

***Thirty-First Biennial Report***

***of the***

**FISH AND GAME**

**DEPARTMENT**

***of the***

***STATE OF IDAHO***



***July 1, 1964 to June 30, 1966***

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

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

Sir:

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

This report covers the period July 1, 1964 through June 30, 1966, with certain data for the last six months of 1966.

Respectfully submitted,

R. J. Holmes, Chairman  
Frank Cullen  
Dr. William B. Durbon  
Arlie Johnson  
Glenn Stanger

Attest:

John R. Woodworth, Director

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## 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, Shoshone.

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

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

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

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

### Members of the Commission

Members of the Commission during the biennium were:

Frank Cullen, Coeur d'Alene, District One

Dr. William B. Durbon, Moscow, District Two

Arlie Johnson, Boise, District Three

R. J. Holmes, Twin Falls, District Four

Glenn Stanger, Idaho Falls, District Five

The Commission met in 8 regular sessions and 26 special sessions during the biennial period.

Frank Cullen served as Chairman of the Commission in 1964; Glenn Stanger served as Chairman during 1965 and Mr. R. J. Holmes was elected Chairman in 1966.

### Director

John R. Woodworth, who was appointed Director of the Fish and Game Department in July 1962, served during the biennium. Robert L. Salter was appointed Assistant Director at the same time, and served in that capacity during the biennium.

### Regional Administration

Effective July 1, 1965, field operations of the department were reorganized into eight regions for more efficient administration and improved public service. Headquarters offices for the regions are located at Coeur d'Alene, Lewiston, McCall, Boise, Jerome, Pocatello, Idaho Falls and Salmon.

Most regional office staffs include a regional conservation officer, regional fish and game biologists, a regional conservation educator and a receptionist-stenographer. A regional land manager and additional biologists are also located at some regional offices according to the work load and the geographic location.

## Conservation Enforcement

### Wildlife Law Enforcement

The Conservation Enforcement Division's primary responsibility is to enforce laws and regulations that pertain to the harvest and protection of our wildlife. By upholding these laws and regulations, license requirements are met, assuring a continued inflow of revenue to finance Department operations and programs. Controlling the timing and amount of wildlife harvested results in protection and perpetuation of the basic brood stocks. Management recommendations that manipulate and control wildlife populations are only effective to the degree to which they are adhered. By controlling the manner and taking of wildlife, each hunter and fisherman has a reasonably equal opportunity to take his share of the harvest in a sportsman-like way.

As our human population continues to increase, more and more sportsmen will utilize the same areas and compete with each other to harvest wildlife. This will increase the Division's responsibilities in keeping the human population in harmony with wildlife so hunting and fishing will continue to be the sought-after recreation it is today.

The average Idaho Conservation Officer district encompasses an area of 1,306 square miles and has a population of 11,000 people. Each officer supervises an average of 10 license vendors. Sales by these outlets average 6,000 licenses annually. Of these, approximately 4,000 are resident licenses which must be checked relative to unqualified or fraudulent purchases. In addition, each officer checks about 1,500 licenses in the field each year and while doing so, collects and records fish and game management data.

### Organization

Division personnel consists of a Division Chief, a Supervisor of Conservation Enforcement, eight Regional Conservation Officers and sixty-four District Conservation Officers. With the creation of two new regions and the addition of two Regional Conservation Officers in 1965, the average supervisory load per Regional Conservation Officer was reduced from 10.6 officers to a more realistic figure of 8. As a result, the improved supervisory relationship provides for more flexible, productive and effective use of the Department force of sixty-four District Conservation Officers. The Supervisor of Conservation Enforcement position was created to assist with the work load in the state office, particularly regarding several recently introduced divisional programs.

### Enforcement

To improve the wildlife law enforcement program, a more accurate and complete method of recording all known violations of fish and game laws and regulations, was initiated. The purpose is to provide a complete record of all known violations in the state, regions and districts which will allow a better evaluation of our wildlife law enforcement program. Under this system citations are issued to violators as in the past. Written warnings are issued when violations are not serious enough

to justify prosecution in court and incident reports are recorded when there is positive evidence or knowledge of a violation having been committed but identity of the violator is unknown, or facts are insufficient for prosecution.

Data recorded on all three types of violation reports has been adapted to machine processing. This information, so recorded and stored, is readily available whenever needed. The new three-way violation reporting, plus its adaptation to machine processing, is a step forward in obtaining information needed to reveal and indicate problem areas which should have special attention in the form of additional enforcement effort, more posting, or extra publicity by newspapers, radio and television.

Additional equipment and attention has been directed toward boat-patrol coverage of lakes and reservoirs. Effort and time has also been given to such patrol measures as river float trips, back country foot travel with backpacks and intensified jet-boat coverage of the Snake and Salmon Rivers. A new jet-boat was purchased to work the lower Salmon and Snake River canyon areas. The original jet-boat is now primarily assigned to the middle Salmon River. Outboard jet conversion units were purchased for modification of outboard motors on boats which are used for enforcement and management work on those portions of Snake River from Swan Falls to Brownlee Reservoir and from Palisades to Heise. Back country surveillance through the use of trail machines and plane-radio patrols was intensified. A larger proportion of our patrol vehicles are now of the four wheel drive type.

Officers of the Panhandle Region were assigned the duty of water security at the Girl Scout Senior Roundup encampment at Farragut State Park. Enforcement requirements were maintained on the portion of Lake Pend Oreille bordering the encampment area for two weeks prior to the actual encampment, as well as during the encampment period and for two weeks thereafter.

A substantial part of division effort is constantly directed toward a multi-pronged program of preventing violations on a "before-the-fact" basis. Laws and regulations, maps, pamphlets and other types of information are distributed statewide to inform the sporting public of seasons, bag limits and other rules and the necessity for these regulatory controls. Fishing and hunting areas which are most susceptible to public misunderstanding, or confusion, relative to regulations, are posted. A cooperative program of posting state lines has also been developed with all adjoining states. Identifiable vehicles are used in maintaining constant enforcement patrol pressure, especially in those areas where wildlife is more vulnerable or violations most likely to occur. Partly as such a preventive enforcement measure District Conservation Officers traveled a total of 3,110,235 miles during the biennium in their efforts to maintain reasonable enforcement control in their respective areas. After all preventive efforts are expended there are still individuals who do not conform to the rules set down by society. It is the Conservation Officer's job to apprehend those who would take illegal advantage of wildlife that belongs to the people as a whole.

Representative of the biennium was the year 1965, during which each officer averaged two arrests per month, plus assisting with others. He averaged 4.8 days off per month, took an average of six days of annual leave and used 1.5 days of sick leave during the year. He drove an average vehicle mileage of 1,951 per month at an average operational cost of 4.5 cents per mile. This average officer ate 63 meals in the field from camp groceries and spent 24 nights in his sleeping bag during the 12-month period.

Tables I and II give a record of arrests by county and region. 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.

The effects of inflation during recent years has been recognized in the raising of court cost fees from \$3 to \$5 and by increasing the credit given in serving a fine out in jail from \$2 to \$5 per day. Yet as noted in the foregoing table, the average fine assessed for the past biennium was only \$26.87. This latter figure is very comparable to the average fine for the past 30 years and serves as little deterrent to the violator in these days of the cheap dollar. The county averages of fines during the biennium ranged from a low of \$13.33 in Lewis County to a high of \$59.76 in Shoshone County.

A total of \$62,706 in fines were levied against individuals violating fish and game laws and regulations. Fifty per cent of these fine monies go to the county in which the violation occurred. One hundred per cent of the monetary penalties that result from bond forfeitures, or violations of the Youth Rehabilitation Act and failure to answer a citation remain in the counties of jurisdiction. These monies are not included in the Table II figures. In addition, all court cost fees collected for processed cases remain in the counties concerned.

About 15% of all violators that appear in court to answer to violations dealing with fish and game regulations are not assessed a fine. About 50% of those violators not fined are juveniles.

Table III gives a breakdown of those arrests which did not result in fines. It is noteworthy that of the total of 2,908 arrests made during the biennium only .05% resulted in acquittals and 2% in dismissals. The combined conviction and forfeiture rate exceeded 97%.

Again the kind of wildlife most frequently involved in violations was fish (1,153), big game was second (644) and license infractions (413) were third (Table IV). The number of processed violations as to each type of activity remained in substantially the same order each of the two years but prosecutions for purchase or possession of wrong class licenses and for the use of illegal gear decreased notably in the last year of the biennium whereas instances of hunting and fishing without a license showed a sharp increase.

California and Washington led the list with Utah third in numbers of nonresidents arrested for fish and game violations. (Table V). One out of every five persons arrested was a nonresident.

TABLE I - Total Arrests by County  
1956 - 1965

| Region and County | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 |
|-------------------|------|------|------|------|------|------|------|------|------|------|
| <b>Panhandle</b>  |      |      |      |      |      |      |      |      |      |      |
| Benewah .....     | 15   | 17   | 39   | 35   | 43   | 24   | 13   | 20   | 10   | 13   |
| Bonner .....      | 24   | 52   | 42   | 21   | 33   | 45   | 17   | 39   | 40   | 45   |
| Boundary .....    | 9    | 13   | 18   | 9    | 17   | 9    | 6    | 16   | 20   | 8    |
| Kootenai .....    | 52   | 128  | 92   | 42   | 41   | 31   | 28   | 52   | 45   | 76   |
| Shoshone .....    | 28   | 72   | 22   | 25   | 22   | 35   | 26   | 38   | 35   | 27   |
| Totals .....      | 128  | 282  | 213  | 132  | 156  | 144  | 90   | 165  | 150  | 169  |
| <b>Clearwater</b> |      |      |      |      |      |      |      |      |      |      |
| Clearwater .....  | 10   | 14   | 16   | 29   | 12   | 41   | 31   | 71   | 56   | 49   |
| Idaho .....       | 22   | 16   | 28   | 42   | 54   | 84   | 92   | 137  | 81   | 79   |
| Latah .....       | 6    | 3    | 14   | 10   | 8    | 10   | 15   | 18   | 14   | 27   |
| Lewis .....       | 3    | 7    | 2    | 8    | 5    | 12   | 8    | 1    | 2    | 3    |
| Nez Perce .....   | 20   | 18   | 18   | 27   | 60   | 51   | 77   | 73   | 47   | 35   |
| Totals .....      | 61   | 58   | 78   | 116  | 139  | 198  | 223  | 300  | 200  | 193  |
| <b>McCall</b>     |      |      |      |      |      |      |      |      |      |      |
| Adams .....       | 20   | 10   | 9    | 18   | 12   | 14   | 28   | 20   | 13   | 25   |
| Valley .....      | 63   | 37   | 26   | 62   | 44   | 41   | 35   | 57   | 54   | 40   |
| Totals .....      | 83   | 47   | 35   | 80   | 56   | 55   | 63   | 77   | 67   | 65   |
| <b>Western</b>    |      |      |      |      |      |      |      |      |      |      |
| Ada .....         | 88   | 135  | 82   | 96   | 42   | 42   | 29   | 38   | 47   | 44   |
| Boise .....       | 20   | 34   | 28   | 25   | 35   | 17   | 33   | 42   | 57   | 32   |
| Canyon .....      | 62   | 65   | 64   | 53   | 66   | 46   | 44   | 94   | 114  | 91   |
| Elmore .....      | 38   | 31   | 66   | 25   | 26   | 26   | 55   | 47   | 49   | 27   |
| Gem .....         | 9    | 5    | 19   | 9    | 7    | 23   | 14   | 14   | 15   | 2    |
| Owyhee .....      | 31   | 50   | 73   | 82   | 61   | 26   | 34   | 70   | 43   | 35   |
| Payette .....     | 10   | 6    | 7    | 9    | 8    | 5    | 5    | 19   | 29   | 26   |
| Washington .....  | 25   | 10   | 13   | 3    | 5    | 14   | 26   | 42   | 21   | 18   |
| Totals .....      | 283  | 336  | 352  | 307  | 250  | 199  | 240  | 366  | 375  | 275  |

TABLE I - Total Arrests by County (Continued)

| Region and County        | 1956         | 1957         | 1958         | 1959         | 1960         | 1961         | 1962         | 1963         | 1964         | 1965         |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Magic Valley</b>      |              |              |              |              |              |              |              |              |              |              |
| Blaine .....             | 10           | 20           | 28           | 43           | 28           | 21           | 20           | 28           | 26           | 34           |
| Camas .....              | 7            | 3            | 15           | 4            | 18           | 7            | 18           | 41           | 24           | 14           |
| Cassia .....             | 16           | 34           | 60           | 49           | 47           | 39           | 21           | 34           | 41           | 30           |
| Gooding .....            | 13           | 6            | 27           | 29           | 24           | 43           | 59           | 45           | 60           | 35           |
| Jerome .....             | 7            | 6            | 12           | 15           | 22           | 21           | 11           | 23           | 18           | 7            |
| Lincoln .....            | 2            | 7            | 9            | 5            | 5            | 5            | 3            | 8            | 3            | 6            |
| Minidoka .....           | 9            | 10           | 14           | 12           | 14           | 15           | 12           | 17           | 14           | 9            |
| Twin Falls .....         | 31           | 47           | 27           | 39           | 61           | 48           | 26           | 28           | 41           | 21           |
| Totals .....             | 95           | 133          | 192          | 196          | 219          | 199          | 170          | 224          | 227          | 156          |
| <b>Eastern</b>           |              |              |              |              |              |              |              |              |              |              |
| Bannock .....            | 27           | 33           | 51           | 12           | 27           | 24           | 31           | 35           | 44           | 59           |
| Bear Lake .....          | 15           | 14           | 8            | 21           | 18           | 7            | 17           | 31           | 44           | 18           |
| Bingham .....            | 32           | 26           | 55           | 42           | 27           | 36           | 19           | 16           | 24           | 18           |
| Caribou .....            | 54           | 46           | 61           | 28           | 22           | 43           | 49           | 54           | 43           | 61           |
| Franklin .....           | 16           | 20           | 29           | 31           | 16           | 27           | 21           | 41           | 35           | 28           |
| Oneida .....             | 13           | 8            | 7            | 10           | 11           | 58           | 22           | 20           | 28           | 16           |
| Power .....              | 55           | 38           | 50           | 61           | 35           | 39           | 18           | 45           | 51           | 41           |
| Totals .....             | 212          | 185          | 261          | 205          | 156          | 234          | 177          | 242          | 269          | 241          |
| <b>Upper Snake River</b> |              |              |              |              |              |              |              |              |              |              |
| Bonneville .....         | 85           | 39           | 71           | 35           | 30           | 42           | 43           | 32           | 49           | 52           |
| Butte .....              | 11           | 14           | 15           | 20           | 12           | 0            | 6            | 7            | 19           | 20           |
| Clark .....              | 21           | 21           | 34           | 24           | 8            | 19           | 15           | 16           | 14           | 8            |
| Fremont .....            | 50           | 50           | 58           | 49           | 39           | 44           | 28           | 30           | 38           | 70           |
| Jefferson .....          | 68           | 76           | 42           | 58           | 62           | 51           | 54           | 32           | 13           | 21           |
| Madison .....            | 7            | 2            | 6            | 8            | 5            | 6            | 2            | 4            | 3            | 8            |
| Teton .....              | 5            | 3            | 4            | 5            | 6            | 6            | 1            | 2            | 3            | 2            |
| Totals .....             | 247          | 205          | 230          | 199          | 162          | 168          | 149          | 123          | 139          | 181          |
| <b>Salmon</b>            |              |              |              |              |              |              |              |              |              |              |
| Custer .....             | 34           | 51           | 47           | 81           | 66           | 55           | 32           | 54           | 39           | 30           |
| Lemhi .....              | 22           | 22           | 46           | 44           | 31           | 49           | 31           | 50           | 28           | 21           |
| Totals .....             | 56           | 73           | 93           | 125          | 97           | 104          | 63           | 104          | 67           | 51           |
| <b>Year Totals .....</b> | <b>1,165</b> | <b>1,319</b> | <b>1,454</b> | <b>1,360</b> | <b>1,235</b> | <b>1,301</b> | <b>1,175</b> | <b>1,601</b> | <b>1,494</b> | <b>1,331</b> |

