46	23	105
Jerome	11	18	4	33	8	11	2	21
Lincoln	20	13	3	36	4	10	6	20
Minidoka	16	27	5	48	23	12	5	40
Twin Falls	91	95	29	215	52	78	33	163
Total	297	279	85	661	283	279	107	669
EASTERN								
Bannock	34	18	11	63	43	3	24	70
Bear Lake	10	10	13	33	7	2	5	14
Bingham	20	20	11	51	30	17	3	50
Caribou	76	46	11	133	46	33	17	96
Franklin	24	7	7	38	11	7	0	18
Oneida	13	10	3	26	15	12	8	35
Power	39	14	3	56	36	17	6	59
Total	216	125	59	400	188	91	63	342
UPPER SNAKE								
Bonneville	93	57	48	198	66	59	20	145
Butte	30	9	7	46	27	10	11	48
Clark	19	4	7	30	15	10	8	33
Fremont	66	54	47	167	73	42	34	149
Jefferson	66	50	26	142	72	32	23	127
Madison	6	3	3	12	12	2	3	17
Teton	11	4	14	29	11	6	19	36
Total	291	181	152	624	276	161	118	555
SALMON								
Custer	51	52	57	160	75	53	56	184
Lemhi	62	39	17	118	37	22	21	80
Total	113	91	74	278	112	75	77	264
STATEWIDE TOTAL	1,617	1,165	811	3,593	1,568	1,140	788	3,496

Table VI

NUMBER OF ARRESTS AND AVERAGE FINE BY COUNTY AND REGION

1970-1971

County and Region	Jan. 1 - Dec. 31, 1970				Jan. 1 - Dec. 31, 1971			
	Total Arrests	Arrests With Fines	Total Money	Average Fine	Total Arrests	Arrests With Fines	Total Money	Average Fine
PANHANDLE REGION								
Benewah	21	21	$ 695.00	$33.09	15	14	$ 440.00	$31.42
Bonner	57	50	1,455.00	29.10	20	17	265.00	15.58
Boundary	17	17	520.00	30.58	15	15	1,040.00	69.33
Kootenai	85	80	1,945.00	24.31	81	75	1,765.00	23.53
Shoshone	69	68	2,255.00	33.16	38	37	1,050.00	28.37
Total	249	236	$6,870.00	$29.11	169	158	$4,560.00	$28.86
CLEARWATER REGION								
Clearwater	31	26	$1,240.00	$47.69	41	30	$1,227.50	$40.91
Idaho	91	83	5,303.00	63.89	106	100	5,263.50	52.63
Latah	14	13	340.00	26.15	13	13	502.50	38.65
Lewis	1	1	40.00	40.00	7	6	180.00	30.00
Nez Perce	51	34	1,230.00	36.17	82	58	2,227.50	38.40
Total	188	157	$8,153.00	$51.92	249	207	$9,401.00	$45.41
McCALL REGION								
Adams	30	30	$1,205.00	$40.16	27	25	$1,026.00	$41.04
Valley	28	25	1,260.00	50.40	45	40	2,030.00	50.75
Total	58	55	$2,465.00	$44.81	72	65	$3,056.00	$47.01
WESTERN REGION								
Ada	51	42	$1,915.00	$45.59	64	56	$3,550.00	$63.39
Boise	20	19	900.00	47.36	25	20	900.00	45.00
Canyon	25	20	525.00	26.25	26	24	815.00	33.95
Elmore	59	58	1,920.00	33.10	37	35	1,280.00	36.57
Gem	6	5	135.00	27.00	12	10	375.00	37.50
Owyhee	26	22	690.00	31.36	38	32	912.50	28.51
Payette	9	7	125.00	17.85	6	6	475.00	79.16
Washington	9	4	200.00	50.00	11	6	210.00	35.00
Total	205	177	$6,410.00	$36.21	219	189	$8,517.50	$45.06

Table VI (Cont.)

County and Region	Jan. 1 - Dec. 31, 1970				Jan. 1 - Dec. 31, 1971			
	Total Arrests	Arrests With Fines	Total Money	Average Fine	Total Arrests	Arrests With Fines	Total Money	Average Fine
MAGIC VALLEY REGION								
Blaine	94	90	$2,370.00	$26.33	105	93	$2,662.50	$28.62
Camas	6	5	125.00	25.00	13	12	350.00	29.16
Cassia	36	18	340.00	18.88	42	36	1,497.50	41.59
Gooding	23	20	485.00	24.25	36	26	735.00	28.26
Jerome	11	10	260.00	26.00	8	8	180.00	22.50
Lincoln	20	19	625.00	32.89	4	4	237.50	59.37
Minidoka	16	15	370.00	24.66	23	22	555.00	25.22
Twin Falls	91	65	1,895.00	29.15	52	36	1,111.50	30.87
Total	297	242	$6,470.00	$26.73	283	237	$7,329.00	$30.92
EASTERN REGION								
Bannock	34	28	$ 715.00	$25.53	43	13	$ 522.50	$40.19
Bear Lake	10	9	375.00	41.66	7	7	105.00	15.00
Bingham	20	19	725.00	38.15	30	26	530.50	20.40
Caribou	76	64	2,710.00	42.34	46	41	1,180.00	28.78
Franklin	24	23	420.00	18.26	11	9	175.00	19.44
Oneida	13	11	285.00	25.90	15	13	460.00	35.38
Power	39	28	755.00	26.96	36	34	1,037.50	30.51
Total	216	182	$5,985.00	$32.88	188	143	$4,010.50	$28.04
UPPER SNAKE REGION								
Bonneville	93	86	$3,652.00	$42.46	66	65	$2,997.50	$46.11
Butte	30	26	745.00	28.65	27	25	702.50	28.10
Clark	19	19	1,290.00	67.89	15	15	365.00	24.33
Fremont	66	65	2,882.50	44.34	73	68	2,526.50	37.15
Jefferson	66	65	1,380.00	21.23	72	70	1,600.00	22.85
Madison	6	6	118.00	19.66	12	12	337.50	28.12
Teton	11	10	375.00	37.50	11	11	295.00	26.81
Total	291	277	$10,442.50	$37.69	276	266	$8,824.00	$33.17
SALMON REGION								
Custer	51	45	$1,862.00	$41.37	75	59	$1,982.50	$33.60
Lemhi	62	58	2,667.50	45.99	37	26	1,050.00	40.38
Total	113	103	$4,529.50	$43.97	112	85	$3,032.50	$35.67
STATEWIDE TOTAL	1,617	1,429	$51,325.00	$35.91	1,568	1,350	$48,730.50	$36.09

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, there is no limitation as to the number of outfits used while ice fishing and bag limits have been removed from several of our principal species of game fish.