**TABLE II**  
**NUMBER OF ARRESTS AND AVERAGE FINE BY COUNTY AND REGION**  
**1964 - 1965**

| Region and County        | January 1 — December 31, 1964 |                    |                    |                | January 1 — December 31, 1965 |                    |                    |                |
|--------------------------|-------------------------------|--------------------|--------------------|----------------|-------------------------------|--------------------|--------------------|----------------|
|                          | Total Arrests                 | Arrests With Fines | Total Money        | Average Fines  | Total Arrests                 | Arrests With Fines | Total Money        | Average Fines  |
| <b>Panhandle</b>         |                               |                    |                    |                |                               |                    |                    |                |
| Benehew                  | 10                            | 7                  | \$ 325.00          | \$47.43        | 13                            | 11                 | \$ 315.00          | \$28.64        |
| Bonner                   | 40                            | 36                 | 945.00             | 26.25          | 45                            | 36                 | 960.00             | 26.67          |
| Boundary                 | 19                            | 19                 | 840.00             | 44.21          | 8                             | 7                  | 195.00             | 27.86          |
| Kootenai                 | 45                            | 39                 | 1,095.00           | 28.08          | 76                            | 69                 | 1,890.00           | 27.39          |
| Shoshone                 | 35                            | 29                 | 1,520.00           | 52.41          | 27                            | 21                 | 1,255.00           | 59.76          |
| Total and Average        | 150                           | 130                | \$ 4,725.00        | \$36.35        | 169                           | 144                | \$ 4,615.00        | \$32.05        |
| <b>Clearwater</b>        |                               |                    |                    |                |                               |                    |                    |                |
| Clearwater               | 56                            | 35                 | \$ 790.50          | \$22.59        | 49                            | 36                 | \$ 1,480.00        | \$41.11        |
| Idaho                    | 81                            | 75                 | 2,900.00           | 38.67          | 79                            | 66                 | 2,073.00           | 31.41          |
| Latah                    | 14                            | 14                 | 320.00             | 22.86          | 27                            | 23                 | 1,169.00           | 50.83          |
| Lewis                    | 2                             | 2                  | 50.00              | 25.00          | 3                             | 3                  | 40.00              | 13.33          |
| Nez Perce                | 47                            | 20                 | 340.00             | 17.00          | 35                            | 19                 | 495.00             | 26.05          |
| Total and Average        | 200                           | 146                | \$ 4,400.50        | \$30.14        | 193                           | 147                | \$ 5,257.00        | \$35.76        |
| <b>McCall</b>            |                               |                    |                    |                |                               |                    |                    |                |
| Adams                    | 13                            | 13                 | \$ 295.00          | \$22.69        | 25                            | 25                 | \$ 952.00          | \$38.08        |
| Valley                   | 54                            | 52                 | 1,185.00           | 22.79          | 40                            | 32                 | 677.50             | 21.17          |
| Total and Average        | 67                            | 65                 | \$ 1,480.00        | \$22.76        | 65                            | 57                 | \$ 1,629.50        | \$28.58        |
| <b>Western</b>           |                               |                    |                    |                |                               |                    |                    |                |
| Ada                      | 47                            | 39                 | \$ 775.00          | \$19.87        | 44                            | 35                 | \$ 820.00          | \$23.43        |
| Boise                    | 57                            | 48                 | 1,193.00           | 24.85          | 32                            | 26                 | 830.00             | 31.92          |
| Canyon                   | 114                           | 54                 | 1,291.00           | 23.91          | 91                            | 65                 | 1,145.00           | 17.62          |
| Elmore                   | 49                            | 46                 | 900.00             | 19.57          | 27                            | 21                 | 570.00             | 27.14          |
| Gern                     | 15                            | 14                 | 290.00             | 20.71          | 2                             | 2                  | 50.00              | 25.00          |
| Owyhee                   | 43                            | 35                 | 790.00             | 22.57          | 35                            | 34                 | 662.00             | 19.47          |
| Payette                  | 29                            | 22                 | 500.00             | 22.73          | 26                            | 26                 | 640.00             | 24.62          |
| Washington               | 21                            | 16                 | 355.00             | 22.19          | 18                            | 16                 | 375.00             | 23.44          |
| Total and Average        | 375                           | 274                | \$ 6,094.00        | \$22.24        | 275                           | 225                | \$ 5,092.00        | \$22.63        |
| <b>Magic Valley</b>      |                               |                    |                    |                |                               |                    |                    |                |
| Blaine                   | 26                            | 21                 | \$ 570.00          | \$27.14        | 34                            | 28                 | \$ 502.50          | \$17.95        |
| Camas                    | 24                            | 23                 | 580.00             | 25.22          | 14                            | 14                 | 330.00             | 23.57          |
| Cassia                   | 41                            | 38                 | 1,005.00           | 26.45          | 30                            | 25                 | 385.00             | 15.40          |
| Gooding                  | 60                            | 49                 | 805.00             | 16.43          | 35                            | 30                 | 535.00             | 17.83          |
| Jerome                   | 14                            | 14                 | 225.00             | 16.07          | 7                             | 7                  | 175.00             | 25.00          |
| Lincoln                  | 3                             | 3                  | 50.50              | 16.83          | 6                             | 6                  | 150.00             | 25.00          |
| Minidoka                 | 14                            | 10                 | 250.00             | 25.00          | 9                             | 7                  | 135.00             | 19.29          |
| Twin Falls               | 41                            | 37                 | 915.00             | 24.73          | 21                            | 19                 | 740.00             | 38.94          |
| Total and Average        | 227                           | 195                | \$ 4,400.50        | \$22.57        | 156                           | 136                | \$ 2,952.50        | \$21.71        |
| <b>Eastern</b>           |                               |                    |                    |                |                               |                    |                    |                |
| Bannock                  | 44                            | 33                 | \$ 985.00          | \$29.85        | 59                            | 52                 | \$ 1,830.00        | \$35.19        |
| Bear Lake                | 44                            | 37                 | 815.00             | 22.03          | 18                            | 16                 | 320.00             | 20.00          |
| Bingham                  | 24                            | 15                 | 295.00             | 19.67          | 18                            | 13                 | 400.00             | 30.77          |
| Caribou                  | 43                            | 38                 | 1,255.00           | 33.03          | 61                            | 60                 | 1,425.00           | 23.75          |
| Franklin                 | 35                            | 34                 | 740.00             | 21.76          | 28                            | 20                 | 350.00             | 17.50          |
| Oneida                   | 28                            | 24                 | 407.50             | 16.98          | 16                            | 13                 | 420.00             | 32.31          |
| Power                    | 51                            | 35                 | 715.00             | 20.43          | 41                            | 34                 | 600.00             | 17.65          |
| Total and Average        | 269                           | 216                | \$ 5,212.50        | \$24.13        | 241                           | 208                | \$ 5,345.00        | \$25.70        |
| <b>Upper Snake River</b> |                               |                    |                    |                |                               |                    |                    |                |
| Bonneville               | 49                            | 45                 | \$ 930.00          | \$20.67        | 52                            | 43                 | \$ 780.00          | \$18.14        |
| Butte                    | 19                            | 18                 | 350.00             | 19.44          | 20                            | 17                 | 285.00             | 16.76          |
| Clark                    | 14                            | 14                 | 310.00             | 22.14          | 8                             | 5                  | 125.00             | 25.00          |
| Fremont                  | 38                            | 34                 | 1,245.00           | 36.62          | 70                            | 63                 | 1,940.00           | 30.79          |
| Jefferson                | 13                            | 11                 | 305.00             | 27.73          | 21                            | 20                 | 695.00             | 34.75          |
| Madison                  | 3                             | 2                  | 50.00              | 25.00          | 8                             | 8                  | 425.00             | 53.13          |
| Teton                    | 3                             | 2                  | 30.00              | 15.00          | 2                             | 2                  | 50.00              | 25.00          |
| Total and Average        | 139                           | 126                | \$ 3,220.00        | \$25.56        | 181                           | 158                | \$ 4,300.00        | \$27.22        |
| <b>Salmou</b>            |                               |                    |                    |                |                               |                    |                    |                |
| Custer                   | 39                            | 37                 | \$ 1,642.50        | \$44.39        | 30                            | 25                 | \$ 920.00          | \$36.80        |
| Lemhi                    | 28                            | 25                 | 835.00             | 33.40          | 21                            | 19                 | 585.00             | 30.79          |
| Total and Average        | 67                            | 62                 | \$ 2,477.50        | \$39.96        | 51                            | 44                 | \$ 1,505.00        | \$34.20        |
| <b>Statewide Total</b>   | <b>1,494</b>                  | <b>1,214</b>       | <b>\$32,010.00</b> | <b>\$26.37</b> | <b>1,331</b>                  | <b>1,119</b>       | <b>\$30,696.00</b> | <b>\$27.43</b> |

TABLE III - BREAKDOWN OF TOTAL CASES  
WITHOUT FINES BY MONTH

July 1, 1964 - June 30, 1965

| Month                                     | Entire<br>Susp. | Dis-<br>missed | Ac-<br>quitted | For-<br>feited | Juve-<br>nile | Jail<br>In Lieu<br>of Fine | Totals     |
|---|-----------------|----------------|----------------|----------------|---------------|----------------------------|------------|
| July                                      | 4               | 0              | 1              | 8              | 5             | 1                          | 19         |
| August                                    | 4               | 3              | 0              | 3              | 1             | 0                          | 11         |
| September                                 | 4               | 1              | 0              | 0              | 4             | 0                          | 9          |
| October                                   | 9               | 1              | 2              | 3              | 6             | 0                          | 21         |
| November                                  | 2               | 4              | 1              | 2              | 46            | 1                          | 56         |
| December                                  | 9               | 4              | 0              | 6              | 37            | 1                          | 57         |
| January                                   | 0               | 10             | 2              | 3              | 14            | 1                          | 30         |
| February                                  | 2               | 0              | 0              | 4              | 4             | 0                          | 10         |
| March                                     | 1               | 1              | 0              | 1              | 2             | 0                          | 5          |
| April                                     | 1               | 1              | 0              | 0              | 2             | 0                          | 4          |
| May                                       | 0               | 1              | 0              | 0              | 5             | 0                          | 6          |
| June                                      | 5               | 0              | 2              | 1              | 4             | 1                          | 13         |
| <b>Totals</b>                             | <b>41</b>       | <b>26</b>      | <b>8</b>       | <b>31</b>      | <b>130</b>    | <b>5</b>                   | <b>241</b> |
| Percent of those<br>Arrests without fines | 17              | 11             | 3              | 13             | 54            | 2                          | 100        |
| Percent of Total<br>Arrests (1481)        | 3               | 2              | .05            | 2              | 9             | .03                        | 16         |

July 1, 1965 - June 30, 1966

| Month                                     | Entire<br>Susp. | Dis-<br>missed | Ac-<br>quitted | For-<br>feited | Juve-<br>nile | Jail<br>In Lieu<br>of Fine | Totals     |
|---|-----------------|----------------|----------------|----------------|---------------|----------------------------|------------|
| July                                      | 2               | 3              | 0              | 0              | 3             | 0                          | 8          |
| August                                    | 6               | 4              | 0              | 1              | 9             | 0                          | 20         |
| September                                 | 13              | 1              | 0              | 4              | 9             | 1                          | 28         |
| October                                   | 3               | 5              | 0              | 2              | 8             | 1                          | 19         |
| November                                  | 6               | 6              | 0              | 7              | 21            | 3                          | 43         |
| December                                  | 8               | 0              | 2              | 3              | 12            | 1                          | 26         |
| January                                   | 2               | 1              | 0              | 2              | 8             | 3                          | 16         |
| February                                  | 0               | 2              | 1              | 1              | 3             | 0                          | 7          |
| March                                     | 2               | 0              | 1              | 3              | 8             | 1                          | 15         |
| April                                     | 3               | 0              | 2              | 1              | 4             | 1                          | 11         |
| May                                       | 7               | 2              | 0              | 1              | 6             | 2                          | 18         |
| June                                      | 4               | 4              | 0              | 0              | 12            | 0                          | 20         |
| <b>Totals</b>                             | <b>56</b>       | <b>28</b>      | <b>6</b>       | <b>25</b>      | <b>103</b>    | <b>13</b>                  | <b>231</b> |
| Percent of those<br>Arrests without fines | 24              | 12             | 3              | 11             | 44            | 6                          | 100        |
| Percent of Total<br>Arrests (1427)        | 3               | 2              | .05            | 2              | 8             | .03                        | 16         |
| Grand Total<br>for Biennium               | 97              | 54             | 14             | 56             | 233           | 18                         | 472        |
| Percent of Arrests<br>without fines       | 21              | 11             | 3              | 12             | 49            | 4                          | 100        |
| Percent of Total<br>Arrests (2908)        | 3               | 2              | .05            | 2              | 8             | .06                        | 16         |

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

Fiscal 1964-65

| License               | Res.<br>Fish | Anadro-<br>mous<br>Fish | Big<br>Game | Upland<br>Birds &<br>Small<br>Game | Migra-<br>tory<br>Birds | Furbearers<br>& Other<br>Wild<br>Animals | Misc.     | Total     |             |
|-----------------------|--------------|-------------------------|-------------|------------------------------------|-------------------------|--|-----------|-----------|-------------|
| License               | 231          | .....                   | .....       | .....                              | .....                   | .....                                    | .....     | 231       |             |
| No License            | 183          | 8                       | 15          | 16                                 | 22                      | 18                                       | 7         | 269       |             |
| No Season             | 6            | .....                   | 8           | 1                                  | 22                      | 6  | .....     | 43        |             |
| Closed<br>Season      | 80           | 6                       | 64          | 39                                 | 66                      | 3  | .....     | 258       |             |
| Over Limit            | 83           | 3                       | 14          | 6                                  | 4                       | .....                                    | .....     | 110       |             |
| Illegal<br>Gear       | 25           | 8                       | 8           | 1                                  | 18                      | .....                                    | .....     | 60        |             |
| Unlawful<br>Procedure | 14           | 63                      | 30          | 255                                | 41                      | 38                                       | 42        | 27        | 510         |
| <b>Totals</b>         | <b>245</b>   | <b>440</b>              | <b>55</b>   | <b>364</b>                         | <b>104</b>              | <b>170</b>                               | <b>69</b> | <b>34</b> | <b>1481</b> |

Fiscal Year 1965-66

| License               | Res.<br>Fish | Anadro-<br>mous<br>Fish | Big<br>Game | Upland<br>Birds &<br>Small<br>Game | Migra-<br>tory<br>Birds | Furbearers<br>& Other<br>Wild<br>Animals | Misc.     | Total     |             |
|-----------------------|--------------|-------------------------|-------------|------------------------------------|-------------------------|--|-----------|-----------|-------------|
| License               | 161          | .....                   | .....       | .....                              | .....                   | .....                                    | .....     | 161       |             |
| No License            | 281          | 7                       | 7           | 13                                 | 14                      | 28                                       | 16        | 366       |             |
| No Season             | 17           | .....                   | 6           | 1                                  | 28                      | 3  | .....     | 55        |             |
| Closed<br>Season      | 124          | 7                       | 65          | 40                                 | 21                      | 5  | .....     | 262       |             |
| Over Limit            | 69           | 5                       | 9           | 2                                  | 17                      | .....                                    | .....     | 102       |             |
| Illegal<br>Gear       | 14           | 2                       | 8           | .....                              | 6                       | .....                                    | .....     | 30        |             |
| Unlawful<br>Procedure | 7            | 96                      | 36          | 185                                | 26                      | 28                                       | 6         | 67        | 451         |
| <b>Totals</b>         | <b>168</b>   | <b>601</b>              | <b>57</b>   | <b>280</b>                         | <b>82</b>               | <b>114</b>                               | <b>42</b> | <b>83</b> | <b>1427</b> |

**TABLE V**  
**STATE OF ORIGIN OF NONRESIDENTS ARRESTED**  
1964

| State of Residence  | Number of Arrests | Per Cent of Grand Total of 1964 Arrests (1494) | Per Cent of 1964 Arrests of Non-residents (273) |
|---------------------|-------------------|--|---|
| California .....    | 56                | 3.8  | 20.5  |
| Montana .....       | 29                | 1.9  | 10.6  |
| Nevada .....        | 6                 | 0.4  | 2.2   |
| Oregon .....        | 18                | 1.2  | 6.6   |
| Texas .....         | 5                 | 0.3  | 1.8   |
| Utah .....          | 66                | 4.4  | 24.2  |
| Washington .....    | 55                | 3.7  | 20.2  |
| Wyoming .....       | 5                 | 0.3  | 1.8   |
| Miscellaneous ..... | 33                | 2.2  | 12.1  |
| <b>Total</b> .....  | <b>273</b>        | <b>18.2</b>                                    | <b>100.0</b>                                    |

Making up the miscellaneous group of 1964 arrests of nonresidents were one to four people from each of seventeen additional states, plus one each from Alberta and Nova Scotia.

1965

| State of Residence  | Number of Arrests | Per Cent of Grand Total of 1965 Arrests (1331) | Per Cent of 1965 Arrests of Non-residents (256) |
|---------------------|-------------------|--|---|
| California .....    | 66                | 5.0  | 25.8  |
| Montana .....       | 8                 | 0.6  | 3.1   |
| Nevada .....        | 6                 | 0.5  | 2.3   |
| Oregon .....        | 16                | 1.2  | 6.2   |
| Texas .....         | 5                 | 0.4  | 2.0   |
| Utah .....          | 47                | 3.5  | 18.4  |
| Washington .....    | 66                | 5.0  | 25.8  |
| Wyoming .....       | 6                 | 0.5  | 2.3   |
| Miscellaneous ..... | 36                | 2.7  | 14.1  |
| <b>Total</b> .....  | <b>256</b>        | <b>22.1</b>                                    | <b>100.0</b>                                    |

Making up the miscellaneous group of 1965 arrests of nonresidents were one to four people from each of sixteen additional states and four from Canada.

### Training

The Department's second and third Basic Training Schools were conducted over a two week period during June of each year. In addition, each month District Conservation Officers attended regional conferences where programs, operating procedures, enforcement problems, policies and training items were reviewed. Division personnel also took part in other training schools and conferences, of both law enforcement and general types. Both years, representatives of the Division attended the Idaho Law Enforcement Academy held at Idaho State University.

All recruiting of Conservation Enforcement Division personnel is done on a Conservation Officer II level. Recruits are required to have four years of previous high quality experience with our Department or a college degree in wildlife or fisheries management, police science or closely related subjects. These job entrance requirements are substantially higher than required for regular law enforcement employment by other non-federal agencies and governmental units in Idaho.

### Depredations

During the period July 1, 1964 to June 30, 1965, 460 depredation complaints were received and serviced by Conservation Officers. It took 2,079 service trips to take care of these complaints at a total cost of \$16,849.14. Included in this servicing cost were 33,505 vehicle miles and 3,713 working hours. In servicing the 460 wildlife depredation complaints, 148 animals, principally beaver (87), were removed from the complaint areas.

**TABLE VI**  
**WILDLIFE DEPREDATION COMPLAINTS BY SPECIES**

July 1, 1964 to June 30, 1965

| Species             | Number     |
|---------------------|------------|
| Big Game .....      | 134        |
| Birds .....         | 155        |
| Furbearers .....    | 156        |
| Predators .....     | 5          |
| Miscellaneous ..... | 10         |
| <b>Total</b> .....  | <b>460</b> |

### Access, Improvements and Equipment

District Conservation Officers participated with other divisions and state and federal agencies in the gaining and development of access areas and helped in the initial programming of access roads and trails, the placement and construction of boat ramps, and similar activities.

A new power plant was installed in the original jet boat. It was then transferred to McCall to be used for transportation, enforcement, game and fisheries management, and research work in the middle Salmon River canyon areas. A second jet boat and trailer were obtained



and based at Lewiston for similar use in the remote canyon areas of the lower Snake and lower Salmon Rivers.

An eighteen foot house trailer was purchased and placed near Yellowpine as headquarters for that Conservation Officer District. A residence was constructed for a similar purpose at the District Conservation Officer cabin site in Stanley. A use permit was obtained from the Payette National Forest on a cabin on Lost Creek for use as an overnight stopping place for department personnel when working in that vicinity. Patrol cabins and headquarter residences elsewhere were maintained and improved as necessary.

Four small snow tractors were purchased for off-road travel during the winter season. Eight single barrel shotguns, one for each region, were purchased as necessary equipment for depredation work. One trail cycle for back country enforcement work was acquired for the Magic Valley region. A few spotting scopes, pack boards and other sundry items of special equipment were purchased as needed.

#### Communications

Twenty-two additional mobile radios and three radio kits were purchased for use in Department vehicles. The Elk Butte repeater was relocated to West Twin Point on Moscow Mountain. This resulted in almost complete radio coverage of Latah County, eliminated many of the blank areas on U. S. Highways 95 and 95A and provided a completely reliable link between the Coeur d'Alene and Lewiston controls.

Radio control (base) stations were added to regional offices at Salmon, Idaho Falls and McCall. Omnidirectional high gain antennas were installed at Jerome, Coeur d'Alene, and Lewiston controls to enhance radio performance at those locations. Direct radio communication is now possible on our regular VHF frequency between offices of all adjoining regions other than McCall-Lewiston and Salmon-Idaho Falls.

The Ketchum (Bald Mountain) mobile relay power line was reconstructed in cooperation with other users to reduce outages and maintenance problems. The last leg of the Shaffer Butte mobile relay power line was placed underground to eliminate winter icing problems.

A radio operations manual was compiled and placed in the hands of all Department radio operators. A cooperative radio maintenance program was developed with other state agencies, thus cutting down costs by utilizing common technicians and shop facilities.

#### Search and Rescue

Search and rescue work was continued at a high level of participation with other cooperating agencies. Seventy-five search and rescue missions were undertaken costing approximately \$4,300.00. Over \$7,000 has been expended in search and rescue efforts during the past four years. Many missions undertaken were on behalf of people other than hunters or fishermen.

TABLE VII  
SEARCH AND RESCUE

1964 and 1965

| Year   | No. Missions | Man Hours | Automotive Mileage | Mileage Cost | Boat-Horse Plane/Hours | Subsistence                                |         |
|--------|--------------|-----------|--------------------|--------------|------------------------|--|---------|
| 1964   | 43           | 559       | \$1,677.00         | 3,434 Miles  | \$309.06               | \$ 816.00<br>Boat & Sno-Cat                | \$32.43 |
| 1965   | 32           | 384       | \$1,152.00         | 1,944 Miles  | \$174.96               | \$ 204.00<br>Boat Horse,<br>Sno-Cat, Plane | \$24.71 |
| Totals | 75           | 943       | \$2,829.00         | 5,378 Miles  | \$484.02               | \$1,020.00                                 | \$57.14 |

#### Legislation

Enactments of the 1965 (38th) Legislature which affected the Idaho Fish and Game Department's programs are as follows:

(1) Chapter 10, Title 36, was amended to provide for reciprocity relative to Idaho and Washington hunting and fishing licenses when such activity was undertaken on the waters and from the islands of the Snake River where it forms the boundary between the two states. (Note: The Washington Legislature failed to approve counterpart legislation which will be required before the Idaho Act can become effective.)

(2) Section 36-1901 regarding the establishment of private parks and ponds was amended by making more flexible the provisions concerning water flows and wildlife already present. The amendment also provides for the issuance of permits and makes it unlawful to sell fish and game reared under such permits.

(3) Section 36-2301 was amended to provide that Conservation Officers shall have the powers of peace officers for enforcement of the fish and game laws and regulations and to act as peace officers at the express request of other law enforcement agencies for aid and assistance on a particular violation. The amendment also provides for issuance of citations, for seizure of evidence when an arrest is effected by issuance of a citation and requires court appearance of offenders receiving citations.

(4) Chapter 3 of Title 36 was amended by repealing seven sections and adding a new section which authorizes the Fish and Game Commission to define, classify and reclassify all wild animals, wild birds and wild fish within the state with the exception of predatory animals and birds.

(5) Section 36-4302 was amended to authorize the Fish and Game Commission to open certain areas within the Myrtle Creek Game Preserve to hunting, fishing and trapping or to do wildlife management work after first having obtained concurrent approval from the Department of Health and the Bonners Ferry Board of Trustees.

(6) Section 36-2202 was amended to bring mountain goat within the provisions of the statute prohibiting waste of meat from game animals.

(7) Chapter 54, Title 36 was amended extensively to (a) expand the definition of Outfitters and Guides to include the activity of boating on hazardous rivers, (b) to define big game hunting areas, (c) to increase license fees to \$50 for resident outfitters and to \$15 for resident guides and to \$150 and \$100 respectively for nonresident outfitters and guides and (d) to provide for appeals from any decision or order of the Board.

(8) Section 36-5406 of the Outfitters and Guides Act was amended by another legislative enactment to provide that the membership of the Outfitters and Guides Board be expanded to five with one of the two additional members being appointed from the membership of the Idaho Fish and Game Commission and one selected from the public.

(9) Section 36-2503 was added to the wildlife code. It is designed to encourage land owners to make land and water areas available to the public for recreational purposes by limiting the owners' liability. It also provides that any person using the land of another for recreational purposes, with or without permission, shall be liable for damages.

(10) Section 36-102 was amended to increase the daily compensation received by the members of the Idaho Fish and Game Commission while attending official meetings from \$10 to \$25. The maximum annual compensation which members may receive was also increased from the former limit of \$300 to \$1,000.

## Game Management

One of the important events of the biennium was a reorganization of the Game Division which put game management on a regional basis to improve efficiency in field operations.

Formerly, area game management was carried out by game bird biologists under the game bird supervisor, and big game biologists under the big game supervisor. These specialized duties are now combined and assigned to eight regional biologists under a game management supervisor.

In land management, the habitat improvement biologists were transferred to new positions of regional land managers, with additional responsibility for supervision of refuge managers who operate the various wildlife management areas.

The biennium held two contrasting years for the hunter. The 1964 hunting seasons were good to excellent for both big game and birds. In 1965, mild weather in fall and early winter made big game hunting tough, and an off year for pheasants and waterfowl lowered bird hunting success.

Heavy snows caused big game problems with haystacks and winter ranges in several localities in 1964-65, but 1965-66 was one of the mildest winters in years.

### BIG GAME

#### DEER AND ELK

The Department's management program emphasizes deer and elk since these two species provide most of Idaho's big game hunting. Hunting seasons run concurrently where practicable, with more permissive regulations for deer where seasons differ.

Hunting conditions were good for the 1964 season, and the deer kill was up 6 per cent and elk up 4 per cent over 1963. Mild weather and poor hunting conditions in the major deer areas of southern Idaho resulted in the lowest deer harvest for several years in 1965, while the elk kill remained about average.

Tag sales for both deer and elk showed a modest (2 per cent) increase from 1963 to 1964 and remained at about that level during 1965. This is still below the 1962 "peak" sales.

## License and Tag Sales, Total Harvest and Hunter Success

### Deer

| Year | Hunting License Sales <sup>1</sup> | Deer Tag Sales |                         | Total Deer Kills <sup>3</sup> | Hunter Success <sup>3</sup> |    |
|------|------------------------------------|----------------|-------------------------|-------------------------------|-----------------------------|----|
|      |                                    | Regular Tags   | Other Tags <sup>2</sup> |                               |                             |    |
| 1964 | 175,952                            | 118,805        | 17,286                  | 136,091                       | 67,379                      | 52 |
| 1965 | 177,249                            | 118,023        | 17,828                  | 135,851                       | 56,438                      | 48 |

### Elk

| Year | Hunting License Sales | Elk Tag Sales <sup>4</sup> | Total Elk Kill <sup>3</sup> | Hunter Success <sup>3</sup> |
|------|-----------------------|----------------------------|-----------------------------|-----------------------------|
|      |                       |                            |                             |                             |
| 1965 | 177,249               | 59,177                     | 14,064                      | 23                          |

<sup>1</sup>Resident Combination, Resident Hunting, Nonresident Combination, and Nonresident Restricted.

<sup>2</sup>Extra, Middle Fork, Nonresident Restricted, and Senior Resident tags.

<sup>3</sup>Based on post-season hunter questionnaire.

<sup>4</sup>Includes Senior Resident tags.

## Big Game Hunter Report Card Returns

|                            | Deer    |         | Elk    |        |
|----------------------------|---------|---------|--------|--------|
|                            | 1964    | 1965    | 1964   | 1965   |
| Total Tags Sold .....      | 133,023 | 132,664 | 56,132 | 56,216 |
| Total Tags Returned .....  | 30,166  | 27,832  | 12,317 | 12,499 |
| Total Kills Reported ..... | 20,487  | 16,733  | 5,067  | 4,879  |

Information on hunter success and peak periods of hunting pressure is available from big game report cards. Distribution of the calculated deer and elk harvest among individual management units or drainages can also be based on kills reported by successful hunters.

Where special local information is needed or large numbers of hunters can be contacted, check stations are operated to obtain additional data.

## Big Game Check Station Operations

| Year | Number of Stations | Animals Checked |       | Hunters Checked |
|------|--------------------|-----------------|-------|-----------------|
|      |                    | Deer            | Elk   |                 |
| 1964 | 49                 | 12,760          | 3,193 | 83,668          |
| 1965 | 34                 | 9,432           | 2,765 | 76,504          |

## BLACK BEAR

This species may be taken year-round except in the Panhandle Region of the state where a three-month fall hunting season was in effect both years.

The calculated statewide bear kill based on the hunter questionnaire was 3,499 in 1964 and 2,861 in 1965.

## PRONGHORN ANTELOPE

Pronghorn antelope are harvested by controlled hunts in parts of southern Idaho. The total number of permits issued was 22 per cent greater than for the previous biennium, and the reported kill was up 37 per cent — with hunter success also slightly higher.

### Summary of Pronghorn Antelope Hunts

| Year | No. Hunting Units | No. of Permits | No. of Applicants | No. Reporting Kills |        |       | Participating Hunter Success |
|------|-------------------|----------------|-------------------|---------------------|--------|-------|------------------------------|
|      |                   |                |                   | Male                | Female | Total |                              |
| 1964 | 23                | 1,120          | 3,666             | 541                 | 295    | 836   | 81                           |
| 1965 | 25                | 1,365          | 6,682             | 649                 | 330    | 977   | 81                           |

## MOUNTAIN GOAT

Both controlled and general hunts were held for mountain goat during this biennium.

Total reported harvest was up 19 per cent over the last biennium with the 1965 kill the highest for several years.

### Summary of Mountain Goat Hunts

| Year  | Type of Hunt | Hunting Units | No. Permits | Applicants | Kill Tags |         |         | Participating Hunter Success |     |
|-------|--------------|---------------|-------------|------------|-----------|---------|---------|------------------------------|-----|
|       |              |               |             |            | Sold      | Billies | Nannies |                              |     |
| 1964  | Controlled   | 28            | 199         | 356        | 199       | 52      | 52      | 104                          | 58% |
|       | General      | 7             |             |            | 207       | 33      | 24      | 57                           | 30% |
| Total |              | 35            | 199         | 356        | 406       | 85      | 76      | 161                          | 44% |
| 1965  | Controlled   | 28            | 190         | 439        | 190       | 54      | 43      | 97                           | 60% |
|       | General      | 7             |             |            | 291       | 52      | 65      | 117                          | 46% |
| Total |              | 35            | 190         | 439        | 481       | 106     | 108     | 214                          | 51% |

## BIGHORN SHEEP

Bighorn sheep hunting during the biennium was limited to rams with  $\frac{3}{4}$  curl (or larger) horns. General seasons provided most of the hunting, with a controlled hunt for 5 permits each year in a small area of Fremont County. The total harvest was down 19 per cent from the previous biennium.

### Summary of Bighorn Sheep Hunts

| Year        | Type of Hunt | No. Hunt Units | No. of Permits | Appliants | Tags Sold | Reported Kill | Participating  |
|-------------|--------------|----------------|----------------|-----------|-----------|---------------|----------------|
|             |              |                |                |           |           |               | Hunter Success |
| 1964—       | Controlled   | 1              | 5              | 22        | 5         | 0             | 0%             |
|             | General      | 6              |                |           | 431       | 35            | 9%             |
| Total ..... |              | 7              |                |           | 436       | 35            | 9%             |
| 1965—       | Controlled   | 1              | 5              | 24        | 5         | 0             | 0%             |
|             | General      | 10             |                |           | 451       | 53            | 13%            |
| Total ..... |              | 11             | 5              | 24        | 456       | 53            | 13%            |

## MOOSE

Moose hunting was restricted to controlled hunts for antlered bulls. Permits for this biennium were increased slightly over the preceding two years. Hunter success was also up with total harvest showing a 13 per cent increase.

### Summary of Moose Hunts

| Year       | Hunting Units | No. of Permits | No. of Applicants | Kill       |        |       | Participating Hunter Success |
|------------|---------------|----------------|-------------------|------------|--------|-------|------------------------------|
|            |               |                |                   | Male       | Female | Total |                              |
|            |               |                |                   | 1964 ..... | 29     | 93    |                              |
| 1965 ..... | 28            | 86             | 949               | 51         | 0      | 51    | 60%                          |

## GRIZZLY BEAR, CARIBOU, BISON

Idaho has three species of big game animals, grizzly bear, caribou, and bison, which are not numerous enough to provide hunting.

Grizzly bear are occasionally seen along the Canadian, Montana, and Wyoming borders. The few grizzly reports from remote interior locations are usually unverified.

A small herd of mountain caribou ranges across the Canadian border in the Selkirks, and solitary bison stray into eastern Idaho quite regularly from the Yellowstone Park herd.

## TAGGING AND MARKING

Big game animals are captured, marked and released to gain information on seasonal movements of various herds. Knowledge of migration patterns and the distribution of animals on winter and summer ranges is needed for effective management. For this purpose 608 big game animals were captured and marked at selected locations throughout the state during the biennium.

## TRANSPLANTING

Black bears were livetrapped in complaint areas, tagged and released in remote locations.

During this biennium the project to restore the bighorn sheep to the East Fork of the Owyhee River entered its second phase with the release of additional animals procured from British Columbia.

Mountain goats were captured in the North Fork of the Clearwater drainage and moved to the Seven Devils Mountains, Pend O'Reille Lake, and the South Fork of the Clearwater River drainage.

### Summary of Big Game Tagging and Transplanting

| Period        | Black Bear* | Deer | Elk | Moose | Mtn. Goat* | Bighorn Sheep* |
|---------------|-------------|------|-----|-------|------------|----------------|
| 1964-65 ..... | 7           | 214  | 142 | 0     | 16         | 0              |
| 1965-66 ..... | 1           | 107  | 124 | 21    | 8          | 9              |
| Total .....   | 8           | 321  | 266 | 21    | 24         | 9              |

\* Transplanted Species.

## RESEARCH AND SPECIAL SURVEYS

Studies were conducted to collect management information on important big game ranges and herds in selected areas of the state.

Special elk studies were financed by the U. S. Corps of Army Engineers in the area affected by the Dworshak Dam and studies of elk winter range rehabilitation were in progress on the Lochsa drainage.

The Department contributed funds to a detailed study of the "Ecology of the Mountain Lion in the Middle Fork of the Salmon River."

Investigations were begun on the status of the Boise River deer herd, including productivity and range condition and trend.

Other studies underway include: Effects of herbicides, grazing, and fire on big game ranges; food preferences of big game animals; and evaluation of management techniques used in measuring browse utilization and determining big game harvests.

## FURBEARERS AND PREDATORS

### FURBEARERS

Pelt prices increased for all species except civet during the second half of the biennium. Increased catches were reported for 11 of the 15 species reported. Trapper's license sales of 641 and 647 for 1964-65 and 1965-66, respectively, were far below average.

#### Annual Fur Harvest

| Species      | 1964-65       |               | 1965-66        |               |
|--------------|---------------|---------------|----------------|---------------|
|              | Number Caught | Average Price | Number Caught  | Average Price |
| Beaver       | 5,513         | \$9.00        | 4,396          | \$10.45       |
| Muskrat      | 64,960        | .90           | 95,101         | 1.23          |
| Mink         | 2,530         | 8.33          | 2,009          | 9.10          |
| Marten       | 280           | 4.45          | 374            | 7.87          |
| Otter        | 49            | 18.35         | 131            | 23.52         |
| Raccoon      | 381           | 1.18          | 515            | 2.16          |
| Fox          | 190           | 3.00          | 527            | 5.91          |
| Bobcat       | 854           | 7.10          | 1,161          | 18.10         |
| Weasel       | 481           | .56           | 270            | .65           |
| Coyote       | 138           | 4.40          | 352            | 5.49          |
| Skunk        | 303           | .50           | 318            | 1.19          |
| Civet        | 40            | 2.39          | 58             | 1.17          |
| Badger       | 89            | 1.99          | 78             | 4.64          |
| Lynx         | 40            | 5.64          | 4              | 38.50         |
| Nutria       | .....         | .....         | 4              | 1.00          |
| <b>Total</b> | <b>75,848</b> |               | <b>105,298</b> |               |

### BEAVER

The trend in beaver population has been determined since 1959 by annual counts of beaver colonies on sample streams with suitable habitat.

One of the important factors contributing to the decline in the number of pelts taken during recent trapping seasons is the removal of beaver from extensive agricultural areas where damage complaints required heavy harvests in earlier years. Cultural pursuits have eliminated beaver from all or portions of some stream routes. Approximately two-thirds of the total stream mileage in Idaho is not suitable for beaver.

Comparison of beaver colonies counted on comparable routes in 1959 and during the biennium are listed in the following table.

#### Beaver Colony Trend Counts

| District | No. of Routes | Stream Miles | Number of Colonies |      |      | % Change (Colonies) 1959 to 1964 |
|----------|---------------|--------------|--------------------|------|------|----------------------------------|
|          |               |              | 1959               | 1964 | 1965 |                                  |
| I        | 8             | 54.0         | 28                 | 24   | 15   | -46                              |
| II       | 3             | 17.5         | 4                  | 9    | 9    | +125                             |
| III      | 3             | 18.5         | 3                  | 3    | 2    | -33                              |
| IV       | 9             | 46.0         | 41                 | 34   | 12   | -29                              |
| V        | 8             | 40.5         | 39                 | 23   | 19   | -51                              |
| State    | 31            | 176.5        | 115                | 93   | 57   | -50                              |

This decline in beaver colonies has been largely confined to streams with poor habitat or where over-populations in past years have deteriorated the food supply and its capacity to support beaver. Streams with good habitat show little change in colony density since 1959.

### FISHER

Eleven sightings of fisher have been reported in the general areas where fisher were transplanted in the previous biennium. It is hoped that with protection, this species might become re-established in suitable areas in Idaho.

### COUGAR

The stature of the cougar as a big game trophy continues to rise. The cougar in Colorado and Washington is now classified as a big game animal with a season and bag limit provided. A marked increase in public concern for the future of this species in Idaho was apparent during the biennium.

Most cougar are taken by persons specifically hunting for them with hounds. Incidental kill by hunters during the big game season is next, while very few are taken by trapping.

#### Annual Cougar Kill

| District     | 1961-62    | 1962-63   | 1963-64    | 1964-65    | 1965-66    |
|--------------|------------|-----------|------------|------------|------------|
| I            | 14         | 23        | 18         | 13         | 20         |
| II           | 79         | 39        | 87         | 86         | 53         |
| III          | 39         | 19        | 14         | 15         | 25         |
| IV           | 27         | 16        | 40         | 8          | 8          |
| V            | 5          | 1         | 3          | 5          | 2          |
| <b>TOTAL</b> | <b>164</b> | <b>98</b> | <b>162</b> | <b>127</b> | <b>108</b> |

### PREDATORS

#### Cooperative Predator Control Program

The Department's participation in predator control consists entirely of financial support to the cooperative program, to which various federal, state, and county agencies and livestock associations contribute.

The Division of Wildlife Service, U. S. Fish and Wildlife Service, administers this fund and carries out actual control operations. During the biennium the Department contributed \$50,000 to this program.

### WILDLIFE DEPREDATIONS

During the biennium, Conservation Officers received 825 complaints of damage caused by various species of wildlife. Servicing these complaints required \$29,417.06 for supplies, equipment, vehicular mileage, and man hours.

### Depredation Complaints Received and Cost of Servicing

| Complaints | 1964-65       |                 |                | 1965-66    |               |                 |                |
|------------|---------------|-----------------|----------------|------------|---------------|-----------------|----------------|
|            | Service Trips | Animals Removed | Servicing Cost | Complaints | Service Trips | Animals Removed | Servicing Cost |
| 460        | 1,079         | 148             | \$16,849.14    | 365        | 747           | 314             | \$11,567.92    |

### Depredation Complaints by Species

|                  | 1964-65    | 1965-66    | Total      |
|------------------|------------|------------|------------|
| Ear              | 33         | 27         | 60         |
| Deer             | 72         | 33         | 105        |
| Elk              | 28         | 14         | 42         |
| Other Big Game   | 1          | 4          | 5          |
| Ducks            | 11         | 22         | 33         |
| Geese            | 34         | 33         | 67         |
| Other Waterfowl  | 3          | 1          | 4          |
| Pheasants        | 94         | 37         | 131        |
| Other Game Birds | 1          | 0          | 1          |
| Non-Game Birds   | 12         | 22         | 34         |
| Beaver           | 149        | 152        | 301        |
| Other Furbearers | 7          | 1          | 8          |
| Coyote           | 3          | 2          | 5          |
| Bobcat           | 1          | 0          | 1          |
| Other Predators  | 1          | 3          | 4          |
| Other Mammals    | 10         | 14         | 24         |
| <b>Total</b>     | <b>460</b> | <b>365</b> | <b>825</b> |

### GAME BIRDS

Game birds and game bird hunters enjoyed another excellent year during 1964. In contrast, 1965 was mediocre for most small game (see Game Bird Harvest in Idaho):

#### Game Bird Harvest in Idaho

Based on Annual Hunter Questionnaire

| Species                   | 1964    | 1965    | Average Annual Harvest 1954-1964 |
|---------------------------|---------|---------|----------------------------------|
| Pheasant                  | 757,200 | 623,400 | 580,300                          |
| Ducks                     | 506,800 | 338,700 | 475,100                          |
| Mourning Dove             | 191,900 | 198,100 | 145,000                          |
| Forest Grouse (3 Species) | 98,300  | 118,500 | 114,500                          |
| Chukar Partridge          | 166,600 | 143,000 | 72,100                           |
| Hungarian Partridge       | 95,800  | 89,300  | 57,300                           |
| Quail (4 species)         | 88,400  | 89,400  | 56,500                           |
| Sage Grouse               | 26,700  | 24,400  | 25,200                           |
| Canada Goose              | 22,800  | 21,500  | 19,300                           |

There were no major management innovations during the biennium. Hunting regulations on small game were stable with the exception of further liberalization in the hunting of wintering mallards in the Columbia Basin mallard area in 1964.

### PHEASANT

The outlook for pheasants continues to be good. Pheasant habitat quality is deteriorating in the older, more intensively farmed irrigated croplands but this is balanced by a modest increase in quantity of habitat through development of new irrigated areas. Hunter harvest of pheasants remains relatively stable at close to one-half million cocks annually.

The winter sex ratio count is the first major field work on pheasants each year. Results of this count are used to (1) estimate percentage harvest of cocks during the preceding hunt, (2) to give a rough check on hen removal by hunters, and (3) to establish a base for estimating trend of breeding numbers the following spring.

#### Pheasant Winter Sex Ratios

| Year           | Statewide Sample Size (Pheasants) | Statewide Sex Ratio |               |
|----------------|-----------------------------------|---------------------|---------------|
|                |                                   | M:100F              | Hens Per Cock |
| 1950           | 15,834                            | 52:100              | 1.93          |
| 1951           | 18,168                            | 58:100              | 1.74          |
| 1952           | 47,444                            | 50:100              | 2.01          |
| 1953           | 16,564                            | 55:100              | 1.82          |
| 1954           | 18,283                            | 45:100              | 2.24          |
| 1955           | 46,640                            | 41:100              | 2.41          |
| 1953           | 25,828                            | 41:100              | 2.46          |
| 1957           | 22,414                            | 52:100              | 1.91          |
| 1958           | 18,479                            | 51:100              | 1.96          |
| 1959           | 30,896                            | 55:100              | 1.83          |
| 1960           | 31,010                            | 43:100              | 2.83          |
| 1961           | 16,047                            | 46:100              | 2.18          |
| 1962           | 29,183                            | 41:100              | 2.44          |
| 1963           | 18,067                            | 47:100              | 2.13          |
| 1964           | 34,919                            | 47:100              | 2.14          |
| 1965           | 16,242                            | 57:100              | 1.77          |
| 1966           | 11,535                            | 58:100              | 1.72          |
| <b>Average</b> | <b>24,562</b>                     | <b>48:100</b>       | <b>2.09</b>   |

Both the winters of 1964-65 and 1965-66 were extremely mild, a poor condition for obtaining sex ratio counts. However, the counts are conducted in a random manner and are believed to reflect overall changes in pheasant population structure. The results indicate a narrowing of sex ratios following the 1964 and 1965 hunts.