On the other hand, some of the liberalizations mentioned, particularly long or year around seasons, tend to increase those types of violations which are associated with open seasons or permissible activity. Various kinds of "in season" violations always make up a sizeable percentage of each year's grand total.

A close watch was maintained statewide in regard to potential or actual problems associated with the increasing numbers and activity of snowmobilers. It appears this will become a matter of greater concern as time passes. At times unintentional problems are created by such machines without the operator even being aware that there is game in the vicinity, or that he might be causing the wintering animals undue exertion when already in a marginal condition.

Table V gives a record of arrests, warnings and incidents by counties and regions. Table VI shows arrest totals and average fine-forfeiture 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.

For the calendar year of 1970 the average fine per county ranged from a high of $67.89 in Clark County to a low of $17.85 in the county of Payette. The statewide average fine or forfeiture for 1970 was $35.91.

For 1971 the county average of fines and forfeitures varied from a high of $79.16 in Payette County to a low of $15.00 in Bear Lake County. The statewide average fine or forfeiture was $36.09. These annual averages compare to $34.09 in 1969 and the average for the five years preceding 1970 of $30.79. Ten per cent of all such fine monies went to the state treasurer for deposit in the state general fund, with forty-five per cent going to the school and general funds of the county in which the violation occurred. One hundred per cent of the monetary penalties that result from violations of the Youth Rehabilitation Act and failure to answer to a citation remained with the county where the violation occurred, as did all court costs. None of these 100% county monies are included in the Table VI figures. Of the violators appearing in court, 11.6% in 1970 and 13.9% in 1971 were not assessed a fine. Of this group 37% and 24.8% were juveniles in 1970 and 1971, respectively.

Interested and concerned people often comment on the fact that light fines today are not much heavier than thirty and forty years ago, even though inflation has decreased the value of the dollar to a small fraction of what it was at that time. The same situation as to the punishment/deterrent effect of low fines also faces other law enforcement agencies. Light fines do little to discourage violations and actually seem at times to result in them 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. This matter of light fines for wildlife offenses is not peculiar to Idaho but rather prevails throughout all western states, and as a matter of fact, the entire country.

Low though it is, the average fine assessed in Idaho has increased by 29% in the last five years and presently ranks among the highest in the western states. It is felt that this increase is partly attributable to greater use of forfeitures rather than fines in settlements; to the adoption and use of warnings in those instances when circumstances warrant and also due in part to the updating and reorganization of the court system in Idaho.

Table VII shows fines and forfeitures for the past five years, arranged in annual columns and grouped according to the amount of monetary penalty assessed. Stratification of fines (and forfeitures) at the $25, $50, $75, $100 and $150 levels is quite apparent. Since 1969 there seems to have been a trend toward fewer fines and forfeitures which fall into the $21 to $25 bracket and a greater number in the $26 to $35 groupings. One possible factor this can be attributed to is the fact that many more cases are now being finalized through bond forfeitures rather than by fines as in previous years.

In 1969 the legislature gave the courts an added tool for dealing with fish and game law violators by specifically authorizing the magistrate to revoke the defendant's hunting and/or fishing privileges. This penalty provision has received increased use by the courts as an additional item of punishment for the flagrant or persistent violator or as an effective means of dealing with juveniles or with cases wherein financial hardship is involved.

Table VIII furnishes a breakdown for the 1970 and 1971 arrests which did not result in fines or forfeitures. Of the statewide total of 3,185 arrests made during the two years 1.4% resulted in acquittals, and 3.3% in dismissals. The combined conviction and bond forfeiture rate was 95.3%.

Slightly less than 1 out of every 5 persons arrested was a nonresident. Washington and California led the list with Utah, Oregon and Montana following in that order (Table IX). Making up the miscellaneous group of arrests of nonresidents were 1 to 5 people from each of 21 additional states and 9 from Canada.

Confirmed Indian harvests during 1971 in Idaho numbered 100, a 30% increase from the 77 registered in 1970.

Training

Conservation Officers attended regional one-day conferences each month where programs, operating procedures, policies, enforcement problems and training items were reviewed. Division personnel also took part in other training schools and conferences, both law enforcement and general types, including the Department's Basic and In-Service Training Schools. The division was represented at several types of training ses-

Table VII

FISH AND GAME FINES
NUMBER BY MONETARY AMOUNT
1967-1971

	1967		1968		1969		1970		1971	
Fine Amount	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
$ 1- 5	28	2.52	31	2.22	25	1.73	33	2.31	38	2.82
6- 10	116	10.43	133	9.50	139	9.60	156	10.91	86	6.38
11- 15	166	14.93	191	13.64	159	10.98	133	9.31	108	8.02
16- 20	42	3.78	60	4.29	72	4.97	66	4.62	78	5.79
21- 25	554	49.82	671	47.93	692	47.79	622	43.52	346	25.67
26- 30	27	2.43	27	1.93	43	2.97	96	6.72	231	17.14
31- 35	22	1.97	37	2.64	53	3.66	54	3.78	207	15.36
36- 40	12	1.08	38	2.72	21	1.45	12	.84	13	.96
41- 45	4	.36	10	.71	20	1.38	7	.49	15	1.11
46- 50	65	5.84	87	6.22	93	6.42	110	7.70	99	7.35
51- 55	0	--	1	.07	0	--	1	.07	0	--
56- 60	1	.09	1	.07	4	.28	0	--	2	.15
61- 65	0	--	1	.07	0	--	0	--	1	.07
66- 70	1	.09	1	.07	3	.21	3	.21	5	.37
71- 75	10	.90	18	1.29	23	1.59	17	1.19	19	1.41
76- 80	0	--	0	--	0	--	0	--	0	--
81- 85	0	--	2	.14	0	--	0	--	1	.07
86- 90	1	.09	1	.07	0	--	0	--	0	--
91- 95	2	.18	2	.14	0	--	3	.21	3	.22
96-100	28	2.52	38	2.72	54	3.73	56	3.92	49	3.64
101-105	0	--	0	--	0	--	0	--	0	--
106-110	0	--	0	--	0	--	0	--	0	--
111-115	0	--	3	.21	0	--	0	--	0	--
116-120	1	.09	0	--	0	--	0	--	1	.07
121-125	3	.27	7	.50	0	--	2	.14	3	.22
126-130	0	--	1	.07	0	--	0	--	3	.22
131-135	0	--	0	--	0	--	0	--	0	--
136-140	0	--	0	--	0	--	0	--	0	--
141-145	1	.09	0	--	3	.21	2	.14	1	.07
146-150	16	1.44	19	1.36	20	1.38	28	1.96	17	1.26
151-155	0	--	0	--	0	--	0	--	0	--
156-160	0	--	0	--	0	--	0	--	0	--
161-165	0	--	1	.07	0	--	0	--	0	--
166-170	0	--	1	.07	0	--	0	--	0	--
171-175	1	.09	3	.21	0	--	0	--	4	.30
176-180	0	--	0	--	1	.07	0	--	0	--
196-200	4	.36	7	.50	5	.34	8	.56	9	.67
216-220	0	--	0	--	0	--	1	.07	0	--
241-245	1	.09	0	--	0	--	0	--	0	--
246-250	0	--	0	--	6	.41	0	--	0	--
271-275	1	.09	0	--	0	--	0	--	0	--
291-295	0	--	3	.21	1	.07	1	.07	0	--
296-300	5	.45	5	.36	11	.76	18	1.26	8	.59
596-600	0	--	0	--	0	--	0	--	1	.07
TOTAL FINES	1,112	100.00	1,400	100.00	1,448	100.00	1,429	100.00	1,348	100.00
AVERAGE FINE	$30.42		$27.63		$34.09		$35.91		$36.09	
Total Arrests Without Fines	218		241		281		188		220	
TOTAL CASES	1,330		1,641		1,729		1,617		1,568	

Table VIII

BREAKDOWN OF TOTAL CASES WITHOUT FINES BY REGION

1970

Region	Entire Suspended	Dismissed	Acquitted	Juvenile	Jail in Lieu of Fine	TOTALS
Panhandle	1	5	0	7	0	13
Clearwater	10	7	3	10	0	30
McCall	0	0	1	0	0	1
Western	11	3	2	12	0	28
Magic Valley	33	6	1	15	0	55
Eastern	1	5	10	18	0	34
Upper Snake River	11	3	2	4	0	20
Salmon	0	3	1	3	0	7
TOTALS	67	32	20	69	0	188

1971

Region	Entire Suspended	Dismissed	Acquitted	Juvenile	Jail in Lieu of Fine	TOTALS
Panhandle	2	3	4	1	1	11
Clearwater	16	18	2	6	0	42
McCall	2	2	1	2	0	7
Western	10	9	5	6	0	30
Magic Valley	12	10	1	22	1	46
Eastern	6	20	4	12	2	44
Upper Snake River	9	4	0	1	0	14
Salmon	5	7	7	4	1	24
TOTALS	62	73	24	54	5	218

Table IX

STATE OF ORIGIN OF NONRESIDENTS ARRESTED

1970

State of Residence	No. of Arrests	Percent of Grand Total of 1970 Arrests (1,617)	Percent of 1970 Arrests of Nonresidents (300)
Washington	96	5.9%	32%
California	78	4.8%	26%
Utah	42	2.6%	14%
Montana	22	1.3%	7%
Oregon	11	.7%	3%
Arizona	6	.4%	3%
Texas	5	.3%	2%
Miscellaneous	40	2.5%	13%
Total	300	18.5%	100%

1971

State of Residence	No. of Arrests	Percent of Grand Total of 1971 Arrests (1,568)	Percent of 1971 Arrests of Nonresidents (342)
Washington	99	6.3%	28.9%
California	97	6.2%	28.5%
Utah	43	2.8%	12.6%
Oregon	16	1.0%	4.7%
Michigan	12	.8%	3.5%
Nevada	11	.7%	3.2%
Wisconsin	7	.4%	2.0%
Texas	7	.4%	2.0%
Miscellaneous	50	3.2%	14.6%
Total	342	21.8%	100.0%

sions conducted by the Peace Officers Standards and Training Council, some of which were of four weeks duration.

Table X

DEPREDATION COMPLAINTS BY KIND OF WILDLIFE

Kind	1970	1971	Total	
Big Game	102	167	269	26.0%
Birds	188	208	396	38.3%
Furbearers	150	199	349	33.8%
Predators	6	2	8	.8%
Miscellaneous	3	9	12	1.1%
TOTAL	449	585	1,034	100.0%

Quite often newly recruited personnel have previously worked summers for the Department as enforcement or biological aides. Such summer service is a very effective means of training for regular employment.

Wildlife Depredations

The number of wildlife depredation complaints reported for 1971 increased 30.3% compared to the previous year (585 in 1971, 449 in 1970) and the number of service trips were up 31% from a year earlier (1,254 compared to 953). Total expenditures for the biennium for servicing complaints showed a marked increase of 18% ($38,430.24 compared to 1968-69, $32,562.36). Included in the biennial total of $38,430.24 servicing costs were 84,817 vehicle miles and 6,466 manhours by Conservation Officers.

Beaver continued to lead all wildlife species with 332 of the 1,034 damage complaints reported (32.1%), followed by pheasants (18.9%), bear (14.1%), deer (7.3%), duck (6.8%), other waterfowl (5.9%), geese (4.3%), elk (3.3%), other nongame birds (2.1%), other furbearers (1.6%), other mammals (1.2%), other big game (1.1%), other upland game birds, coyote and other predator mammals (less than 1% each). Complaints involving sandhill cranes continued at the same high level of recent years in Bear Lake, Caribou, Fremont and Teton counties.

Radio Communications

Through a cooperative, interagency effort, our radio repeater formerly on Little Blacktail Mountain was relocated to a site on Schweitzer Peak near Sandpoint, resulting in much better radio communications coverage of the northern portion of the Panhandle Region. By relocating and rearranging the Cottonwood repeater antennas, coverage was enhanced appreciably in a number of heretofore blank or marginal areas.