#### Trend of Pheasant Breeding Population

|                     | No. Crowing Count Routes | Breeding Population Index |      |      | Percent to 1965 | Change to 1966 |
|---------------------|--------------------------|---------------------------|------|------|-----------------|----------------|
|                     |                          | 1964                      | 1965 | 1966 |                 |                |
| North Idaho         | 1                        | 20                        | 12   | 17   | -40             | +42            |
| Southwest Idaho     | 10                       | 76                        | 44   | 48   | -42             | +9             |
| South Central Idaho | 3                        | 117                       | 72   | 54   | -38             | -25            |
| Southeast Idaho     | 10                       | 74                        | 38   | 39   | -49             | +3             |

Pheasant breeding population indicators, which combine the results of the winter sex ratio count and the spring crowing count census,

show a substantial drop in pheasant breeding numbers from 1964 to 1965 and no appreciable improvement in the spring of 1966.

Brood production trend routes conducted during the summer of 1964 indicated that pheasant production was above average; best production was forecast for south central Idaho. Similar surveys in 1965 forecast a below-average crop of pheasants in the field except for southwest Idaho.

#### Pheasant Check Station Results on Opening Weekend

| Area   | Year | Hunters        | Total Birds    | Hours Hunted   | Birds Per Hunter | Hours Per Bird |
|--|------|----------------|----------------|----------------|------------------|----------------|
| North Idaho .....                                  | 1964 | 430            | 394            | 1,391          | 0.92             | 3.5            |
|  | 1965 | 420            | 353            | 1,488          | 0.84             | 4.2            |
| Southwest Idaho .....                              | 1964 | 2,691          | 3,403          | 9,771          | 1.26             | 2.9            |
|  | 1965 | 2,771          | 3,362          | 10,826         | 1.21             | 3.2            |
| South Central Idaho .....                          | 1964 | 2,151          | 2,842          | 7,264          | 1.32             | 2.6            |
|  | 1965 | 1,904          | 1,728          | 6,739          | 0.91             | 3.9            |
| Southeast Idaho .....                              | 1964 | 3,572          | 4,835          | 14,822         | 1.35             | 3.1            |
|  | 1965 | 3,475          | 3,569          | 15,079         | 1.03             | 4.2            |
| Totals and Averages                                | 1964 | 8,844          | 11,474         | 33,248         | 1.30             | 2.9            |
|  | 1965 | 8,570          | 9,012          | 34,132         | 1.05             | 3.8            |
| <b>Long-term Totals &amp; Averages (1950-1965)</b> |      | <b>112,424</b> | <b>123,729</b> | <b>417,184</b> | <b>1.10</b>      | <b>3.4</b>     |

Individual hunting success on opening weekend of the 1964 hunt was equivalent to the top pheasant year of 1963; statewide harvest of pheasants for the entire season, was 35 per cent above average. The 1965 pheasant harvest, in sharp contrast, was down 18 per cent from 1964 and cock kill was below average. Particular soft spots were Magic Valley and the upper Snake River Valley in southeast Idaho.

The regulation on limited hen hunting was exactly the same in both 1964 and 1965. Hens constituted 20 per cent of the statewide kill in 1964 and 22 per cent in 1965. During the past six years of limited hen hunting, a total harvest of 3,118,100 cocks has been reported on the hunter questionnaire as compared to 529,900 hens; neither of these estimates include illegal kill or crippling loss.

#### WILD TURKEY

Efforts continued during the biennium to aid the spread of Merriam's wild turkey in Idaho with the hope that this highly-prized game bird could eventually be placed on the hunting list.

The original introductions totaling 39 wild-trapped turkeys from Colorado were made from 1961 to 1963 along the lower Salmon River. These turkeys reproduced reasonably well and the entire flock was estimated at 500 birds by the fall of 1964.

Light winters and poor live-trapping conditions limited the success in making transplants from this flock to other potential turkey range.

#### Wild Turkey Transplants Within Idaho

| Date                             | Transported From            | Transported To                 | No. Hens  | No. Gobblers | Total Birds |
|----------------------------------|-----------------------------|--------------------------------|-----------|--------------|-------------|
| February, 1965                   | Rapid River Near Riggins    | Web Creek near Culdesac        | 8         | 2            | 10          |
| February, 1966                   | John Day Creek near Riggins | Web Creek near Culdesac        | 1         | 1            | 2           |
| February, 1966                   | John Day Creek near Riggins | McCammom Point near St. Maries | 7         | 4            | 11          |
| <b>Total Turkeys Transported</b> |                             |                                | <b>16</b> | <b>7</b>     | <b>23</b>   |

#### SAGE GROUSE

Eradication of sagebrush on both public and private ranges continues to be the chief threat to the habitat of this native game bird. Idaho research studies are aimed at producing management alternatives which will maintain this bird in its shrinking living quarters. In cooperation with the Bureau of Land Management, new studies are programmed for Owyhee County, a major sage grouse area where large blocks of sagebrush are scheduled for eradication in the near future.

Production of sage grouse was above average in both 1964 and 1965 with local exceptions. The 1964 hunt yielded good hunting success, but the 1965 season was poor in south central and southwest Idaho where a general rainstorm just prior to the hunt dispersed birds widely from their usual fall concentration areas.

#### Sage Grouse Check Station Results

| Area                      | Year | No. Hunters | No. Birds | Birds Per Hunter | Age Composition in the bag |  |
|---------------------------|------|-------------|-----------|------------------|----------------------------|--|
|                           |      |             |           |                  | Percent Juvenile           |  |
| Southwest Idaho .....     | 1964 | 660         | 1,019     | 1.54             | 66                         |  |
|                           | 1965 | 526         | 381       | 0.72             | 53                         |  |
| South Central Idaho ..... | 1964 | 1,471       | 1,185     | 0.81             | 59                         |  |
|                           | 1965 | 1,187       | 558       | 0.47             | 71                         |  |
| Southeast Idaho .....     | 1964 | 2,761       | 2,549     | 0.92             | 60                         |  |
|                           | 1965 | 3,378       | 2,861     | 0.85             | 69                         |  |
| Totals and Averages ..... | 1964 | 4,898       | 4,753     | 0.97             | 61                         |  |
|                           | 1965 | 5,091       | 3,800     | 0.75             | 66                         |  |

#### FOREST GROUSE

The forest grouse group generally had poor production and yielded poor hunting success during 1964. This was particularly apparent in southeast Idaho where the low in ruffed grouse numbers persisted through 1965. The latter year saw a good comeback in forest grouse for most of the state. Hunter questionnaire results (see Small Game Harvest Table) indicated that 21 per cent more forest grouse were taken in Idaho in 1965 than in 1964.

## THE PARTRIDGES AND THE QUAIL

The two partridges, Hungarian and chukar, and the four species of quail continued their popularity with hunters which began with the switch to September hunting of these species several years ago.

Harvest of these species both years remained at a high level, far above average, but chukar availability in 1965 was poorer than the previous year. A decline in chukars has occurred in the upper Salmon River drainage and in the Owyhee County tributaries of the Snake River during the past two seasons.

## SHARP-TAILED GROUSE

In the one remaining area of the state where sharp-tailed grouse are present in good numbers (Fremont County), hunting was productive in both years. Fremont County sharp-tails are hunted in conjunction with sage grouse, with only a few hundred birds harvested annually.

Small, struggling populations of this species exist in a number of other counties but cannot stand alone as a huntable species in those areas.

## MOURNING DOVE

During the biennium, Idaho participated in a three-year intensive summer dove banding program in cooperation with other western states. Operations were highly successful, exceeding Idaho's assigned quota of 2,000 banded doves in each year. Objective of the cooperative dove banding program is to acquire better management data on mortality and movements of this popular migratory game bird.

Hunter participation and harvest on the mourning dove continued at about the same level in both years, with annual harvest approaching 200,000 doves by about 14,000 dove hunters.

## WATERFOWL

In addition to the normal waterfowl field work of banding, breeding pair census, nesting and brood surveys, and hunter bag checks, Idaho conducts a fall flight survey annually. Purpose of this special census is to follow the volume, pattern and peak of the flights which pass through Idaho each fall. Counts are made every week during the hunting season on ten waterfowl concentration areas. The accompanying graph shows that a gradual decline in the volume of the fall duck flight continued during the biennium and reached a low point in 1965. This decline has reflected poor production conditions existing in Alberta and Saskatchewan during the recent series of drought years on the Canadian prairies. Band recoveries show that a large portion of Idaho's wintering mallards is produced in these Canadian provinces.

Despite a smaller fall flight than in previous years, individual duck

hunter success during the 1964 hunt was never better. The right combination of wind, weather, water and liberal hunting regulations occurred to produce excellent hunting. The reverse was true in 1965, when Idaho duck hunters had one of the poorest years on record (see Game Bird Harvest table).

## GAME FARM

Game farm operations during the biennium continued at about the same level as during the past few years. More than half of the pheasants reared annually at the Jerome Game Farm are transported to northern Idaho counties to supplement low natural production and provide before-the-gun hunting (see Game Farm Pheasant Release Record).

A modest number of chukars is also produced at the game farm each year to provide release stock for the small areas of potential chukar habitat not yet occupied by wild birds.

During the biennium a small brood stock of Japanese green pheasants (*Phasianus colchicus robustipes*) was obtained from the Virginia Game Department to propagate this species at the game farm for eventual release in northern Idaho counties which may have suitable habitat. Production problems were finally overcome during 1966, and trial release will begin in 1967.



GAME FARM PHEASANT RELEASE RECORD

| County     | 1964           |             |                | Total  | 1965         |             |                | Total |
|------------|----------------|-------------|----------------|--------|--------------|-------------|----------------|-------|
|            | Spring Release | Brood Stock | Summer Release |        | Fall Release | Brood Stock | Summer Release |       |
| Ada        | 75             |             |                | 150    |              |             |                |       |
| Bannock    |                | 300         |                | 300    |              |             |                |       |
| Benevah    |                | 200         |                | 792    |              |             | 250            | 514   |
| Bingham    | 400            |             | 400            | 1,100  |              |             |                |       |
| Bonneville | 200            | 75          | 306            | 1,056  |              |             | 100            | 175   |
| Boundary   |                | 250         |                | 1,045  |              |             | 500            | 800   |
| Butte      |                | 325         |                | 325    |              |             |                |       |
| Canyon     | 150            |             | 75             | 450    |              | 75          | 200            | 425   |
| Caribou    |                | 325         |                | 325    |              |             |                |       |
| Cassia     |                |             | 300            | 300    |              |             | 100            | 100   |
| Custer     |                |             |                |        |              |             |                |       |
| Franklin   |                |             | 210            | 210    |              |             |                |       |
| Gooding    |                |             | 200            | 200    |              |             | 216            | 471   |
| Idaho      |                | 112         |                | 210    |              |             |                |       |
| Jefferson  |                |             | 153            | 500    |              | 72          | 125            | 353   |
| Jerome     | 87             |             | 200            | 400    |              |             | 650            | 650   |
| Kootenai   |                | 100         |                | 200    |              |             |                |       |
| Latah      |                | 150         | 520            | 612    |              |             | 250            | 706   |
| Lemhi      |                |             |                | 1,170  |              |             | 500            | 1,060 |
| Lewis      |                | 113         | 260            | 50     |              |             | 50             | 600   |
| Lincoln    |                | 300         |                | 373    |              |             | 125            | 340   |
| Madison    |                | 325         | 153            | 300    |              |             |                |       |
| Minidoka   | 200            |             |                | 678    |              |             |                |       |
| Nez Perce  |                | 75          |                | 150    |              | 75          | 750            | 75    |
| Oneida     |                | 200         | 260            | 1,147  |              |             |                |       |
| Owyhee     |                | 200         |                | 755    |              |             | 255            | 255   |
| Payette    |                |             |                | 150    |              |             | 260            | 260   |
| Twin Falls |                |             | 400            | 150    |              |             | 316            | 316   |
| Totals     | 1,367          | 2,925       | 3,637          | 13,308 | 150          | 1,952       | 4,467          | 8,757 |

Game Farm Chukar Partridge Release Record

| County    | 1964           |             |              |       | 1965           |             |              |       |
|-----------|----------------|-------------|--------------|-------|----------------|-------------|--------------|-------|
|           | Spring Release | Brood Stock | Fall Release | Total | Spring Release | Brood Stock | Fall Release | Total |
| Ada       |                |             |              |       |                |             |              |       |
| Bear Lake |                |             |              |       |                | 50          |              | 50    |
| Clark     |                |             |              |       |                | 175         |              | 175   |
| Fremont   |                | 100         |              | 100   |                | 200         |              | 200   |
| Idaho     |                |             |              |       |                | 75          |              | 75    |
| Lemhi     |                | 100         |              | 100   |                |             |              |       |
| Lewis     |                | 100         |              | 100   |                | 75          |              | 75    |
| Owyhee    |                | 100         |              | 100   |                |             |              |       |
| Power     | 100            |             |              | 100   |                |             |              |       |
| Valley    |                |             |              |       |                |             | 50           | 50    |
| Totals    | 100            | 400         |              | 500   |                | 575         | 50           | 625   |

LAND MANAGEMENT

Land management activities of the Department include wildlife habitat restoration programs and the management of over 90,000 acres of land in wildlife management areas or public hunting and fishing access sites.

WILDLIFE HABITAT IMPROVEMENT

During the biennium, the Department's wildlife habitat improvement program had three main aspects.

Tree and shrub planting on private land was heavily curtailed. During the spring of 1966, only 25,000 seedlings were distributed for planting as windbreaks by land owners or operators. At one time this program involved more than 300,000 seedlings each year. Severe tree and shrub losses resulting from neglect or willful destruction prompted this program change.

Miscellaneous habitat improvement jobs made up the second aspect of the program. At least 35 goose nesting platforms were constructed and placed in strategic locations in and around eastern Idaho reservoirs. Others, built earlier, were renovated. There has been unusually high use of these nesting platforms on Blackfoot and Island Park reservoirs.

Other habitat improvements were cooperative efforts with federal land agencies, including experimental and operational plantings and seedlings for big game, prairie grouse and waterfowl. Over 40 plots of land in the Rupert area, licensed from the Bureau of Reclamation were managed as public hunting coverts.

The third program facet is the job of liaison with other land use and land service agencies on matters pertaining to fish and wildlife and public hunting and fishing. Land management personnel meet often with representatives of the U. S. Soil Conservation Service, State Forestry Department, U. S. Forest Service, U. S. Bureau of Land Management, the U. S. Fish and Wildlife Service and other agencies.

## WILDLIFE MANAGEMENT AREAS

There are eight units of Department-owned land designated as "Wildlife Management Areas." All are managed in the best interest of wildlife and for public hunting and fishing. Almost 80,000 acres of land have been acquired or leased through the years for hunters and fishermen. More key winter range areas are needed to assure future big game hunting and more public marshes and coverts are needed to provide the average person a place to hunt ducks and pheasants.

**Boundary County Wildlife Management Area:** An old dam that impounded a 200-acre marsh on this area was replaced with a new structure that will permit future inundation of an additional 400 acres. New land was acquired for this enlargement during the biennium.

**Killarney Wildlife Management Area:** The nucleus for the Killarney Wildlife Management Area was provided by the American Game Association which purchased and gave to the Department a small island and some marsh adjacent to Killarney Lake, on the lower Coeur d'Alene River. The Department made supplemental land purchases, and future development of dikes and food planting is planned.

**Fort Boise Wildlife Management Area:** The headquarters and largest wildlife land segment for this area is at the mouth of the Boise River in Canyon County. The headquarters segment now has the highest human use of any of the Department's management areas. Other segments lie along the lower Payette River and all provide public hunting and fishing opportunities. Over 300 acres of cereals and legumes are grown for wildlife and for hunting coverts on the headquarters segment. Pastures are maintained for geese and ducks along the Payette River to control depredations and to provide public hunting.

**Boise River Deer Winter Range:** Although this unit is also a management area and open to public use, its main purpose is to provide winter range for mule deer of the Boise River herd. During the biennium, 3,000 acres of Boise Front range were purchased to augment the 12,000 acres previously acquired or leased. Most of the boundary of the new lands has been fenced to control livestock grazing prior to planting of suitable grasses, forbs and shrubs.

**C. J. Strike Wildlife Management Area:** Lands at C. J. Strike Reservoir have been licensed to the Department for wildlife use by the Idaho Power Company under a Federal Power Commission order. The Department also owns some land within the licensed area, where cereals and forbs are grown to provide pheasant and waterfowl food and hunting coverts. Personnel of the air base near Mountain Home make heavy use of this area. Withdrawal of other adjacent federal lands has been requested to provide additional wildlife habitat and public hunting and fishing opportunity.

**Hagerman Wildlife Management Area:** Project personnel manage 650 acres surrounding the Hagerman Fish Hatchery and on nearby Billingsley Creek. Cereals are grown to make the area more attractive to waterfowl and upland game birds. Public hunting is permitted on

part of the area and fishing is provided in the creeks, wasteways and waterfowl impoundments. No major developments were completed during the biennium.

**North Lake Wildlife Management Area:** The primary function of over 8,600 acres of land and water at Mud Lake in Jefferson County is to attract, produce and hold waterfowl, but pheasants, deer, rabbits, sage grouse and antelope are also benefited. Crops are grown to control waterfowl depredations on neighboring farms and to provide pheasant habitat. Three hundred-twenty acres of marsh were purchased during the biennium to round out the boundary, exclude trespass livestock and allow more developments for waterfowl production.

**Market Lake Wildlife Management Area:** The Market Lake Wildlife Management Area near Roberts is one of the better publicly-owned waterfowl areas in the state. The area has a moderately-large marsh where water levels can be manipulated to provide best habitat conditions for waterfowl. During the biennium, two miles of dike were constructed to permit rehabilitation of an additional 400 acres of marsh. The primitive Market Lake marsh once covered 6,000 acres; 1,200 acres of the original marsh have now been restored and spectacular flights of waterfowl can be seen here in the spring and fall.

**Sand Creek Wildlife Management Area:** The Sand Creek Wildlife Management Area is mostly intermediate and critical winter range for up to 1,000 elk, hundreds of deer and a few moose. Range improvements on its 26,900 acres have also provided ideal habitat for sage grouse and sharp-tailed grouse. Three water developments (including a 30-acre pond completed this past year) provide trout fishing as well as waterfowl habitat. Controlled livestock grazing on parts of this area that are not important for wildlife is exchanged for wildlife use on private lands that are critical big game range.

**Miscellaneous Lands:** Other lands requiring management include the St. Maries Game Range, Carey Lake, primitive area ranches, Albeni Falls Wildlife Management Area, Valley County Refuge and over 130 public hunting and fishing access sites and fishing reservoirs.

## Fisheries Management

Too much water one year and too little the next caused many problems for fishery managers during the biennium 1964-66. Floods during 1965 caused extensive damage to watersheds and stream courses throughout the State. Bulldozers followed in the wake of the floods and channel clearance projects by Federal, State and County agencies, and private individuals wreaked further havoc upon stream habitats. Low runoff in 1966 and clear streams contributed to excellent stream fishing; however, water shortages occurred early in the summer of 1966, impeding fish migration in the Lemhi River causing many reservoirs to be drawn to minimum storage.

Pend Oreille Lake continued to be one of Idaho's leading fish producers. During 1964, a total of 66,342 anglers spent 344,302 hours to catch 1,148,197 kokanee, 4,942 rainbow, 1,757 cutthroat, and 929 Dolly Varden. Catch figures for 1965 were 59,263 anglers, 281,130 hours, 1,003,132 kokanee, 4,713 rainbow, 1,734 cutthroat, and 1,480 Dolly Varden. Cutthroat angling improved during 1966. Kamloops fishing remained stable while the Dolly Varden catch for 1965 and early 1966 showed a significant increase over that of 1964 — the lowest on record. Kokanee fishermen in Coeur d'Alene Lake in 1965 averaged 1.9 fish per hour with fish averaging 11.3 inches by late fall.

Following eradication in 1964, Lost Valley Reservoir provided excellent fishing in 1965 and 1966. Creel data on opening day 1966, showed two trout per angler-hour. Traffic counters registered 90,000 visitors to Lost Valley between June 1 and August 31, 1966. Excellent fishing continued in Magic Reservoir in 1965 and 1966 in spite of rapid build up of the perch population. Fish Creek and Roseworth Reservoirs were opened to ice fishing during January and February of 1966. Ice fishing for rainbow trout on these reservoirs proved to be extremely popular with catch rates averaging from 1.2 to 2.0 fish per hour.

Three southern Idaho reservoirs gained wide renown as quality fisheries for large trout. Mormon Reservoir consistently produced fish over two pounds and up to six pounds. In American Falls Reservoir, rainbow trout planted in April had tripled their size by July. Popularity of Blackfoot Reservoir was demonstrated by the presence of 800 boats on opening morning of 1966. Increase in the carp population and competition for food has decreased sharply the growth and survival of planted fish; however, fishing success in 1966 still remained high and fish were of excellent size and quality.

The winter dip net fishery for cisco in Bear Lake fluctuated greatly in 1965 and 1966. Harvest in 1965 was 104,830 cisco, the smallest run since dip nets were legalized in 1960. The harvest in 1966 was 188,879 fish, the largest recorded to date.

Extreme water fluctuations in Palisades Reservoir for flood control and irrigation affected fishing quality in 1965 and 1966. Heavy planting of kokanee eggs and fry in the reservoir and tributaries have been ineffective. Fishing pressure and catch more than doubled between 1963 and 1965 as a result of expanding the fishing season and creel

limit, stocking larger cutthroat, and timing the fish releases with maximum food production in the reservoir.

Since treatment of Island Park Reservoir in 1958, Utah chubs have once again become abundant and the quality of the fishery has declined. In order to provide fair quality fishing in 1965-1966, the Department stocked the Reservoir with large numbers of catchable-size trout which made up a major portion of the catch as indicated in the following table:

| Year | Estimated number of fishermen | Estimated catch of game fish | Average hourly rate of catch | Percentage of total game fish from catchable-size rainbow plants |
|------|-------------------------------|------------------------------|------------------------------|--|
| 1951 | 15,397                        | 25,817                       | 0.46                         | none   |
| 1960 | 24,500                        | 62,200                       | 0.82                         | none   |
| 1965 | 27,705                        | 46,243                       | 0.43                         | 55   |

During the 1966 irrigation season, storage is being reduced to near its all time low level, making it feasible to once again rehabilitate the fishery by treating the reservoir and adjacent private reservoirs for the purpose of eradicating Utah chubs.

New techniques were developed in 1964 for stocking mountain lakes by airplane. Fish were carried in plastic bags containing a small amount of water and pure oxygen. A special container releases the fish and water as the plane passes over the lake. In 1965, the Forest Service shared 50 per cent of costs in stocking 90 lakes by helicopter.

Nearly 31,000 channel catfish, along with small numbers of flathead catfish, were trapped in Brownlee Reservoir in 1965 and transplanted into new areas on the Snake River between C. J. Strike Dam and Minidoka Dam. Catfish have become an important game fish in the lower Snake River in recent years. Other transplants include mackinaw trout in Payette Lake and kokanee in Anderson Ranch Reservoir.

Five commercial seining permits were issued in 1965. A total of 1,328,353 pounds of rough fish, mostly carp and suckers, were harvested from Blackfoot Reservoir, American Falls Reservoir, Lake Walcott, and Snake River. Lake Pend Oreille is unique in that it supports a commercial fishery on a game fish — the kokanee or blueback. Many of the fish taken with a commercial license may not end up in a commercial market as sportsmen purchase a commercial license to take advantage of the greater bag limit. Commercial harvest in 1965 for 236 licensed fishermen was 303,251 kokanee weighing 65,443 pounds.

A survey of nearly 17,000 fishermen throughout the State, revealed that 21 per cent were exempt from purchasing a license. Of these, 14.7 per cent were juveniles under 14 years of age and 6.2 per cent over 70 years of age. Studies have shown that their fishing success is comparable to the licensed fishermen. If these figures are representative statewide, 21 per cent of the fish harvested in Idaho are taken by unlicensed fishermen.

Pollution continues to plague Idaho waters. Two major pollution-caused fish kills were reported in 1966. Industrial wastes discharged

into the Portneuf River and the South Fork of the Teton River resulted in losses of 30,000 and 35,000 fish respectively. Careful monitoring of a large scale spruce budworm control project on the Salmon National Forest in 1964 showed a high percentage of streams hit by DDT spray. Valuable data was collected during the study which can be applied to future spray projects and designing criteria for stream protection. Investigations on C. J. Strike Reservoir in 1965 showed the entrance of measurable amounts of agricultural pesticides which may be associated with the decline in the fishery. Water quality studies on Cascade Reservoir show that artificial fertilization is occurring from irrigation return water containing soluble phosphates and nitrates from raw sewage discharged into the river at McCall. These nutrients support heavy blooms of bluegreen algae during July and September and the settling and decomposition of this algae then contributes to oxygen deficiencies in the deeper waters of the reservoir.

## FISHERIES RESEARCH

An active fisheries research program was pursued during the biennium with special emphasis on salmon and steelhead, large lakes and reservoirs, and the use of hatchery-reared trout.

Idaho's salmon and steelhead resources are beset with many problems arising from the conflicting uses of water in the Columbia Basin. The number of chinook salmon which entered Idaho streams during the summer of 1965 was one of the smallest on record and it was necessary to close all streams in the State to sport fishing for chinook salmon in order to insure an adequate escapement of these fish. A means for compensating for the losses associated with the construction of dams and other water development projects must be found in order to insure the continued existence of salmon and steelhead in Idaho in the years to come.

Large lakes and reservoirs (of which Idaho has many) are difficult to manage for optimum sport fish production because of their large size. A research project was initiated during the biennium to attain information on the ecology on large lakes and reservoirs and experiment with means for increasing production.

A significant portion of the Department's budget is spent on the production of hatchery-reared trout. Studies designed to insure wise use of the hatchery-reared trout were continued during the biennium.

### Salmon and Steelhead Investigations

Studies to determine the harvest and escapement of chinook salmon and steelhead in the South Fork of the Salmon River drainage were continued. Severe erosion in the South Fork watershed during the winter of 1964-1965 resulted in the deposition of large amounts of granitic sand throughout much of the spawning and rearing area used by salmon and steelhead. Studies have been initiated to determine the effects of this spawning and rearing area sedimentation on the production of juvenile salmon and steelhead.

The annual salmon spawning ground surveys were conducted again during 1964 and 1965. As expected from the small number of salmon counted over Ice Harbor Dam during 1965, the number of salmon spawning redds counted in the fall of 1965 was below average. The elimination of sport fishing in Idaho during 1965 no doubt helped in obtaining the maximum escapement possible from the small run.

The experimental program to introduce steelhead trout into the Lemhi River was continued and evidence obtained which indicated the steelhead were becoming established in the stream. The number of juvenile steelhead produced could be expected to increase as the number of competing resident fishes is reduced.

Studies on the Lemhi River to evaluate production of chinook salmon revealed that the larger adult escapement in 1964 as compared to 1963 ultimately produced a larger number of juvenile chinook salmon which migrated to the ocean. Escapement in 1965 was relatively small and should provide the opportunity to determine production from such small escapements. We ultimately hope to determine the optimum numbers of spawners needed in the Lemhi River to produce the maximum number of juvenile seaward-bound salmon.

Each year, a large number of chinook salmon fry emigrate from the spawning areas. A study was begun in cooperation with the Cooperative Fishery Unit at the University of Idaho to determine the factors which cause the downstream movement of chinook salmon fry.

In order to compensate for the losses which occur at dams and other water developments, it will be necessary to increase the production of juvenile salmon and steelhead in Idaho streams. A project was approved to evaluate the feasibility of rearing juvenile chinook salmon in ponds supplied with stream water.

Construction of an experimental pond rearing facility on Hayden Creek, a tributary of the Lemhi River, was initiated during the biennium. At the Hayden Creek facilities, juvenile steelhead trout and chinook salmon will be reared in pond and raceway facilities supplied with spring and creek water.

### Lake and Reservoir Investigations

Priest Lake in northern Idaho is a large, relatively infertile body of water which is similar to many of the large lakes in northern Idaho. The lake contains a good population of kokanee, lake trout, and Dolly Varden, and a fair but reduced population of cutthroat trout. In recent years, work has been initiated to improve the production of cutthroat trout in Priest Lake. Three approaches to improve production of cutthroat trout currently being used are (1) the planting of hatchery-reared cutthroat fingerlings in Upper Priest Lake, (2) introduction of cutthroat trout fry into Priest Lake incubation channels, and (3) chemical rehabilitation of stream tributaries to the lake to remove competing species. Additional studies are being conducted to determine the usefulness of incubation channels for the production of kokanee.

During 1965, a project to collect and introduce opossum shrimp (*Mysis oculata relicta*) into Priest Lake and other lakes and reservoirs in Idaho was initiated. This fish food organism which reaches a size of approximately one inch in length is an important food item in the diets of fish in lakes where it is present. Introduction of opossum shrimp in Idaho lakes and reservoirs is anticipated to take place over a period of three or four years. The introductions, if successful, may require up to ten years before populations of shrimp become large enough to become a significant item in the diets of the fish.

Many large lakes and reservoirs contain too great a volume of water to permit complete chemical eradication. At times, however, certain fish species are vulnerable to spot treatment. An experimental project of chemically treating the shoreline areas of Anderson Ranch Reservoir to kill squawfish fry has been initiated. It is the aim of this project to determine if squawfish populations can be significantly reduced by killing a large segment of the fry production each year through chemical treatment. Studies were conducted to determine the physical and chemical characteristics of large lakes and reservoirs where extensive drawdowns occur. The abundance of food organisms and food habits of the various species of fish found in the reservoirs and lakes were also studied.

### Fishways and Screens

Installation of fish screens for the protection of downstream migrating juvenile anadromous fish in the Salmon River drainage continued during the biennium. All fish screens have been constructed with Federal Funds supplied by the U. S. Fish and Wildlife Service under the Columbia River Fishery Development Program.

A new fishway around Selway Falls in the lower Selway River was completed. The Powerhouse fishway at the Washington Water Power Company dam near the mouth of the Clearwater River was revised.

Introduction of spring- and summer-run chinook, coho salmon, and steelhead into portions of the Clearwater River drainage by means of eyed egg plants was continued. This project is being carried on under the Columbia River Fishery Development Program.

### Fish Screen Installation by Stream

| Stream                             | Number Screens |
|------------------------------------|----------------|
| Main Salmon River .....            | 28             |
| North Fork of Salmon River .....   | 16             |
| Carmen Creek .....                 | 13             |
| East Fork of Carmen Creek .....    | 3              |
| Dahlonga Creek .....               | 3              |
| Anderson Creek .....               | 1              |
| Sheep Creek .....                  | 2              |
| Lemhi River .....                  | 84             |
| Hayden Creek .....                 | 7              |
| Lemhi Big Springs Creek .....      | 7              |
| Pahsimeroi River .....             | 13             |
| Powder Creek .....                 | 1              |
| Pahsimeroi Big Springs Creek ..... | 9              |
| East Fork of Salmon River .....    | 24             |
| Herd Creek .....                   | 2              |
| East Fork Boulder Creek .....      | 2              |
| Little Salmon River .....          | 1              |
| Rapid River .....                  | 3              |
| <b>TOTAL</b> .....                 | <b>219</b>     |

### Fish Screens Installed by Year

| Year                      | Number Screens |
|---------------------------|----------------|
| 1958 .....                | 10             |
| 1959 .....                | 50             |
| 1960 .....                | 22             |
| 1961 .....                | 49             |
| 1962 .....                | 32             |
| 1963 .....                | 25             |
| 1964 .....                | 20             |
| 1965 .....                | 9              |
| 1966 (As of July 1) ..... | 2              |
| <b>TOTAL</b> .....        | <b>219</b>     |

### Lake Rehabilitation

| Year | Name                 | County   | Surface Acres | Volume Acre-feet | Undesirable Species | Species Restocked | Toxicant |
|------|----------------------|----------|---------------|------------------|---------------------|-------------------|----------|
| 1964 | Lost Valley Res.     | Adams    | 200           | 300              | Perch, Bullheads    | Rainbow           | Rotenone |
| 1964 | C. Ben Ross Res.     | Adams    | 30            | 150              | Bullheads           | Rainbow           | Rotenone |
| 1965 | Anderson Ranch Res.* | Elmore   | ....          | ....             | Squawfish           | Rainbow, kokanee  | Rotenone |
| 1965 | Parker Lake          | Boundary | 3             | 60               | Brook trout         | Cutthroat         | Rotenone |

### Stream Rehabilitation

| Year | Name                        | County             | Miles Treated | Undesirable Species                         | Species Restocked                     | Toxicant |
|------|-----------------------------|--------------------|---------------|---|---------------------------------------|----------|
| 1965 | Upper Willow Creek & Tribs. | Bonneville-Bingham | 79            | Utah chub, dace, suckers, shiners, sculpins | Rainbow, brown brook, cutthroat trout | Rotenone |
| 1966 | Grays Lake Outlet & Tribs.  | Bonneville-Bingham | 70            | Utah chub, dace, suckers, shiners, sculpins | Rainbow, brown brook, cutthroat trout | Rotenone |

\* 20 miles of shoreline treated for newly hatched fry.

## HATCHERY OPERATIONS

### Fish Production

The production of fish in Idaho state fish hatcheries increased during the biennium by 255,773 pounds of fish more than the production of the previous biennium. Part of this production increase can be attributed to improved hatchery management techniques including improved brood stock and fish nutrition and part to the enlargement of Hayspur Fish Hatchery near Gannett, Idaho. Hayspur was expanded to the full extent of the available water supply which has resulted in a production increase of 60,000 pounds of rainbow trout annually.

### Fish Feed

The purchase of fish feed through competitive bidding continued through the biennium. The Department has developed the Idaho open formula fish feed diet which has created a great deal of interest in other agencies and is used by several. The formula is specified in detail including ingredients, vitamins, feed sizes and number of pounds of feed required by each fish hatchery. The low bidder furnishes the ingredients, blends in the vitamins provided by a vitamin manufacturer, mixes, pellets and delivers feed to state hatcheries as requested.

Comparative feeding tests are designed and tested each year at State fish hatcheries. These tests serve to improve the diet and test ingredients that can be used as substitutes in case of ingredient scarcity or price increases. Four categories are foremost in diet evaluation; they are cost of diet, nutritional value, palatability to fish, mechanical handling and pellet quality. Each of these categories are carefully evaluated prior to changes in the diet formulation.

### Trout Flesh Color Tests

Hatchery trout normally have a white flesh, which would be more pleasing to the angler if a red color could be imparted through the diet. Tests were designed and carried out at Hagerman Fish Hatchery to test paprika in the diet at a one per cent level and xanthophyll at .25, .5 and one per cent levels. Catchable-size rainbow trout were fed at a normal feeding level for sixty days. Fish were inspected at the end of 30 days feeding; no coloring change could be detected visually. At the end of 60 days feeding, one fish from each lot and one from the regular production diet fish were sacrificed and flesh color compared. The only color evident was in the fish fed one per cent xanthophyll. The flesh was slightly yellow in color. Additional tests will be carried on with other coloring materials during 1967.

### Fish Health

During the first half of the biennium, infectious pancreatic necrosis, a virus disease, caused serious mortality of fingerling trout at two Idaho fish hatcheries. The virus is harbored in the brood fish and passed on to offspring by the parents. Disinfection and control measures were instituted to prevent the spread of the virus to other stations. The disease did not appear during the 1966 fish production year.

## Fish Distribution

A new diesel truck with a 2,500 pound capacity fish tank was purchased for long distance hauling of fish for redistribution.

## Salmon and Steelhead Hatcheries

During the biennium, the Department continued to operate Oxbow Salmon Hatchery, Rapid River Salmon Hatchery and began the operation of Niagara Springs Steelhead Hatchery. Each of these stations was constructed by the Idaho Power Company to rear chinook salmon or steelhead that no longer have free access to the spawning streams tributary to Snake River upstream from Hells Canyon Dam.

The newest of the hatcheries, Niagara Springs, is located on Snake River a few miles south of Wendell. This station has the newest automation equipment available. Steelhead are trapped at Hells Canyon and transferred to Oxbow Salmon Hatchery where they are held until they are mature. The eggs are collected in the spring and shipped to Niagara Springs where the eggs are hatched and the fish reared for one year. At this time they will be transported to Pahsimeroi River for release. This transplantation will result in a return of adults to Pahsimeroi River rather than Snake River. Adult steelhead will be trapped on Pahsimeroi River and the resulting young will be reared at Niagara Springs Hatchery where they will grow to 7 to 8 inches in length in one year in the 59°F. water. Steelhead normally achieve a size of 7 to 8 inches in two years under natural rearing conditions.

## Hatchery Planning Conference

Hatchery specialists from five adjacent states, federal agencies and Michigan State attended a two day session in Boise during June, 1966. Information and new designs for exceptionally large fish hatcheries were presented. Automation of fish culture procedures to save labor costs was an important part of the conference. Other topics for discussion were fish nutrition, fish feeding mechanization, fish handling automation, rearing pond design, public information facilities, methods of handling adult salmon and steelhead, fish disease control and personnel training techniques.

The design of the Dworshak Steelhead Hatchery to be constructed on the North Fork of Clearwater River was discussed at length. This hatchery is in the planning stages with the Fish and Wildlife Service, Corps of Engineers, and Idaho Fish and Game Department cooperatively developing the design. The purpose of the hatchery is to take the place of 12,000 adult steelhead that will be blocked from their spawning grounds on the North Fork of Clearwater by Dworshak Dam. The Fish and Wildlife Service will operate the hatchery. The Department will actively participate in planning the hatchery program and the method of handling, rearing and releasing of steelhead trout.

## Fish Hatchery Construction and Maintenance

**American Falls:** Concreted four raceway bottoms, demolished three old circular ponds, interior maintenance of dwellings, concrete walkway by trailer house, installed ceiling in garage, installed shower cabinet in shop building.

**Ashton:** Completed bedroom in basement of assistant's dwelling, cleaned and ditched water drain ditch on north edge of hatchery property.

**Clark Fork:** Constructed concrete raceway 15 feet by 185 feet, replaced water distribution trough in hatchery building with pipeline, installed 20 fiber glass rearing troughs, installed two sewage disposal units for dwellings, painted garage exterior.

**Eagle:** Constructed visitors' information center, including sanitary facilities, painted exterior of buildings.

**Grace:** Constructed steel, four-stall garage, installed perforated drain pipe around assistant's dwelling to prevent basement flooding, widened concrete raceway bridges over water flume to accommodate large tank trucks, assistant's residence interior was painted, remodeled kitchen, including cabinets, work space and sink, reconditioned bathroom, repaired basement floor, installed sump pump, hatchery building maintenance work painting and repair and installation of freezer compressor for ice storage in existing cold storage area.

**Hagerman:** Paved interior road through hatchery grounds, repaired domestic water line, concreted headgate raceway water supply, painted interior of one dwelling, insulated superintendent's dwelling and duplex, concreted several raceway bottoms, installed lawn sprinkler system for duplex.

**Hayspur:** Dwelling, three bedroom complete, installed headgate and rack for Gavers Lagoon, concreted headrace around old ponds, three-vehicle garage relocated and concrete floor completed, poured concrete slab for fish truck loading, completed six concrete raceways, each 400 feet long, completed fill and grading of roadways between raceways, paved hatchery grounds and part of entry roadway.

**Kamiah Holding Ponds:** Painted exterior of dwelling.

**Mackay:** Replaced septic tank drainfield for dwelling, graded and increased elevation of one quarter mile of hatchery road, installed culvert 12 inches by 20 feet long under road to prevent flooding, basement maintenance assistant's dwelling.

**Niagara Springs:** Constructed by Idaho Power Company for the annual rearing of 1,600,000 steelhead smolts weighing 200,000 pounds.

**Sandpoint:** Covered roofs of garage and feed storage buildings with metal for snow removal, built near entrance cover on superintendent's dwelling to prevent snow from sliding off roof onto steps and sidewalks.

**Warm River:** Painted dwelling interior and hatchery building interior.

**Fish Transportation:** Purchased new diesel powered truck and refrigerated fish tank with 2,500 pound hauling capacity to improve fish distribution.