The old, poorly performing radio repeater set on Snowbank Mountain was replaced with a new unit. This greatly increased effective coverage and service from this site. A new mountain top repeater site was activated during the year on Cold Springs Mountain northwest of Riggins.

This site is on the north end of the Seven Devils Ridge between the Salmon and Snake rivers and gives effective coverage up and down both streams for communications by our jet boats when patrolling those canyons. It also provides radio communications for formerly blank locations in the Riggins areas and for parts of the Grangeville and Council Conservation Officer Districts. The Cold Springs repeater also provides a communication link between the Clearwater and McCall Regional Offices. With the upgraded Snowbank performance providing a reliable connection between McCall and Boise, we are now able to relay radio calls the entire length and breadth of the state by means of our own system.

Assistance was furnished in the erection of a building to house radio equipment at the new repeater site on Sedgewick peak in southeastern Idaho toward coverage of Caribou, Bear Lake, Franklin and Oneida counties.

Through the cooperation of the Division of Communications and the Idaho State Police, we now have base (control) radios operating on our frequencies at the Beaches Corner Port of Entry near Idaho Falls and at the State Police headquarters in Boise. These prove of substantial value to Department personnel by providing a radio communications link during nighttime hours and on weekends when our regional office bases are not in operation. We hope to expand this service to other sections of the state in the reasonably near future.

Thirty-one mobile radio units of our original radio equipment were replaced in 1971. The new units are capable of multifrequency operation to conform to our plans for a redesigned system and also have much higher performance capabilities. They replace units obtained in 1956 which are now quite obsolete as well as victims of general debility.

Equipment — Buildings

During 1971 we substantially increased our complement of spotting scopes, snowmobiles, horsetrailers and trailerhouses.

Many items of similar equipment previously purchased were replaced. A good quality, revolving traffic control light with a quick detachable mount was tried out on four units in the Panhandle Region in our search for a good, serviceable light of a type that would be effective and suitable for our particular needs.

Additional shallow draft boats equipped with outboard motor jet adapters were acquired and put in service on waters not suitable for propeller-driven craft. When used on streams, such equipment provides a two-way travel capability during low flow periods. A new jet boat with large twin outboards was also purchased as a replacement item for use on the lower Salmon River above and below Riggins

Because of its limited use and value, the Farragut patrol cabin was transferred to the State Parks Department where a much greater need existed. Conventional electrical power became available and was hooked up to the Powell cabin, with the appliances then converted from gas to

electricity. The gas appliances concerned were transferred to the Colson Creek cabin (Lemhi County).

New foundations were provided for the Macks Inn residence cabin. New equipment sheds constructed at Pocatello and Lewiston now provide wintertime shelter for summer equipment and summer protection for stored winter vehicles and gear.

Major improvements were made to the Nowhere cabin on the upper Coeur d'Alene River. A new split shake roof was placed on both the bunkhouse and cabin at Granite Creek (east side of Pend Oreille Lake). A septic tank and drainage field were installed at Smoky cabin (Camas County) as was an electric generator transferred from Powell. The Third Fork cabin on Rock Creek in Twin Falls County, having reached the end of its useful life, was burned. Our use permit for the Shoshone Basin cabin in the same county was terminated with the U. S. Forest Service. The latter agency intends to retain and preserve the old structure because of its historical significance as an early day ranger station. A new patrol cabin was constructed on Midget Creek on the St. Joe River drainage to replace the old Gold Creek cabin in the same locality. The latter cabin was aged and of poor original design. It had to be removed from its site because of realignment and reconstruction of the adjacent U. S. Forest Service Road.

SEARCH AND RESCUE

Search and rescue work was continued at a high level of participation with other cooperating agencies. One hundred and seventy-two missions were undertaken at an approximate cost of $7,442.42. Over $26,-156.96 has been directly contributed to search and rescue efforts during the past nine years.

It is worthy of note that 50% and 65% of such efforts by our agency in 1970 and 1971, respectively, were on behalf of people or problems not directly related to hunting or fishing. Of the 77 and 95 mission totals for 1970 and 1971, respectively, only 39 and 33 were for hunters and fishermen. The balance related to such miscellaneous activities as people delayed in returning home because of cars stuck, broken down, or involved in traffic accidents in remote areas as well as to snowmobilers, downed aircraft, drowned pleasure boaters, etc.

Table XI

SEARCH AND RESCUE — 1970-1971

Year	Missions	Hours	Salary Costs	Vehicle Mileage	Vehicle Cost	Boat, Horse Plane, Sno-Cat, Etc. Costs	Meals	Total
1970	77	596	$2,425.72	4,331	$433.10	$ 528.00	$36.49	$3,427.06
1971	95	550	2,791.48	5,164	516.40	624.60	37.88	3,970.36
Totals	172	1,146	$5,217.20	9,495	$949.50	$1,152.60	$74.37	$7,397.42

LEGISLATION

Enactments of the 1971 legislature affecting the Idaho Fish and Game Department's programs were:

(1) Amended Section 36-402, relating to the enumerated exemptions from the purchase of hunting, trapping and fishing licenses by:

(a) Striking the reference to veterans of the Civil and Spanish-American wars.

(b) Providing that elderly persons must have been residents of the state ten years continuously in order to qualify for a free senior resident permit; providing procedure for application and issuance of such permits; and providing that every senior resident permit previously issued on a courtesy basis prior to the effective date of the amendments would be valid until the expiration date shown on each of said permits.

(2) Amended Section 36-407, regarding resident fish and game licenses and fees by providing for a senior resident fish and game license at age sixty-five for a fee of $1. This new license also requires ten years continuous prior Idaho residence.
The foregoing provisions relating to permits and licenses became effective January 1, 1972.

(3) Section 36-302A, relating to the classification of predatory animals, was amended by removing mountain lion from the listed animals.

(a) In line with this new classification for mountain lion, Section 36-404 was amended providing for a mountain lion tag for nonresident hunters at a fee of $10.

(b) Section 36-1403, relating to big game hunting, was amended by adding mountain lion to the list of animals concerned.