### Fish Feed

(October 1, 1964 — September 30, 1966)

| Item                       | Year | Pounds           | Cost                |
|----------------------------|------|------------------|---------------------|
| Liver                      | 1965 | 21,487           | \$ 1,882.30         |
|                            | 1966 | 93               | 11.63               |
| Slaughterhouse By-Products | 1965 | 32,154           | 1,873.14            |
|                            | 1966 | 2,668            | 394.06              |
| Idaho Open Formula Diet    | 1965 | 1,692,296        | 148,782.40          |
|                            | 1966 | 1,911,029        | 170,805.95          |
| Oregon Moist Pellets       | 1965 | 71,465           | 9,713.75            |
|                            | 1966 | 93,955           | 13,366.16           |
| Totals                     | 1965 | 1,817,402        | \$162,251.59        |
|                            | 1966 | 2,007,745        | 184,577.80          |
| <b>Biennium Totals</b>     |      | <b>3,825,147</b> | <b>\$346,829.39</b> |

### Eggs Received by Purchase or Exchange From Other Agencies

(October 1, 1964 — September 30, 1966)

| Species               | Year | Number            |
|-----------------------|------|-------------------|
| Rainbow               | 1965 | 7,783,839         |
|                       | 1966 | 6,782,680         |
| Brook                 | 1965 | 444,543           |
|                       | 1966 | 391,076           |
| Mackinaw              | 1965 | 100,062           |
|                       | 1966 | 35,420            |
| Kokanee               | 1965 | 500,850           |
|                       | 1966 | 615,250           |
| Brown                 | 1965 | 146,160           |
|                       | 1966 | 498,320           |
| Kamloops R. B.        | 1965 | 100,230           |
|                       | 1966 | 22,160            |
| Dolly Varden          | 1965 | 34,075            |
|                       | 1966 |                   |
| Sockeye               | 1965 | 8,975,454         |
|                       | 1966 | 8,479,211         |
| <b>Totals</b>         |      | <b>17,454,665</b> |
| <b>Biennium Total</b> |      | <b>17,454,665</b> |

### Chinook Salmon and Steelhead Counts Over Lewiston Power Dam by Month

July, 1964 to June, 1966

| Month        | Year | Steelhead     | Salmon     |
|--------------|------|---------------|------------|
| July         | 1964 | 12            | 31         |
| August       | "    | 184           | 2          |
| September    | "    | 4,751         | 13         |
| October      | "    | 4,846         | 4          |
| November     | "    | 541           | 0          |
| December     | "    | 8             | 0          |
| January      | 1965 | 3             | 0          |
| February     | "    | 482           | 0          |
| March        | "    | 3,214         | 0          |
| April        | "    | 2,027         | 0          |
| May          | "    | 1,252         | 112        |
| June         | "    | 10            | 124        |
| July         | "    | 26            | 82         |
| August       | "    | 71            | 0          |
| September    | "    | 4,152         | 14         |
| October      | "    | 11,013        | 18         |
| November     | "    | 1,289         | 0          |
| December     | "    | 10            | 0          |
| January      | 1966 | 0             | 0          |
| February     | "    | 154           | 0          |
| March        | "    | 2,604         | 0          |
| April        | "    | 1,867         | 3          |
| May          | "    | 699           | 75         |
| June         | "    | 14            | 148        |
| <b>TOTAL</b> |      | <b>39,229</b> | <b>626</b> |

### ROUGH FISH REMOVAL—SEINING PERMITS

(In pounds — October 1, 1964-September 30, 1966)

| Species               | Year | Pounds           |
|-----------------------|------|------------------|
| Carp                  | 1965 | 958,758          |
|                       | 1966 | 1,288,977        |
| Chubs                 | 1966 | 55,926           |
| Suckers               | 1965 | 716,785          |
|                       | 1966 | 454,330          |
| Totals                | 1965 | 1,675,543        |
|                       | 1966 | 1,799,233        |
| <b>Biennium Total</b> |      | <b>3,474,776</b> |



## Fish Plantings in Idaho by Other Agencies

(October 1, 1964 — September 30, 1966)

| Station                     | Year | Rainbow          |                | Cutthroat      |               | Chinook Salmon |              | Total Pounds     |
|-----------------------------|------|------------------|----------------|----------------|---------------|----------------|--------------|------------------|
|                             |      | Number           | Pounds         | Number         | Pounds        | Number         | Pounds       |                  |
| U. S. Hagerman<br>(Idaho)   | 1965 | 780,415          | 125,096        |                |               | 633,441        | 3,695        | 1,413,856        |
|                             | 1966 | 343,230          | 94,341         |                |               |                |              | 343,230          |
| U. S. Jackson<br>(Wyoming)  | 1965 |                  |                | 250,172        | 20,203        |                |              | 250,172          |
|                             | 1966 |                  |                | 221,394        | 24,534        |                |              | 221,394          |
| U. S. Ennis<br>(Montana)    | 1965 | 58,733           | 27,325         |                |               |                |              | 58,733           |
|                             | 1966 |                  |                |                |               |                |              |                  |
| U. S. Springville<br>(Utah) | 1965 | 1,500            | 620            |                |               |                |              | 1,500            |
|                             | 1966 |                  |                |                |               |                |              |                  |
| U. S. Creston<br>(Montana)  | 1965 | 49,976           | 10,633         |                |               |                |              | 49,976           |
|                             | 1966 |                  |                | 9,761          | 470           |                |              | 9,761            |
| State of Wyoming            | 1965 |                  |                |                |               |                |              |                  |
|                             | 1966 |                  |                |                |               |                |              |                  |
| Idaho Power Co.             | 1965 | 30,000           | 12,000         |                |               |                |              | 30,000           |
|                             | 1966 |                  |                |                |               |                |              |                  |
| Totals                      | 1965 | 839,154          | 152,421        | 250,172        | 20,203        | 633,441        | 3,695        | 1,722,767        |
|                             | 1966 | 424,706          | 117,594        | 231,155        | 25,004        |                |              | 655,861          |
| <b>Biennium Totals</b>      |      | <b>1,263,860</b> | <b>270,015</b> | <b>481,327</b> | <b>45,207</b> | <b>633,441</b> | <b>3,695</b> | <b>2,378,628</b> |

## Idaho Fish Plantings\* By Species, Size — All Agencies (October 1, 1964 — September 30, 1966)

| Species                | Year | 0 - 3"                 |        | 3 - 6"           |        | 6" - Up          |        | Total             | Pounds           |
|------------------------|------|------------------------|--------|------------------|--------|------------------|--------|-------------------|------------------|
|                        |      | Number                 | Pounds | Number           | Pounds | Number           | Pounds |                   |                  |
| Rainbow                | 1965 | 5,870,960              |        | 2,180,310        |        | 3,292,388        |        | 11,343,658        | 1,049,940        |
|                        | 1966 | 4,800,352              |        | 858,559          |        | 3,036,297        |        | 8,695,188         | 995,948          |
|                        | 1965 | 5,437,312              |        | 646,270          |        | 250,172          |        | 6,333,754         | 36,068           |
| Brook                  | 1965 | 5,298,718              |        | 792,475          |        | 226,141          |        | 6,317,334         | 42,486           |
|                        | 1966 | 156,107                |        | 111,245          |        | 21,391           |        | 288,743           | 4,624            |
| Brown                  | 1965 | 108,985                |        | 69,745           |        | 21,285           |        | 200,015           | 5,946            |
|                        | 1966 | 47,320                 |        |                  |        | 1,800            |        | 49,120            | 430              |
| Kamloops               | 1965 | 251,800                |        | 158,175          |        | 42,629           |        | 409,975           | 3,810            |
|                        | 1966 | 143,735 <sup>1</sup>   |        | 28,445           |        | 132,834          |        | 214,809           | 12,212           |
| Mackinaw               | 1965 | 402,488                |        | 22,020           |        | 9,600            |        | 557,342           | 34,346           |
|                        | 1966 |                        |        |                  |        | 49,002           |        | 9,600             | 1,600            |
| Kokanee                | 1965 | 4,873,776 <sup>2</sup> |        |                  |        |                  |        | 49,002            | 5,816            |
|                        | 1966 | 1,809,607              |        |                  |        |                  |        | 4,873,776         | 1,596            |
| Chinook Salmon         | 1965 | 3,782,555 <sup>3</sup> |        |                  |        |                  |        | 1,809,607         | 1,888            |
|                        | 1966 | 2,870,694 <sup>4</sup> |        |                  |        |                  |        | 3,782,555         | 5,720            |
| Steelhead              | 1965 | 586,633 <sup>5</sup>   |        | 583,883          |        |                  |        | 3,454,577         | 27,013           |
|                        | 1966 | 980,845 <sup>6</sup>   |        | 138,760          |        | 24,291           |        | 610,924           | 3,753            |
| Cutthroat and Rainbow  | 1965 | 780,602                |        | 58,000           |        | 4,009            |        | 1,123,614         | 15,858           |
|                        | 1966 | 1,758,855              |        |                  |        |                  |        | 838,602           | 1,011            |
| Coho Salmon            | 1965 | 1,180,000 <sup>7</sup> |        |                  |        |                  |        | 1,758,855         | 2,814            |
|                        | 1966 |                        |        |                  |        |                  |        | 1,180,000         |                  |
| Totals                 | 1965 | 21,679,000             |        | 3,024,270        |        | 3,642,271        |        | 28,345,541        | 1,116,954        |
|                        | 1966 | 19,462,344             |        | 2,623,597        |        | 3,469,568        |        | 25,555,509        | 1,135,925        |
| <b>Biennial Totals</b> |      | <b>41,141,344</b>      |        | <b>5,647,867</b> |        | <b>7,111,839</b> |        | <b>53,901,050</b> | <b>2,252,879</b> |

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

<sup>1</sup> Includes 112,739 eyed eggs

<sup>2</sup> Includes 1,628,640 eyed eggs

<sup>3</sup> Includes 1,500,000 eyed eggs

<sup>4</sup> Includes 2,655,974 spring chinook eyed eggs;

<sup>5</sup> Eyed eggs

<sup>6</sup> 980,845 planted as eyed eggs

<sup>7</sup> Planted as eyed eggs

the remainder are fall chinook salmon.

**Fish Salvaged and Planted**  
(October 1, 1964 — September 30, 1966)

| Station Area           | Year | Trout         | Crappie        | Large-mouth Bass | Channel Catfish | Whitefish    | Total          | Pounds        |
|------------------------|------|---------------|----------------|------------------|-----------------|--------------|----------------|---------------|
| Ashton                 | 1965 | 3,131         |                |                  |                 |              | 3,131          | 835           |
| Eagle                  | 1965 | 1,000         | 102,000        | 30,053           | 30,900          |              | 163,953        | 9,559         |
|                        | 1966 |               |                | 400              | 12,000*         |              | 12,400         | 500           |
| Hayspur                | 1965 | 2,447         |                |                  |                 | 32           | 2,447          | 1,000         |
|                        | 1966 | 1,716         |                |                  |                 |              | 1,748          | 2,302         |
| Mackay                 | 1965 | 3,520         |                |                  |                 | 20           | 3,540          | 1,025         |
|                        | 1966 | 3,923         |                |                  |                 | 2,356        | 6,279          | 2,470         |
| Totals                 | 1965 | 10,098        | 102,000        | 30,053           | 30,900          | 20           | 173,071        | 12,419        |
|                        | 1966 | 5,639         |                | 400              | 12,000          | 2,388        | 20,427         | 5,272         |
| <b>Biennium Totals</b> |      | <b>15,737</b> | <b>102,000</b> | <b>30,453</b>    | <b>42,900</b>   | <b>2,408</b> | <b>193,498</b> | <b>17,691</b> |

\* Crappie, Bullhead, Catfish and Perch

**Eggs Taken by State**  
(October 1, 1964 — September 30, 1966)

| Station                   | Year | Species               | Numbers Green Eggs | % Eye up          | Numbers Eyed Eggs |
|---------------------------|------|-----------------------|--------------------|-------------------|-------------------|
| American Falls            | 1965 | Rainbow               | 2,464,320          | 79.9              | 1,970,044         |
|                           | 1965 | Cutthroat             | 29,000             | 72.0              | 20,800            |
|                           | 1966 | Rainbow               | 3,046,064          | 79.2              | 2,411,272         |
| Beauty Creek              | 1965 | Kokanee               | 1,181,027          | 92.6              | 1,093,631         |
| Blackwell Slough          | 1965 | Kokanee               | 234,896            | 95.1              | 223,386           |
| Clark Fork                | 1965 | Kamloops              | 802,688            | 90.1              | 726,961           |
|                           | 1966 | Kamloops              | 618,656            | 85.9              | 531,621           |
| Eagle                     | 1966 | Kokanee               | 1,414,440          | 89.6              | 1,268,404         |
| Grace                     | 1965 | Rainbow               | 1,843,508          | 90.2              | 1,663,508         |
| Granite Creek             | 1965 | Rainbow               | 386,688            | 87.9              | 340,000           |
| Hayspur                   | 1965 | Rainbow               | 191,400            | 96.8              | 185,275           |
|                           | 1966 | Rainbow               | 665,550            | 92.2              | 613,640           |
| Henrys Lake               | 1966 | Rainbow               | 1,467,980          | 94.0              | 1,376,868         |
|                           | 1965 | Cutthroat             | 10,589,480         | 70.5              | 8,010,920         |
|                           | 1966 | Cutthroat and Rainbow | 1,220,142          | 81.0              | 995,189           |
|                           | 1966 | Cutthroat             | 11,473,488         | 78.5              | 9,105,183         |
|                           | 1966 | Cutthroat and Rainbow | 2,277,990          | 80.0              | 1,815,100         |
| Mackay                    | 1965 | Rainbow               | 67,680             | 78.0              | 52,790            |
|                           | 1966 | Kokanee               | 282,268            | 94.0              | 265,608           |
| Moose Creek               | 1966 | Kokanee               | 146,784            | 80.0              | 117,427           |
| Oxbow                     | 1965 | Fall Chinook Salmon   | 779,000            | 92.0              | 716,900           |
|                           | 1966 | Fall Chinook Salmon   | 545,200            | 91.2              | 497,000           |
| Priest Lake               | 1966 | Steelhead             | 3,642,640          | 84.7              | 3,085,194         |
| Rapid River               | 1965 | Kokanee               | 180,576            | 96.8              | 174,797           |
|                           | 1965 | Steelhead             | 217,020            | 92.5              | 200,892           |
|                           | 1966 | Fall Chinook Salmon   | 25,644             | 90.6              | 23,509            |
|                           | 1965 | Spring Chinook Salmon | 603,800            | 94.1              | 568,400           |
|                           | 1966 | Spring Chinook Salmon | 2,296,908*         | 93.0              | 1,260,487         |
| Sweetwater Eyeing Station | 1966 | Spring Chinook Salmon | 1,345,556          | 86.2              | 980,842           |
|                           | 1966 | Steelhead             | 1,138,235          |                   |                   |
| Totals                    | 1965 |                       | 21,482,419         | (Av.) 87.8        | 17,580,642        |
|                           | 1966 |                       | 29,696,209         | (Av.) 86.4        | 22,715,006        |
| <b>Biennium Totals</b>    |      |                       | <b>51,178,628</b>  | <b>(Av.) 87.1</b> | <b>40,295,648</b> |

\* Green eggs

### Hatchery Production (October 1, 1964 — September 30, 1966)

| Hatchery              | Year | Rainbow           |                  | Cutthroat          |               | Brook                |               | Brown                |              | Kamloops       |               | Mackinaw      |               | Kokanee                |              |
|-----------------------|------|-------------------|------------------|--------------------|---------------|----------------------|---------------|----------------------|--------------|----------------|---------------|---------------|---------------|------------------------|--------------|
|                       |      | Nos.              | Lbs.             | Nos.               | Lbs.          | Nos.                 | Lbs.          | Nos.                 | Lbs.         | Nos.           | Lbs.          | Nos.          | Lbs.          | Nos.                   | Lbs.         |
| American Falls        | 1965 | 711,170           | 164,523          | 213,420            | 157           | 47,320               | 130           | 4,896                | 1,240        |                |               |               |               | 2,668,136 <sup>1</sup> | 501          |
|                       | 1966 | 878,118           | 183,612          | 881,032            | 397           | 324,741              | 1,987         | 85,820               | 615,400      | 900            |               |               |               |                        | 819,360      |
| Ashton                | 1965 | 745,640           | 45,052           | 296,861            | 2,771         | 187,072              | 2,324         | 377,041 <sup>2</sup> | 18,836       |                |               |               |               | 1,083,068 <sup>4</sup> | 388          |
|                       | 1966 | 464,820           | 38,098           | 887,148            | 594           | 285,702 <sup>3</sup> | 34,209        |                      |              |                |               |               |               | 1,120,720              | 817          |
| Clark Fork            | 1965 | 181,123           | 40,476           | 1,116,478          | 4,441         |                      |               | 86,010               | 970          |                |               |               |               | 621,820                | 1,097        |
|                       | 1966 | 59,753            | 29,220           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Eagle                 | 1965 | 1,244,230         | 39,564           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 | 328,470           | 36,023           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Grace                 | 1965 | 1,566,500         | 120,958          | 519,000            | 5,084         |                      |               | 56,350               | 1,875        |                |               |               |               |                        |              |
|                       | 1966 | 2,122,240         | 104,805          | 1,320,400          | 5,459         |                      |               | 98,700               | 5,800        |                |               |               |               |                        |              |
| Hagerman              | 1965 | 2,571,832         | 422,445          |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 | 1,605,759         | 370,918          |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Hayspur               | 1965 | 650,753           | 46,567           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 | 1,138,450         | 103,458          |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Henry Lake            | 1965 |                   |                  | 1,436,000          | 779           |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  | 918,012            | 678           |                      |               |                      |              |                |               |               |               |                        |              |
| Mackay                | 1965 | 758,498           | 70,056           | 51,662             | 33            |                      |               |                      |              |                |               |               |               | 4,560                  | 8            |
|                       | 1966 | 908,497           | 79,329           | 80,350             | 128           |                      |               |                      |              |                |               |               |               | 88,632                 | 302          |
| McCall                | 1965 | 216,235           | 109              | 407,367            | 131           | 350,966              | 2,978         | 52,783               | 3,838        |                |               |               |               | 309,000                | 63           |
|                       | 1966 | 78,716            | 52               | 118,846            | 30            | 371,186              | 3,780         | 24,192               | 5,072        |                |               |               |               |                        |              |
| Mullan                | 1965 |                   |                  | 701,226            | 802           | 141,707              | 204           |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  | 839,240            | 362           | 152,288              | 38            |                      |              |                |               |               |               |                        |              |
| Niagara               | 1965 |                   |                  |                    |               | 267,638              | 681           |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  |                    |               | 186,890              | 445           |                      |              |                |               |               |               |                        |              |
| Oxbow                 | 1965 |                   |                  |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Rapid River           | 1965 | 191,230           | 1,182            | 350,966            | 2,978         | 52,783               | 3,838         |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  | 371,186            | 3,780         | 24,192               | 5,072         |                      |              |                |               |               |               |                        |              |
| Sandpoint             | 1965 |                   |                  |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Twin Falls            | 1965 | 450,160           | 23,230           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
|                       | 1966 | 388,283           | 23,610           |                    |               |                      |               |                      |              |                |               |               |               |                        |              |
| Warm River            | 1965 |                   |                  | 2,250 <sup>6</sup> |               | 267,638              | 681           |                      |              |                |               |               |               |                        |              |
|                       | 1966 |                   |                  |                    |               | 186,890              | 445           |                      |              |                |               |               |               |                        |              |
| Totals                | 1965 | 9,280,871         | 974,412          | 5,159,163          | 13,226        | 280,310              | 4,877         | 662,720              | 1,030        | 433,391        | 20,711        | 33,636        | 5,466         | 4,921,776              | 1,606        |
|                       | 1966 | 8,222,960         | 969,963          | 5,629,095          | 18,456        | 363,552              | 7,434         | 355,131              | 4,250        | 470,412        | 40,979        | 3,002         | 5,616         | 1,743,550              | 1,737        |
| <b>Biennium Total</b> |      | <b>17,503,831</b> | <b>1,944,375</b> | <b>10,788,258</b>  | <b>31,712</b> | <b>643,862</b>       | <b>12,311</b> | <b>1,017,851</b>     | <b>5,280</b> | <b>903,803</b> | <b>61,690</b> | <b>35,638</b> | <b>11,082</b> | <b>6,665,326</b>       | <b>3,343</b> |

### Hatchery Production (October 1, 1964 — September 30, 1966)

| Hatchery              | Year | Chinook |      | Rainbow and Cutthroat  |              | Steelhead        |               | Sockeye |      | Dolly Varden |      | Totals |      |
|-----------------------|------|---------|------|------------------------|--------------|------------------|---------------|---------|------|--------------|------|--------|------|
|                       |      | Nos.    | Lbs. | Nos.                   | Lbs.         | Nos.             | Lbs.          | Nos.    | Lbs. | Nos.         | Lbs. | Nos.   | Lbs. |
| American Falls        | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      | 386,715                | 145          |                  |               |         |      |              |      |        |      |
| Ashton                | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Clark Fork            | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Eagle                 | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Grace                 | 1965 |         |      | 58,000                 | 580          |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      | 721,700                | 2,050        |                  |               |         |      |              |      |        |      |
| Hagerman              | 1965 |         |      |                        |              | 24,150           | 2,625         |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              | 138,760          | 15,500        |         |      |              |      |        |      |
| Hayspur               | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Henry Lake            | 1965 |         |      | 319,200                | 182          |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      | 650,440                | 619          |                  |               |         |      |              |      |        |      |
| Mackay                | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| McCall                | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Mullan                | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Niagara               | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Oxbow                 | 1965 |         |      | 650,460                | 2,025        |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      | 1,225,207 <sup>5</sup> | 1,342        |                  |               |         |      |              |      |        |      |
| Rapid River           | 1965 |         |      | 608,172                | 12,163       | 4,873            | 202           |         |      |              |      |        |      |
|                       | 1966 |         |      | 479,867                | 22,739       | 804              | 156           |         |      |              |      |        |      |
| Sandpoint             | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Sweetwater            | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Twin Falls            | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Warm River            | 1965 |         |      |                        |              |                  |               |         |      |              |      |        |      |
|                       | 1966 |         |      |                        |              |                  |               |         |      |              |      |        |      |
| Totals                | 1965 |         |      | 377,200                | 762          | 615,656          | 2,827         |         |      |              |      |        |      |
|                       | 1966 |         |      | 1,758,855              | 2,814        | 2,251,425        | 33,257        |         |      |              |      |        |      |
| <b>Biennium Total</b> |      |         |      | <b>2,136,055</b>       | <b>3,576</b> | <b>2,877,081</b> | <b>36,084</b> |         |      |              |      |        |      |

<sup>1</sup> Ashton kokanee 1,628,640 eyed eggs included.