(c) Section 36-1405, which refers to big game bag limits and the protection of livestock from bears was amended to include mountain lion with bear relative to protection of livestock therefrom.

(d) Section 36-2202, which relates to the waste of game animals, was amended by exempting mountain lion from those provisions.

(e) All the foregoing relating to the mountain lion became effective April 1, 1972.

(4) Section 36-408, relating to nonresident fish and game licenses and fees, was amended by:

(a) Limiting the valid period of the nonresident gun licenses (provided for in subsection 5) to the period of January 1 to August 31 of the year concerned.

(b) Subsection 9 of this same section was amended by limiting the privileges of the nonresident deer license to the taking of buck, antlered deer only and the fee for this license was increased from $50 to $75.

(5) Another bill authorized the Idaho Fish and Game Commission to establish a limit annually as to the number of each kind of nonresident licenses to be sold and provided further authority to limit the number, or prohibit entirely, the participation by nonresidents in controlled hunts. This new law was codified as 36-408A and became effective on March 30, 1971.

(6) Section 36-1307, relating to the protection of song, insectivorous, rodent killing, innocent and unprotected birds was amended by removing kingfisher, cormorant and pelican from the list of unprotected birds.

(7) An amendment was made to Title 42 through the addition of Chapter 38 relating to the protection of stream channels. This act provides that a permit must be obtained from the Department of Water Administration prior to any alteration of a stream channel; that said agency shall determine whether any stream alteration would have an unreasonably detrimental effect on stream values. It also provides for procedure in denying a permit, for a hearing and for review of same in district court. The act provides remedies for noncompliance and for restoration or mitigation. This new law does not affect existing water rights and provides that permits are not required of water users or their agents to do construction, maintenance and repair work in stream channels or elsewhere or to remove obstructions from stream channels when they interfere with delivery of water. The act does not apply to reservoir projects or port districts. The act became effective July 1, 1971.

(8) Section 19-4705, Idaho Code, relating to fines and forfeitures, formerly provided that 10% of fish and game fine monies shall be apportioned to the state treasurer for deposit in the state general fund, 22½% to the current expense fund and 22½% to the general school fund of the county in which the violation occurred and 45% to the fish and game fund. The section was amended whereby the latter 45% of such fines and forfeitures shall be remitted to the state treasurer for distribution annually to the general school fund of those counties of the state wherein there are fish and game department lands, with each of said counties to receive a share proportional to the portion of the statewide total acreage of fish and game department owned lands situated therein. This amendment became effective January 1, 1972.

(9) Amendments were made to Title 67, Chapter 53, (Idaho Personnel Commission Act) providing fish and game department employees with the same status as other state employees relative to overtime work (excess of eight hours per day or forty hours per week). Since department employees had previously

worked under this system, the transition was effected this time with little problem.

Enactments of the 1972 legislature affecting the Department's programs were:

(1) Amended Section 36-408 (4) by providing that the $75 annual license to trap fur-bearing animals can be sold to a nonresident only if the state of residence of said person reciprocates by granting similar trapping license privileges to nonresidents. This amendment was effective July 1, 1972.

(2) Amended Section 36-404 by taking out unnecessary wordage regarding hunting licenses; reenacted portions previously left out as a result of code compiler's decision, classified bear as a game animal and provided for a bear tag at a fee of $2.

(3) Section 36-801 was amended by removing the provision allowing the sale of bear or bear hides and eliminated the second paragraph of this section since it was an obsolete provision, having to do with private elk herds which had been in captivity for a period of at least ten years prior to date of the 1925 enactment.

(4) Enacted new requirements for the control of roadside zoos and similar private exhibits. Provisions in the new law give authority to the Idaho Fish and Game Commission to establish standards and regulations covering the operation of these establishments; for the issuance of annual permits by the director; allows the director or his agent to inspect such exhibits, and establishes penalties for violations. This new law becomes effective September 1, 1972.

(5) Section 36-128 was created in accordance with Public Law 92-159 authorizing the fish and game commission to issue permits or licenses at no charge to persons to shoot, capture, harass or kill predatory animals from an airborne aircraft; provides for quarterly reports by licencees and an annual report by the Fish and Game Department to the Secretary of the Interior. This new law was effective April 1, 1972.

(6) Amended 36-5413 providing that failure to serve the public (limiting scope of services without good cause) is grounds for revocation of an outfitter's license This new provision became effective July 1, 1972.

(7) Of interest to the Fish and Game Department was the amendment to Section 42-3803 and 42-3809 providing authority for the Department of Water Administration to adopt and revise rules and regulations regarding the alteration of stream channels. This amendment took effect July 1, 1972.

ENGINEERING

This is the first time that the engineering and construction activities have appeared as a separate section in the Biennial Report. The Engineering Division was established by the Idaho Fish and Game Commission on January 1, 1970. The new division was formed from the Improvement, Land Acquisition, and the Federal Aid Sections of the Administration Division plus the Engineering Section of the Fisheries Division.

The Engineering Division is now responsible for all new construction, maintenance and improvement of fish and game facilities and installations throughout the State. Other responsibilities are outlined as follows:

- Land acquisition and disposal.
- Federal Aid coordination.[1]
- Legal land surveys.
- Maintenance of fishways and screens for the Columbia River Program.
- Road inspections and consultation with road building agencies to minimize impact on fish and wildlife habitat.
- Mine inspections to protect habitat.
- Review of stream alteration requests with Department of Water Administration.
- Engineering surveillance of all fishways and fish collection facilities located within the Snake River drainage above its mouth near Pasco, Washington.
- Access development.

[1]On July 1, 1972 the Federal Aid coordinator responsibilities were divided among Fisheries, Game, I & E, and Engineering Divisions with the Engineering Division retaining only the responsibility for Federal Aid land acquisition.

CONSTRUCTION AND MAINTENANCE

Numerous construction and maintenance projects have been completed during the biennial period. These projects were undertaken to improve the effectiveness and efficiency of the Department and to replace deteriorated or aging facilities. The more significant projects are summarized below.

CAPITAL IMPROVEMENTS — HATCHERIES

American Falls Hatchery

Installed new septic tank and drain field. Improved railroad crossing on the hatchery access road.

Ashton Hatchery

Installed three new garage doors and placed new concrete floor in garage.

Clark Fork Hatchery

Constructed new dwelling.

Decker Rearing Ponds

Installed additional electric feeders.

Eagle Hatchery

Cleaned two 16-inch wells and installed flow meter. Remodeled and added one bedroom to a residence. Replaced roofing on cold storage building.

Grace Hatchery

Constructed new frame for elevated fish feed storage tank and installed electrical system in new garage building.

Hagerman Hatchery

Replaced and modified water supply system at the hatchery building. Installed PVC valves for better control of water to individual rearing tanks. Improved drainage system for existing fingerling raceways. Constructed new fish feed storage bin and supporting frame. Constructed two new concrete fingerling raceways. Hauled earth material and covered main supply pipeline. Installed new overhead door in cold storage building. Built new kitchen cabinets in one residence. Installed weir on Bickle Ditch. Installed new deck on Riley Creek Bridge.

Hayden Creek Hatchery

Constructed new concrete walks and ramps. Constructed fence, placed fill and surfaced trailer parking area. Installed screen on creek water inlet. Constructed new metal combination office, shop and storage building. Installed new septic tank and drain field for office and residences. Installed new waterline to incubation slab. Installed new concrete headgate and bypass line for pond water intake. Removed trees at facility that were endangering bridge. Cleaned waste from rearing ponds.

Hayspur Hatchery

Replaced deteriorated 14-inch pipe to hatchery and raceways. Constructed a central sewage system for the hatchery complete with lift station and sewage lagoon. Constructed new public restroom facility. Constructed new access road to hatchery.

McCall Hatchery

Constructed public restrooms and replaced roof on hatchery building.

Mackay Hatchery

Constructed new central sewage system with 4,000-gallon septic tank and 3,180 square foot seepage bed. Installed new furnace in one residence.

Sandpoint Hatchery

Replaced 2,100 feet of hatchery water supply line.

Pahsimeroi Hatchery

Installed sewage pump and drain field. Changed water inlet on supply ditch, cut river bank and installed riprap. Installed pipe and constructed ditch to carry off silt.

Rapid River

Constructed new 4,000 adult fish capacity holding and spawning facility. Constructed sprinkling system and pond divider walls.

CAPITAL IMPROVEMENTS—GAME MANAGEMENT

Fort Boise Wildlife Management Area

Constructed 5,000 feet of concrete-lined ditch. Erected 2 steel storage buildings. Hauled riprap to stabilize structure on Sand Hollow Drain.

Gold Island Ferry

The ferry was modified and repaired.

Market Lake Wildlife Management Area

Constructed water control dike and installed water control structure.

Mores Creek Check Station

Installed a new water system and completed grading for new check station.

Snake River Wildlife Management Area

Constructed 1,300 feet of concrete-lined ditch.

CAPITAL IMPROVEMENTS—GENERAL

Boise Headquarters Office

Constructed new open-front steel garage with enclosed storage room. Added additional partitions in the mailroom.

Boise Warehouse and Regional Office

Constructed new covered storage building and fenced the equipment storage lot. Installed new combination auxiliary heating and cooling unit. Constructed new concrete loading ramp. Remodeled offices.

Clearwater Regional Office

Constructed new steel covered equipment storage building and fenced storage lot.

Cove Arm of C. J. Strike Reservoir

The rock fill dike was widened by approximately 10 feet in an attempt to stop the infiltration of trash fish into Cove Arm.

Crane Falls Lake

An experimental project was conducted to reclaim the lake as a fishery by pumping to obtain a water exchange. The total dissolved salts in the lake were reduced 78 percent and the alkalinity was reduced over 50 percent. However, it has not yet been determined if the lake will again support a trout fishery.

Eastern Region Office

Constructed new steel covered equipment storage building.

Featherville Cabin

Constructed new 600 square foot log cabin, garage and storage room.

Garden Valley C. O. Dwelling

Excavated roadway, placed pipe and drains for new approach to house. Constructed new sewage disposal system, remodeled residence and added a Franklin stove for emergency heating.

Horseshoe Bend Pond

Constructed a new floating log boom to protect pond inlet from debris.

Horsethief Basin Dam

Constructed 3 miles of log fence and ½ mile of barbed wire fence. Repaired spillway that was washing out. Seeded downstream side of dam and installed three cattle guards.

Jerome Regional Office

Constructed new 24' x 72' equipment storage building. Repaired roof on warehouse. Hauled and placed gravel on parking area.

Macks Inn Cabin

Installed new foundation.

Midget Creek Cabin

Constructed a new 600 square foot cedar log cabin on the upper St. Joe River.

Nowhere Cabin

Modified and repaired cabin.

Redfish Creek Cabin

Cabin was moved to new location. Installed water supply, septic tank and built bathroom on cabin.

Salmon Regional Office

Installed a new lawn sprinkling system.

Smoky Cabin

Installed new septic tank and drain system.

SHOP PROJECTS

The shop personnel at Salmon, Boise, and Hagerman completed numerous maintenance, repair and construction projects for the Department during the two-year period:

* Maintained, repaired and overhauled Department vehicles, equipment, outboard motors, etc.
* Constructed cabinets, tables, credenzas and storage areas for Regional Offices, cabins and general use.

* Painted and made minor repairs to buildings and facilities.
* Constructed bear traps.
* Constructed elk and deer panels for protection against depredation.
* Constructed feeding troughs for winter feeding of big game.
* Constructed wood frame toilets with concrete bases for use in access areas. Also, constructed a number of reinforced concrete toilets for use in areas of severe vandalism.
* Painted signs and frames.
* Constructed 452 precast concrete ramp blocks.
* Cleaned and maintained Dagger Falls and Selway Falls fishways.
* Maintained 222 fish screens installed on the Salmon River drainage upstream from North Fork and the Decker pond screens.
* Maintained Lemhi fish traps and weirs and Lemhi Big Springs counting weir.