<sup>2</sup> Clark Fork Kamloops 112,739 eyed eggs included.

<sup>3</sup> Clark Fork Kamloops 100,254 eyed eggs included.

<sup>4</sup> Clark Fork kokanee 128,548 eyed eggs included.

<sup>5</sup> Warm River Hatchery weight increase in rainbow trout transferred from Ashton.

<sup>6</sup> Oxbow Fall chinook 1,010,497 eyed eggs included.

<sup>7</sup> Sweetwater 1,000,000 eyed eggs from Fish and Wildlife Service.

<sup>8</sup> Sweetwater steelhead eyed eggs.

## Information and Education

Hunter safety education was one of the outstanding information and education services of the department during the past biennium. Through the cooperation of the Conservation Enforcement Division, Regional Conservation Educators were able to expand this training to most of the state's school students at the seventh grade level. In several areas of the state the program is reaching one hundred per cent of the students at the seventh grade level and it is expected that the statewide picture will be complete in the very near future.

Other information and education services of the department were expanded in the two-year period in answer to the ever increasing demands from the outdoor recreation seeking public. An additional receptionist was added to the headquarters information staff when the department moved into the new office building in Boise. Combination stenographer-receptionist positions were established at some of the department's eight regional offices, including the Panhandle, Clearwater and Eastern region offices. These positions were similarly established at the Magic Valley and Upper Snake River region offices on July 1, 1966.

A Regional Conservation Educator was established at the Magic Valley Regional office to supervise information and education activities in the Magic Valley and Salmon regions. The addition of this educator completes the field information and education services into all parts of the state. Other regional men are stationed in the Panhandle, Clearwater and Eastern Regions. Regional services in southwestern Idaho are handled by personnel of the Boise headquarters office.

Visual aids and publications work was expanded during the biennium with the addition of a specialist to the state office staff. The new office building also provided space for a central conservation reference library. Books, pamphlets and reports formerly maintained in the operational division offices were assembled in the new library for systematic tabulation and filing. A wildlife management-trained librarian, was placed in charge of the library, not only to handle the materials but also to work with other divisions in the compilation of information needed in their operations.

Regular information services were continued during the biennium with few changes. Several more leaflets were devised and distributed for the use of hunters and fishermen and the demand for reprints from *The Idaho Wildlife Review* resulted in considerable expansion of this activity. *The Idaho Wildlife Review*, a bimonthly magazine, was converted to an IBM mailing system with a temporary drop in subscribers but the list is rapidly returning to the former distribution of 20,000.

Work with the Idaho Landholder-Sportsman Council continued to receive much attention from the division. The four-by-eight poster project asking for the cooperation of hunters and anglers in respecting private property was quite successful. Sportsmen's clubs all over the state took the posters, built signboards, and placed them at strategic

locations. About 300 of the large posters were distributed by the end of the biennium. Owyhee County rancher and State Representative Alvin Benson continued as chairman of the Council until February 1966, with Paul Thoman of Twin Falls as vice chairman. At that time State Representative Vernon Ravenscroft of Tuttle was elected chairman, with rancher David Bivens of Payette elected as vice-chairman.

In 1964, the Landholder-Sportsman Council gave the Landholder-Sportsman of the Year award to rancher William McCracken of Soda Springs. In 1965, the award was made to R. K. "Bill" Siddoway, St. Anthony rancher. Special Awards of Merit for local leadership in landholder-sportsman relations were also given to C. C. Anderson, Ashton; Tom Arima, Homedale; John Spencer, Grangeville; Elmer Taylor, Grangeville, and Potlatch Forests, Inc., Lewiston.

A special project of the division during the biennium was the compilation and distribution of a Ten-Year Program report. This report was compiled by the various divisions of the department as a blueprint for the future following acceptance of the Five-Point Program in 1963.

The use of 35mm color slide series in presenting reports of department programs was expended during the past two years. Slide series are now being presented on the fishes of Idaho, mountain lakes fisheries management, general fisheries management, the Idaho conservation officer, salmon and steelhead management, various game management programs, access projects, and several others.

Other highlights of the division's work during the biennium included operation of a wild animal wildlife exhibit at the Girl Scout Roundup at Farragut State Park in July 1965; cooperation with the Boy Scouts of America in the operation of Explorer Fish and Game Posts at Boise, Pocatello, Lewiston, Coeur d'Alene and Idaho Falls; hosting the annual meeting of the American Association for Conservation Information at Sun Valley in June 1965; assisting wildlife photographer Jim Bond in several expeditions around the state in 1965 filming Idaho fish and game; providing special information services for the Boise meeting of the Pacific Marine Fisheries Commission meeting in November 1965; organizing dedication ceremonies for the openings of the Coeur d'Alene, (Panhandle), Lewiston (Clearwater Region), and State headquarters office buildings; organizing the biennial department-wide in-service training school at Gowen Field in April 1966; and conducting a department-wide driving and equipment use safety training program.

## INFORMATION

Public interest and participation in hunting and fishing activities has been reflected by increased requests during the biennium. Changing times are apparent, as more detailed services are normal procedure. The Division answered in excess of 25,000 written requests for information during the biennial period. As regional offices were established, public use of these local services increased steadily.

All media were utilized to provide information. Special articles,

news releases, films, pamphlets, television and personal contact by division personnel.

Department news and future release packets containing upwards to 3000 words were issued each week during the two-year period. Additional spot news was prepared in release form for wire services as needed. Regular news packets are mailed to approximately 300 outlets each week.

Timely photographs of department activities and operations are prepared in a mat form and issued each week. Many of these tie in with the Thursday news release. A weekly feature article and photograph is prepared and mailed to Idaho daily newspapers.

#### Publications

A new booklet providing information about Idaho lowland lakes and reservoirs was published. A reprint is scheduled soon. The popular **Mountain Lakes of Idaho** booklet was reprinted for the fifth time and will go into the sixth edition soon. Other information leaflets included: **What to Do If Lost**; **Care of Game Meat**; **Hatcheries Information**; **Chinook Salmon Migrations**; and **Winter Feeding of Game Animals**.

#### Photography and Films

Over 1,000 additional black and white fotos were added to the department film library. Several thousand feet of motion picture film was prepared for television and information films. Four older department education films have been revised and up-dated. They will be released in 1967. Two new films are underway: one dealing with salmon migration problems and one explaining duties and work of the Idaho Conservation Officer.

#### 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 25 radio stations.

Special southwest Idaho tapes were also supplied to four radio stations weekly for sponsored programming.

Spot announcement tapes were also 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. One weekly series lasted 18 months.

Television program activities expanded to three times 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 convenience.

## REGIONAL ACTIVITIES

### Panhandle

This is the first biennial period that has seen a conservation educator stationed in Coeur d'Alene. It is thus difficult to evaluate the increasing demands for information and education services, but it is evident that demands are multiplying.

Education work with the school children is a major responsibility. Along this line, 121 programs were presented to youth groups totalling nearly 5200 youngsters. This included school programs, scout programs, and summer camps. Included in this number were Hunter Safety courses which have been taught to about 70 per cent of the seventh-grade students each of the two years. In each of these classes a minimum of four hours was presented with one portion devoted to wildlife conservation.

Contact with the adult portion of the population comes largely through attendance at meetings. Approximately 145 meetings were attended and reports, or programs, presented. About 2,000 adults were contacted through formal presentations. In addition, 128 films were loaned from the regional office library.

Exhibits were erected for 15 separate activities. The largest of these was a wildlife exhibit for the National Girl Scout Roundup. About 32,000 people viewed this during the 10-day roundup. Thirty-six vertebrate species were exhibited in a natural woodland setting with paths winding between the trees, cages and ponds so that all animals were attractively shown. Six senior girl scouts were trained to assist in answering questions and passing out the thousands of leaflets. Wildlife exhibits placed at county fairs in cooperation with the U. S. Fish and Wildlife Service continue to be the principal attraction at the fairs. Information for annual conservation essay contests, was disseminated at local teachers' institutes. Other displays were placed at sportsmen's jamborees, at local celebrations, and at conventions.

Seventy-five news releases and special features were written and distributed throughout the region. Most releases were mailed to twelve newspapers in the Inland Empire. Two articles were written for the Idaho Wildlife Review.

A radio program was begun near the end of the biennium and six radio programs were prepared. Other duties included taking photos on slides, black and white prints, and movie footage for subsequent use in informing and educating the public. Assistance was also given to personnel from other divisions on numerous occasions.

### Clearwater

Following assignment of a field man to the Panhandle Region during the previous biennium, the I & E man stationed at Lewiston has been able to intensify his efforts within the five-county Region. Working closely with the public, the Lewiston man contacted some 2900 persons in 121 meetings of sportsmen's clubs, civic and professional organiza-

tions. Talks, slide lectures, and film showings were presented at nearly two-thirds of the meetings attended, and questions were answered and comments made at many of the others.

Demonstrations, talks, slide lectures and movies dealing with wildlife and conservation were presented to 2100 boys and girls in schools, summer camps and youth organizations. In addition, over 1800 youngsters were given three hours or more instruction in gun safety.

In all, 21 slide lectures and 92 motion picture showings were made. A total of 132 films were loaned from the motion picture library maintained at the Lewiston regional office.

Three exhibits were placed at Nez Perce and Clearwater county fairs with live wild animals and automatic slide projection as main attractions. Six other displays were set up at conventions and meetings. Included were the annual Teachers' Institute sessions at which the Department is able to make information and teaching aids available to individual teachers.

Twenty-eight separate news releases were prepared and distributed to newspapers, radio and television within the region for a total of 59 shots. Department activities and related conservation subjects were photographed in black and white and color stills, and movies. Films were submitted to photo files and film footage reserves in headquarters office. Photos were made available to local newspapers.

### SOUTHWESTERN IDAHO

Division personnel in southwest Idaho made approximately 210 appearances before some 7500 adults at meetings of sportsmen's clubs, civic and other organizations. Film and slide presentations and talks were made before these groups on a variety of wildlife and conservation subjects.

About 95 programs were presented in school classes, summer camps and other youth groups, reaching some 9500 boys and girls. These presentations included "Career Day" discussions at several schools.

Reference materials and teaching aids including some 1200 "Conservation Charts" aids, were supplied to teachers at the annual Teachers' Institute. Announcements and materials were also provided to teachers at these meetings for participation in the annual Conservation Essay contests. These contests, sponsored by the Idaho Wildlife Federation, continued to receive a high rate of attention by Idaho youth, as nearly 1700 essays were entered from areas throughout the state. Essay subjects were "Wildlife Needs a Place to Live" in 1964, and "Fishing and its Recreational Importance in Idaho" in 1965. Prizes were awarded winners on local and state levels by sportsmen sponsoring the activity.

Continued emphasis was placed on gun safety training to maintain and improve the coverage in Idaho's "voluntary" program. This training is given to both boys and girls on the junior high level right in the school classroom. Ideally all Idaho youngsters receive the training.

rather than just those who wish to go hunting as several other states handle hunter safety programs. Over 6900 students, mostly seventh graders, received this training in southwestern Idaho. About two-thirds of the classes were instructed by I & E personnel while conservation officers and other Department personnel continue to become more active in this important work. Some courses are conducted by civic-minded sportsmen and other organizations.

Wildlife displays were again placed at the Western Idaho State Fair, attracting somewhere in the neighborhood of 125,000 persons total for the two years. Materials and equipment were also provided for use in a number of county fairs, and many small exhibits and displays were constructed and erected at conventions.

The Explorer Scout Post sponsored in Boise by the Idaho Fish and Game Department has become well established and has earned esteem for its activities and projects in wildlife conservation. Several of the boys already have, or intend to enter college as wildlife and conservation majors to prepare for careers in these fields. The group, Post 60 of the Mountain View Boy Scout Council, has been a great help to the Department, assisting at check stations, working on projects. One such project was the construction of an elk live trap in the Clearwater region of northern Idaho.

### MAGIC VALLEY

Activities of the I & E Division in the Magic Valley and Salmon Regions originated from Boise during the period July 1, 1964, to October 1, 1965. As of October 1, 1965 a Regional Conservation Educator was stationed in the Magic Valley Region at Twin Falls.

A display of conservation materials was set up at the Teachers' Institute at Burley in October 1965. These materials were made available to encourage high school student participation in essay contest writing with "Fishing in Idaho" as the theme.

Work was completed on assembling colored slide series on the life history of several wildlife species in Idaho, including sage grouse, ring-necked pheasant, mule deer, big horn sheep, fish identification, and salmon and steelhead. Other colored slide series on mountain survival, trapping, and tagging were also completed.

A comprehensive slide series on gun safety and wildlife identification for junior high school students was completed for the 1966 instruction year. This series was given to every 7th grader in the Magic and Salmon Regions in 1966. (2675 students). The program will be further refined and made available statewide in 1967.

Since October, 1965, the Magic Valley Educator has attended 90 meetings relating to outdoor activities (generally wildlife oriented). The nature of the meetings ranged from mountain survival for Girl Scouts, to presenting game management programs to organized sportsmen and civic groups. Sixty-two presentations were made at these meetings.

There were two familiarization trips made into the White Cloud Mountains and a colored slide series completed of the area.

There have been 18 newspaper releases made to area newspapers since October, 1965. Five special feature television appearances have been made at the Twin Falls station, KMVT. Thirty-two motion picture films have been loaned from the small film library at the Jerome office.

Since October, 1965, an extensive colored slide file is being accumulated on Department activities, properties, and wildlife areas in the Magic and Salmon Regions. Colored slide series on nearly every facet of wildlife management and conservation can now be assembled from this file to meet the needs of any program requirement.

### EASTERN IDAHO

The Regional Conservation Educator at Pocatello has duties related to information and education programs for the Department for all southeastern Idaho extending on to the Magic and Salmon Regions. In October, 1965, the area of responsibility was divided when a new Regional Educator was stationed in Jerome and took charge of Magic and Salmon regions.

The Regional Educator at Pocatello covers the Eastern and Upper Snake River Regions. The demand for public information continued to increase over the last biennium. A total of 461 information and education presentations were made during the biennium.

The Regional Educator in this area assisted by other department personnel and sportsmen groups presented firearm safety classes to 19,946 young people in the past two years. In the spring of 1966 added emphasis was put on Firearm Safety training and the major part was taken over by Conservation Officers. This made possible a better program for getting this important training to the youth of Idaho. Short talks and movies on gun handling have also been given to many sportsmen and other adult groups.

Educational work with youth in schools and summer camps has been at a high level with many presentations made in the school class rooms. Over 24,860 youngsters have been given these programs. In addition, a week each spring has been spent at Camp Alpine instructing at the University of Idaho Conservation Camp.

Many sportsmen meetings have been attended and programs given. Use of slide talks and movies have been used at most of the civic organizations in Eastern Idaho by invitation. The Regional Film library has had heavy use with 245 films loaned in the past two years.

An important part of the work is the exhibit and displays at Sportsmen Jamborees, County Fairs, window displays and live exhibits at the Eastern Idaho State Fair at Blackfoot. This biennium 40 displays have been used.

Television and radio programs are an important part of public con-

tact. During 1965 a regular weekly T.V. program was established over KIFI T.V. in Idaho Falls. In the past two years 65 television programs, 20 radio programs, 163 news releases and 17 special features have been given.

Two Fish and Game Speciality Explorer Posts have been organized in Eastern Idaho at Idaho Falls and Pocatello. These scouts meet once every two weeks to receive programs on Wildlife Conservation and other related subjects. Numerous field trips are taken where they assist the Department personnel and learn of Fish and Game activities.

Routine duties performed by the Regional Educator include working with other department personnel on enforcement patrol, checking stations, game and fish management. Visual aid work includes taking 16mm movie footage in black and white and color for T.V. programs and movie productions; photos for news releases, and picture displays, and color slides for slide talk series.

### COOPERATIVE FISHERY UNIT

The Idaho Cooperative Fishery Unit trains graduate students and conducts research. It is a part of the College of Forestry, Wildlife and Range Sciences, University of Idaho, and is sponsored by the Idaho Fish and Game Department, the University of Idaho, and the U. S. Bureau of Sport Fisheries and Wildlife.

At the end of the biennium the Unit was supervising research, and training of 3 doctorate and 6 master's candidates. These students studied problems of practical importance to the Idaho Fish and Game Department as well as of academic interest.

In this biennium the Fishery Unit conducted studies in several areas. Behavior of young salmon and steelhead was investigated in the upper Clearwater and Salmon Rivers to establish interactions within and between species and their physical environment. This work should be of assistance in management planning where salmon and steelhead may coexist. On the Snake River, distribution, movement and life history of smallmouth bass are being researched to provide data on effects of large impoundments on bass. The structure of warmwater fish populations in Round Lake was studied to provide suggestions for improving game fish abundance. Blood serum has been investigated in Snake River steelhead as a possible tool for separating races of fish. An analysis and summary is prepared for several years of data collection on effects of logging on cutthroat trout stocks.

These studies and others newly initiated are aimed at providing bases for management decisions. It must be through wedding of research and management that the fisheries of Idaho are maintained and improved for human benefit.

## Cooperative Wildlife Research Unit

During the biennium there were 8 research projects assigned to graduate students resulting in three master's degrees. Three projects are being worked on by students seeking the Ph.D. degree. The staff of the Cooperative Wildlife Research Unit remains unchanged.

There has been an increase in the College of Forestry, Wildlife and Range Sciences staff in related wildland management courses. These courses are available to graduate students and strengthen the curriculum in wildlife management.

**Mountain Quail:** Mountain quail in Idaho occur most frequently in brushy draws along the breaks of the Snake, Salmon and Clearwater Rivers. Seasonal movements are limited and no noticeable differences between summer and winter range were observed. Movements of mountain quail appear to be related to preferred foods. Free water is an essential part of mountain quail habitat.

Early maturing annuals such as chick weed, and blue-eyed-Mary are important spring foods. The underground bulblets of fringe cup is an important source of food in May and again in the late summer and early fall. Thistle seeds were commonly eaten in late August and in September. Mountain quail are associated largely with the brushy draws yet they range into the edge of ponderosa pine as 5 per cent of the fall diet was ponderosa pine seed in 1965. Population density is low and the hunting pressure is light.

**Mule Deer:** A second study of mule deer reproduction on the Cassia deer herd was completed during the biennium. Comparisons were made with the original reproductive study in 1952-53. The effect of the lower population has resulted in a sizable increase in reproduction, but the net productivity appears not to have changed significantly since 1952-53. The increase in reproduction indicates productivity should have improved had the effects of other factors remained constant. Ovulation rates and natality rates provide the best tools to compare reproductive capacity because the many factors affecting net production are subject to annual variations. Mule deer fawns may be expected to live an average of 2.86 years, and three year olds, 2.49 years.