LAND TRANSACTIONS

During the biennium the Department purchased and leased various segments of land in the State. The various lands projects and the Department funds expended are listed as follows:

Name of Project	County Located In	Acreage	Land Cost
Boise River Elk & Deer Winter Range	Ada	343.73	$ 18,000
Portneuf Game Range	Bannock	40.00	8,750
Montpelier Game Range	Bear Lake	458.53	Gift
Montpelier Game Range	Bear Lake	776.45	18,000
Sterling Wet Lands	Bingham	201.00	20,500
Stanton Crossing	Blaine	12.63	Land Exchange
Stanton Cross (10-yr. State Land Lease)	Blaine	3.34	1,000
So. Fk. of the Payette River—Alder Creek Site	Boise	.43	100
Freeman Lake	Bonner	99.44	33,500
Kelso Lake (Land Lease)	Bonner	1.36	210/yr.
Boundary County Refuge	Boundary	9.40	1,855
Boundary County Refuge (Flowage Easement)	Boundary	1.60	---
Dawson Lake	Boundary	200.00	40,000
Duff Lane Pond	Canyon	9.80	10
Grace Hatchery Addition	Caribou	1.43	1,250
Hollywood Check Station Site (1-year lease)	Clearwater	1.00	15
Salmon River Access—Bedke Site	Custer	13.17	5,250
Foster Reservoir	Franklin	3.18	2,550
Henry's Lake Hatchery Addition	Fremont	1.40	12,000
Sand Creek Elk Range (State Land Lease—10 years)	Fremont	1,557.92	1,091
Snake River Islands	Gooding	26.94	12,000
Twin Lakes Addition	Kootenai	.14	1,000
Coeur d'Alene River W.M.A.	Kootenai	566.69	Land Exchange
Coeur d'Alene River W.M.A.	Kootenai	169.00	Land Exchange
Coeur d'Alene River W.M.A.	Kootenai	284.45	Land Exchange & 5,000
Coeur d'Alene River W.M.A.	Kootenai	125.00	9,000
Coeur d'Alene River W.M.A.	Kootenai	287.11	48,500
Mica Mountain Relay Station (Undivided 1/5 interest)	Kootenai	.244	1.000
Hayden Creek Rearing Pond	Lemhi	7.30	15,200
Hayden Creek Rearing Pond	Lemhi	2.84	1,200
Bighorn Range State Land Lease (4 yr.)	Lemhi	640.00	720
Craig Mountain Management Area	Nez Perce	1,960.39	80,000
Clearwater River Access-Big Canyon (10-year lease)	Nez Perce	4.00	1,000
Clearwater River-Cherrylane (1-year lease)	Nez Perce	1.00	75
Snake River Access-Walter's Ferry	Owyhee	1.64	Land Exchange
St. Joe River Access (BLM land lease—5 years)	Shoshone	55.00	60
Snake River Islands	Twin Falls	20.08	50
TOTAL LAND COST			$326,953

PUBLIC ACCESS AREAS DEVELOPED

The following access areas (not located within wildlife management areas) were improved for convenient public use. From 7-1-70 to 6-30-72

Name of Site	County	Toilets	Concrete Ramp	Graveled Parking	Road Construction	Fence	Cattle Guard	Sign	Well
Snake River—Ferry Butte	Bannock							X	
Snake River—Pingree	Bannock		X	(Improved)					
McTucker Creek	Bingham				X		X		
Hayspur Hatchery	Blaine	X	(2)						
Silver Creek	Blaine	X	(6)						
Magic Reservoir	Blaine and Camas				X	(2-mile)	X	X	(stile)
Quigley Reservoir	Blaine	X							
Silver Creek—Priest Camp	Blaine	X							
Silver Creek—Kilpatrick Bridge	Blaine				X	(culverts)			
Willow Creek	Bonneville		X	X					
Snake River—Irwin Jetty	Bonneville			X	X	X		X	X
So. Fork Payette River — Alder Creek Bridge	Boise	X							
*Mormon Reservoir	Camas				X				
Boise River—Eagle	Canyon						X	(Relocate)	
Boise River—Lansing Lane	Canyon	X		X	X	X		X	
*Snake River—Fargo Drain	Canyon	X	(2)						
Caldwell Ponds	Canyon	X	(2)						
*Chesterfield Reservoir	Caribou						X		
*Blackfoot Reservoir—Hopkins Landing	Caribou	X	(Reset)						
*Chesterfield Reservoir	Caribou					X	(Gate)		
Grace Power Plant	Caribou								
Lake Walcott—Gifford Springs	Cassia		X	X	X		X	X	
Salmon River—Hat Creek	Custer						X		

*Maintenance Agreement

PUBLIC ACCESS AREAS DEVELOPED (Cont.)

Name of Site	County	Toilets	Concrete Ramp	Graveled Parking	Road Construction	Fence	Cattle Guard	Sign	Well
Snake River—King Hill	Elmore				X	(Cattle gate)			
Mountain Home Reservoir	Elmore	X							
*Twin Lake	Franklin	X (4)							
*Condie Reservoir	Franklin	X (2)							
*Lamont Reservoir	Franklin	X (2)							
*Glendale Reservoir	Franklin	X (2)							
Condie Reservoir	Franklin		X (Installed)						
*Twin Lake	Franklin	X (5)							
*Windor Reservoir	Franklin	X							
Henrys Fork—Chester	Fremont				X	(Culverts)			
Red Road	Fremont						X (2)		
*Wendell Fishing Bridge	Fremont							X	
Juniper Road	Fremont				X		X (2)		
Emmett Gravel Ponds	Gem	X							
Thorn Creek Reservoir	Gooding	X							
Salmon River—Shorts Bar	Idaho	X (Reset)							
Scott Access	Jerome	X			X				
Snake River—Auger Falls	Jerome				X				
CDA River W.M.A.	Kootenai		X						
Spring Valley	Latah				X	(Culverts)			
Lemhi Weir Site—Peterson	Lemhi	X		X	X				
*Williams Lake	Lemhi		X	X	X				
*McKim Creek	Lemhi				X	(1200' metal pipe)			
Lemhi River—Peterson	Lemhi			X	X				
Henrys Fork—Snake River—Lee Access	Madison				X	(Culvert)			
Clearwater River—Myrtle Beach	Nez Perce	X (2)	X	X					

*Maintenance Agreement

PUBLIC ACCESS AREAS DEVELOPED (Cont.)

Name of Site	County	Toilets	Concrete Ramp	Graveled Parking	Road Construction	Fence	Cattle Guard	Sign	Well
Manns Lake	Nez Perce	X							
*Crowther Reservoir	Oneida	X (2)							
*Daniels Reservoir	Oneida	X (3)					X	X	
*Deep Creek Reservoir	Oneida	X							
*St. John Reservoir	Oneida	X							
*Weston Reservoir	Oneida	X (2)			X				
Snake River—Bruneau Arm Narrows	Owyhee	X							
Snake River—Bruneau Bridge	Owyhee	X							
Grasmere Reservoir	Owyhee							X	
Snake River Opaline	Owyhee		X (Relocated)						
Snake River—Pipeline Access	Power				X				
Murtaugh Lake	Twin Falls	X		X	X				
Snake River—Bordewick	Twin Falls	X							
Horsethief Lake	Valley	X (4)							
Salmon River—Decker Flat	Valley							X (Stile)	
*Herrick Reservoir	Valley	X			X				
Horsethief Lake	Valley	X (2)		X	X				
Paddock Reservoir	Washington-Payette				X	X (8-mile cooperative project)	X		
Snake River—Roberts	Washington	X (2)							
Brownlee Reservoir Road—Steck Park	Washington				X				

*Maintenance agreement

BUSINESS ADMINISTRATION
TOTAL FUND OPERATIONS
July 1, 1970 - June 30, 1972

	Fish & Game Section 1	Predator Animal Section 2	Wildlife Restoration Section 3	Fish Restoration Section 4	Columbia River Section 5	Special Studies Section 6	Match. Funds Programs Section 7	Percent	Total
Beginning Fund Balance									$2,001,069.45
Revenue									
Licenses	$9,270,940.80							77.6%	$9,270,940.80
Matching Funds	2,449.63		$1,233,657.75	$388,430.57	$202,239.69	$482,125.53	$46,995.39	19.7%	2,355,898.56
Other	337,720.40		10,105.97	414.38	40.11	4.00		2.7%	348,284.86
Total Revenue	$9,611,110.83		$1,243,763.72	$388,844.95	$202,279.80	$482,129.53	$46,995.30	100.0%	$11,975,724.22
	80.3%		10.4%	3.2%	1.7%	4.0%	.4%	100.0%	
									13,976,193.67
Disbursements									
Salaries and Wages	4,025,352.24		629,700.15	207,831.53	95,691.55	201,892.55	30,422.02	50.1%	5,190,890.04
Travel	168,994.03		18,663,.88	12,454.20	9,551.92	5,805.96	605.84	2.1%	216,075.83
Other Expense	2,073,635.05	57,024.25	684,833.82	199,374.20	88,847.75	279,669.57	28,222.93	32.9%	3,411,607.57
Capital Outlay	1,181,625.28		261,467.75	49,041.57	17,676.14	19,386.42	4,213.45	14.8%	1,533,410.61
Refunds	6,892.25							.1%	6,892.25
Total Expense	$7,456,498.85	$57,024.25	$1,594,665.60	$468,701.50	$211,767.36	$506,754.50	$63,464.24	100.0%	$10,358,876.30
	72.0%	.6%	15.4%	4.5%	2.0%	4.9%	.6%	100.0%	
State Transfers									
Social Security	228,405.91								228,405.91
Administrative Charges	54,156.69								54,156.69
Transfer to Rotary Fund	2,000.00								2,000.00
Prior Biennium Cancelled Warrants	18.85								18.85
Total Transfers	284,581.45								284,581.45
Total Disbursements	$7,741,080.30	$57,024.25	$1,594,665.60	$468,701.50	$211,767.36	$506,754.50	$63,464.24		$10,643,457.75
Ending Fund Balance									3,332,735.92
Outstanding Orders	1,167,597.61		75,892.66	8,621.64	201.60	4,049.85			1,256,363.36
Ending Unencumbered Fund Balance									$ 2,076,372.56

TABULATION OF RESIDENT LICENSE SALES 1970 AND 1971

	Res. F & G	Res. Game	Res. Fish	Salmon Permits	S'head Permits	Deer Tags	Elk Tags	Moose Tags	Sheep Tags	Goat Tags	A'lope Tags	Turkey Tags	Senior Resident Permits	Senior Resident Deer Tags	Senior Resident Elk Tags	Dup. Lic.
1970	121,616	69,421	82,409	11,424	22,750	Reg. 144,412	69,699	112	9	308	1970	102	17,665*	3,242	3,094	3,043
						Ext. 20,209			696**	22**	224**	135**				
1971	123,953	71,491	83,637	6,120	20,174	Reg. 139,372	65,992	115	67	290	2070		18,699	3,102	2,960	3,203
						Ext. 15,946				31*	321**	260**				

*Sr. Resident permits are issued for a 5-year term.
This is the number of valid permits.
**Open

TABULATION OF NONRESIDENT LICENSE SALES 1970 AND 1971

	Nonres. Big Game	Nonres. Bird	Nonres. Fish	5-Day Fish	1st Day Fish	Add. One-Day Fish	Nonres. Nongame	Nonres. Deer	Nonres. Bear
1970	11,930	5,322	20,105	57,684	76,931	000	1,660	4,917	339
1971	9,612*	6,130	20,438	58,869	73,946		1,573	3,845**	514

*60 license forfeitures, refunds.
**24 license forfeitures, refunds.

CASH EXPENDITURES BY DIVISION
BIENNIUM ENDING JUNE 30, 1972

	Category Total	Business Administration	Conservation Enforcement	Fisheries	Game	Information & Education	Engineering
Salaries & Wages	$ 5,190,890.04	$514,076.85	$1,396,145.20	$1,496,869.09	$1,142,727.68	$269,629.19	$ 371,442.03
Travel Expense	216,075.83	31,042.61	46,372.04	63,673.69	42,110.66	8,838.38	24,038.45
Operating Expense	3,411,607.57	249,749.06	447,962.02	1,419,297.34	1,012,529.46	191,338.72	90,730.97
Capital Outlay	1,533,410.61	64,438.71	287,099.20	341,084.99	235,129.24	27,164.75	578,493.72
Refunds	6,892.25	6,892.25					
TOTAL	$10,358,876.30	$866,199.48	$2,177,578.46	$3,320,925.11	$2,432,497.04	$496,971.04	$1,064,705.17