**Mountain Lion:** Relatively little is known of the life history and ecology of the North American mountain lion. Intensive studies of the lion or cougar have not been undertaken largely because of the difficulty in working in the extremely rough terrain it inhabits, its secretive habits and the hazards involved in handling such a formidable animal.

A long term study was begun in the winter of 1964-65 in the Idaho Primitive Area principally in the Big Creek drainage and several smaller drainages in the Chamberlain Basin. The first winter one assistant was employed; the second winter three assistants were employed. Ten camps were established at strategic points and all stocked with food and equipment prior to the start of field work. During two winters

work, thirty-one lions have been individually captured, marked and released. During the two winters' work, 18 of 31 marked lions have been recaptured 36 times. Sixteen individual were recaptured 30 times during the second winter.

All lions were given intramuscular injections of an immobilizing drug, "Sernylan," which acts as a central nervous system depressant. The drug was administered by automatic propulsion syringes fired from a specially designed powder charge gun. Drugged animals usually remained in the tree. The investigator climbs to them and they are lowered on a rope for detailed inspection, measurements and marking.

Recaptured lions showed movements from one quarter of a mile, to nineteen miles. Fifty-eight per cent of the recaptures occurred from one to five miles from points of original capture. An adult male was reported killed approximately one hundred miles from the original capture sight.

Seven adult lions weighed 102 to 181 pounds and eight adult females weighed from 92 to 104 pounds.

This investigation is attempting to establish the ecological role of the mountain lion in a wilderness environment. Interpretation of the complex phenomenon of predation must await analysis of data collected over several seasons. No interpretations are being attempted at this stage of the investigation.

**White Tailed Deer:** A technique for aging white-tailed deer has been developed using root cement of incisors and in the cement pad of molars. A total of 122 molars have been sawed, polished, stained, and examined. Alternating light and dark bands indicative of age were found in 72 per cent of the molars examined. It appears that the growth lines are not consistently laid down in the cementum of the molars of white-tailed deer in many parts of their range. Samples were secured from 9 states within white-tail range from Florida to New Hampshire and west to Missouri.



## Business Administration

### Headquarters and Regional Office Improvements

Administrative improvements during the biennium are substantial. Along with the increased resource programs, the Department solidified its administrative foundation by building or renting office space in six of its eight regions.

Along with the changes in field assignments for regional office personnel, five regional office stenographers were hired. These stenographers took over much of the tedious typing and report tasks for fieldmen. As a result, increased attention was given to management and public relations problems. It is felt that considerable savings in time—and dollars—was a result of these personnel actions.

In addition, as the efficiency of the regional offices increased, additional services were provided to the local sportsmen. A few of these include issuance of duplicate licenses, duplicate controlled hunt permits, duplicate controlled hunt tags, original and duplicate goat, sheep and archery antelope tags, processing of old age applications, increased libraries of loan-out film, increased stocks of emergency regulations and information pamphlets—plus the added service of 8:00-5:00 business hours, five days a week.

Details of administrative improvements are as follows:

**Headquarters Office:** Dedication of the headquarters office on August 19, 1966 for a total contract price of \$349,902.02 fish and game fund dollars.

**Panhandle Region Office:** Dedication on August 24, 1964 for a total contract price of \$49,452.00, fifty percent of which the Department was reimbursed from Federal Accelerated Public Works monies. A stenographer-receptionist was placed in this office in March, 1965.

**Clearwater Region Office:** Dedicated on July 29, 1965 for a total contract price of \$63,142 fish and game fund dollars. A stenographer-receptionist was placed in this office on July 1, 1965.

**McCall Region Office:** Five hundred eighty square feet of office space was rented for the McCall Region office in October, 1965. Because of the size and budget limitations, a receptionist-stenographer was not provided for this office.

**Eastern Region Office:** Eight hundred forty square feet of office space, with use of joint restroom facilities, was rented in the Yellowstone Plaza for the Eastern Region office located at Pocatello in August, 1965. A stenographer-receptionist was placed in this office on January 1, 1966.

**Upper Snake River Region Office:** Six hundred square feet of office space, with joint use of meeting room and restrooms, was rented for the Upper Snake River Region office in the AFL-CIO Union Building in Idaho Falls in September, 1965. A stenographer-receptionist was placed in this office on July 1, 1966.

**Western Region Office:** The Western Region office continued to occupy space at the Garden City warehouse near the headquarters office.

**Magic Valley Region Office:** The Magic Valley Region office continued to occupy a converted residence on the Jerome Game Farm. Minor remodeling was started late in the biennium and a stenographer-receptionist was placed in this office on July 1, 1966.

**Salmon Region Office:** The Salmon Region office continued to occupy its combined office and shop facilities as constructed in the early part of 1961. The total cost of this building was \$54,552.01 and the Fish and Game Department was reimbursed 100 per cent for the construction by the Columbia River Fishery Development Program. Because of the size of this region and budget limitations, a stenographer-receptionist has not yet been programmed.

In conjunction with the improved office space, two quonset hut warehouses were transferred and set up to provide regional warehousing. Details of this can be found under the Construction and Maintenance report.

### Government Grants

A contract was entered into between the Idaho Fish and Game Department and the U.S. Army Corps of Engineers to study and determine the elk migration routes through the proposed Dworshak Dam Reservoir area. The \$12,900 grant was used during the biennium for Dworshak Dam elk tagging.

A cooperative agreement was entered into between the U.S. Forest Service and the Idaho Fish and Game Department. The 100% reimbursable grant for \$11,617 was used for the project plan to study and control the effects of spruce budworm application of malathion in the Salmon National Forest.

An agreement was entered into between the Bureau of Land Management and the Idaho Fish and Game Department for a cooperative study during the biennium on sage grouse nesting habits. A \$1,000 grant was provided the Department for this purpose.

### Federal Aid for Commercial Fisheries Research and Development

The Fish and Wildlife Act of 1956 established the U.S. Fish and Wildlife Service which consists of two operating units—the Bureau of Commercial Fisheries and the Bureau of Sport Fishing and Wildlife. As a result of this Act, a comprehensive National fisheries policy has been established.

On May 20, 1964, the Federal Aid for Commercial Fishery Research and Development Act was passed. The administration of this Act was given to the Bureau of Commercial Fisheries. The Commercial Fishery Research and Development Act will provide an opportunity for cooperation and coordination between the Federal Government and among the several states.

Projects submitted under this Act must be directed toward the economic improvement of the domestic commercial fishing industry. Such projects should ultimately improve the productivity of the fisher-

men or processor; expedite early diversification of an existing industry or the establishment of a new industry; or lead to the increased consumption of the domestic fishery product.

### Source of Funds

The Act will provide 100 percent grants or matching funds up to 75 percent of the project. Federal funds are appropriated from the General Fund to the Bureau of Commercial Fisheries. The Bureau, in turn, allocates and approves projects for the Idaho Fish and Game Department. The 25 percent State matching fund comes from the sale of hunting and fishing licenses in Idaho.

During the biennium, \$28,600 in grants for research was allocated the Idaho Fish and Game Department for projects within the State of Idaho. The following contracts were approved from the above grants:

|   | Fed. Funds  | State Funds | Total       |
|---|-------------|-------------|-------------|
| BCF-15 Downstream Migrant Studies.....    | \$ 5,500.00 | 0           | \$ 5,500.00 |
| BCF-16 Hells Canyon Fishway Planning..... | 3,500.00    | 0           | 3,500.00    |
| BCF-20 Downstream Migrant Studies.....    | 19,600.00   | 0           | 19,600.00   |
|   | \$28,600.00 | 0           | \$28,600.00 |

Also approved during the biennium was \$20,175 for development projects on a 75-25 percent matching ratio. The following projects were approved under this allotment:

|  | Fed. Funds  | State Funds | Total Project |
|--|-------------|-------------|---------------|
| BCF-10 Construction Hayden Cr. Pond..... | \$17,700.00 | \$5,900.00  | \$23,600.00   |
| BCF-11 Rearing Steelhead Trout.....      | 2,475.00    | 825.00      | 3,300.00      |
|  | \$20,175.00 | \$6,725.00  | \$26,900.00   |

### Land and Water Conservation Act

The purposes of this Act are to assist in preserving, developing and assuring accessibility to all citizens of the United States of America to present and future generations and visitors who are lawfully present within the boundaries of the United States of America such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable for individual active participation in such recreation and to strengthen the health and vitality of the citizens of the United States by (1) providing funds for and authorizing Federal assistance to the States in planning, acquisition, and development of needed land and water areas and facilities and (2) providing funds for the Federal acquisition and development of certain lands and other areas.

Federal funds are derived from:

- (1) User fees from Federal parks and recreation areas.
- (2) Sale of surplus Federal property.
- (3) Motor boat fuel tax (4c per gallon).

The State Parks Department is the agency of the State government delegated the responsibility for administering the provisions of this Act among State agencies, counties, cities, Soil Conservation Districts, and

other political subdivisions of State government, through the United States Bureau of Outdoor Recreation.

Federal monies are made available to the State for approved projects on a 50% Federal, 50% State matching basis.

During the Fiscal Year July 1, 1965 to June 30, 1966, the Fish and Game Department has sponsored two land acquisition projects. These projects have been approved by the State Parks Department and the U.S. Bureau of Outdoor Recreation and title to the land is now vested in the State of Idaho for the use and benefit of the Fish and Game Department.

| Idaho Projects  |  |          |               |             |             |
|---|--|----------|---------------|-------------|-------------|
| Fish and Game No.   | Name   | Acres    | Federal Funds | State Funds | Total       |
| 7-1-4-000-12  | Statewide Lake, Reservoir and Stream Access, Silver Creek .....    | 320      | \$36,000.00   | \$36,000.00 | \$72,000.00 |
| 7-1-4-000-13  | Boise River Elk and Deer Winter Range and Public Hunting Site..... | 1,011.96 | \$38,000.00   | \$38,000.00 | \$76,000.00 |
| Total Federal Funds obligated on Fish and Game Sponsored projects ..... |  |          | \$74,000.00   |             |             |

### Idaho Power Company Grants

The Idaho Power Company reimbursed the Department 100% for these expenditures during the biennium as partial compensation for Fish losses.

|                                    |                        |                    |
|------------------------------------|------------------------|--------------------|
| IPC-11 Oxbow Studies - - - - -     | 7/1/64 to 6/30/66..... | \$24,478.16        |
| IPC-13 Rapid River - - - - -       | 7/1/64 to 6/30/66..... | 40,542.82          |
| IPC-17 Rapid River - - - - -       | 4/1/65 to 6/30/66..... | 10,483.39          |
| IPC-20 Rearing Steelhead, Hagerman | 7/1/65 to 6/30/66..... | 13,096.47          |
|                                    |                        | <u>\$88,600.84</u> |

## CONSTRUCTION AND MAINTENANCE

The following projects summarize the activities of the Construction Section during the biennium July 1, 1964 through June 30, 1966:

### CAPITAL IMPROVEMENTS - HATCHERY

**Hayspur Hatchery:** New concrete raceways with pipelines, roads, etc.; new prefabricated residence; concrete fish loading slab; fish rearing lagoon outlet structure; asphalt surface on main entrance road.

**Hagerman Hatchery:** Asphalt surface on interior roads; concrete floors in one-third of raceway system.

**American Falls Hatchery:** Dripolator egg incubation installation; concrete floors in most of raceway system; concrete sidewalks and landings around trailerhouse residence.

**Grace Hatchery:** Four-stall steel vehicle storage building; new concrete head and tailrace flume, vehicle bridges, refrigeration equipment in natural ice storage room.

**Mackay Hatchery:** New all steel and concrete building.

**Sandpoint Hatchery:** Dripolator egg incubation installation.

**Clark Fork Hatchery:** New concrete raceway; two-stall with tool room vehicle storage building; water distribution system one side of hatchery building.

**Eagle Hatchery:** New visitors center and aquaria building.

**Ashton Hatchery:** Basement room in one dwelling.

### CAPITAL IMPROVEMENTS - FISH MANAGEMENT

Building flood protection dike Kamiah distribution ponds; rebuilt and remodeled North Fork Salmon experimental channel; preliminary work Rochat Creek cutthroat rearing channel; proposed Marsh Creek fish counting weir; Alturas Lake fish counting weir.

### CAPITAL IMPROVEMENTS - COLUMBIA RIVER PROGRAM

Continued fish screen construction - 219 now in operation.

### CAPITAL IMPROVEMENTS - BUREAU OF COMMERCIAL FISHERIES PROGRAM

Completed surveys and plans for Hayden Creek salmon rearing station.

### CAPITAL IMPROVEMENTS - WILDLIFE MANAGEMENT AREAS

**Market Lake:** Steel combination office, shop, four-stall storage building; assist area personnel in construction of two-mile dike.

**Fort Boise:** Steel combination office shop, four-stall storage building; rebuild Snake River ferry crossing; rip-rap Payette River bank on Keefer segment; install irrigation pump on Keefer segment; gravel road surface on Fort Boise segment; gravel road surface on Salterback segment.

**Boundary County:** Construct new earthfill dam.

**Sand Creek:** Furnish sanitary facilities on area public access grounds; assisted refuge personnel in rip-rapping dike system.

**C. J. Strike:** Assist refuge personnel in dike remodeling.

### CAPITAL IMPROVEMENTS - GENERAL

State headquarters office in Boise; regional office at Lewiston; regional shop, laboratory, storage building at Lewiston; remodel inside one building at Jerome regional office; conservation officer's dwelling at Stanley; asphalt surface at Garden City warehouse; depredation panels - 1,500 at Salmon shop; extensive survey at Box Canyon on Snake River for hatchery feasibility; Rochat survey and rearing pond feasibility study; survey and plans for salmon rearing ponds at Hayden Creek on Lemhi River; property line locations on acquired game range on Upper Boise River; public access survey and plans at Mission Point on St. Joe River; public access road survey at Swan Falls on Snake River; property line meander survey for property sale at Shepherd Lake; west side property line location on Boundary County Wildlife Management area; minor surveys in connection with all properties and operation.

### MAINTENANCE PROJECTS - GENERAL

**Hayspur Hatchery:** Moved three-stall garage onto new foundation, added new doors; maintenance work on domestic water line and small raceways; road maintenance on interior roads.

**Hagerman Hatchery:** Repairs to central domestic water supply line; duplex dwelling insulated throughout and refinished; superintendent's dwelling insulated throughout and refinished.

**American Falls Hatchery:** Cabinet and floor maintenance three dwellings; plywood ceilings installed in two storage garages; demolition of defunct circular concrete rearing ponds; maintenance to gravel access roads.

**Mackay Hatchery:** Cabinet and floor maintenance in two dwellings; road training ditch and sewer system maintenance.

**Grace Hatchery:** Exterior foundation perimeter drain system one dwelling.

**Sandpoint Hatchery:** Maintenance work to pipeline trestle; re-roof garage and cold storage buildings; remodel rear entry shelter roof on one dwelling.

**Clark Fork Hatchery:** Remodel and add to sewage disposal systems in two dwellings.

**McCall Hatchery:** Demolish unused and defunct concrete raceway; maintain hatchery drain line.

**Eagle Hatchery:** Repair and insulate under floor area one dwelling; replace above ground wiring with underground system.

**Fort Boise (PR Project):** Rebuilt irrigation canal, road maintenance on all interior roads.

Upper Boise River (PR Project): McDonald Ranch road maintenance; renew fire guards — Mores Creek segment; remove flood damaged quonset storage building; repairs to Mores Creek checking station.

North Lake (PR Project): Renewed sewage disposal system at headquarters; installed new door on headquarters garage.

Statewide: Re-roofed two buildings with galvanized metal at Macks Inn; re-roofed two buildings with galvanized metal at Clarkia patrol cabin site; electrical wiring at Elk River patrol cabin; subdivided Pocatello regional warehouse building; renovated lighting system at McCall regional office; replaced furnace in superintendent's dwelling at Jerome Game Farm; repaired flood damage to spillway at Dog Creek Dam; maintained and serviced 219 fish screens in the Salmon River drainage.

#### PAINTING — STATEWIDE:

Hagerman Hatchery—outside all hatchery and refuge buildings; inside old farm house dwelling. American Falls Hatchery—outside all hatchery buildings. Grace Hatchery—inside of one dwelling. Sandpoint Hatchery—outside hatchery building only. Eagle Hatchery—outside all buildings. Warm River Hatchery—inside of water damaged building; inside of hatchery building. McCall Hatchery—inside of hatchery building. Market Lake (PR Project)—outside of manager's dwelling. Garden Valley—outside of officer's dwelling. Colson Creek—outside of Colson Creek cabin. North Fork Salmon—outside of officer's dwelling. Lowman—outside two buildings at Lowman patrol cabin. Kamiah—outside two buildings at Kamiah fish distribution station. Yellowpine—outside officer's trailer house shelter. Bear Valley—inside patrol cabin.

### ACCELERATED PUBLIC WORKS

July 1, 1964 through June 30, 1966

Through the Public Works Acceleration Act of 1962, funds were made available to the Fish and Game Department, through the Department of Interior, to promote fish and wildlife restoration projects. Federal monies were made available to the State on a 50 per cent Federal, 50 per cent State matching basis.

There were no new projects approved during the biennium, although work was completed on four public access development projects as itemized below:

| Project No.  | Name                      | Active Dates     |
|--------------|---------------------------|------------------|
| APW FW 2-D-3 | Hayden Lake               | 6/ 1/63—6/30/65  |
| APW F 1-D-1  | St. Maries River          | 6/ 1/63—6/30/65  |
| APW F 2-D-1  | Garfield Bay              | 6/27/63—9/30/65  |
| APW F 4-D-1  | Bonner Lake & Moyie River | 10/15/63—9/30/65 |

### PUBLIC ACCESS AREAS DEVELOPED

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

| Site                             | 1965<br>Type of Improvement   |
|----------------------------------|---|
| American Falls Dam (below)       | Sanitary Facilities   |
| Bell Rapids                      | Surveying, Fencing, Surface Road  |
| Big Lost River                   | Brick Sanitary Facilities, Access Road, Parking Area, Grass Seeding, Rose and Willow Eradication, Well for Culinary Water, Clearing Camping Sites, Litter Barrels, Sign |
| Chesterfield Reservoir           | Cattleguard   |
| Ferry Butte                      | Road, Fencing, Sanitary Facilities, Ramp, Check Station   |
| Henry's Lake                     | Brick Sanitary Facilities   |
| Henry's Lake                     | Road and Cattleguards (Cooperation with Fremont Co.)  |
| Herrick Reservoir                | Sanitary Facilities, Litter Barrels, Grading and Signs  |
| Horseshoe Bend Millpond          | Sanitary Facilities, Clean-up   |
| Magic Reservoir (5 sites)        | 6 Sanitary Facilities, Grade Road, Install Culvert, Gravel, Signs   |
| Medicine Lodge                   | Cattleguards  |
| Roseworth Reservoir              | Ramp Blocks (Cooperation with Twin Falls Co.)   |
| Three Island Crossing            | Fencing, Grade Access Road  |
| Treasureton Reservoir            | Cattleguard   |
| Tuana Gulch                      | Eridge, Road, Ramp, Parking Area  |
|                                  | <b>1966</b>   |
| Blackfoot Reservoir (four sites) | 7 Sanitary Facilities, Ramps, Roads, Signs  |
| Blackfoot River                  | Sanitary Facilities and Litter Barrels  |
| Bear River                       | Sanitary Facilities, Fence, Gravel Parking, Surveying   |
| Camas Reservoir                  | Sanitary Facilities   |
| Huckleberry - St. Joe River      | Sanitary Facilities   |
| Mary's Mine - Snake River        | Ramp, Gravel Road, Sanitary Facilities  |
| Mormon Reservoir                 | Sanitary Facilities   |
| Murtaugh Lake                    | Gravel Road, Cattleguards, Fence, Culverts, Signs   |
| Pipeline Access - Snake River    | Sanitary Facilities, Ramp, Parking Area, Signs, Litter Barrels  |
| Placer Mine - Snake River        | Gravel Road, Cattleguards   |
| Priest Lake                      | Ramp, Surveying   |
| Salmon River - Chivers Slough    | Road, Culverts, Sign, Cattleguards  |
| Salmon River - Ellis (East)      | Bridge, Sanitary Facilities, Clearing, Fence, Litter Barrels, Surveying   |
| Salmon River - Salmon City       | Ramp  |
| Shepherd Lake                    | Two Docks   |
| Waha Lake                        | Sanitary Facilities   |

## LAND TRANSACTIONS

The following is a summary of land transactions conducted by the Department during the biennium of July 1, 1964 through June 30, 1966. These land transactions were conducted to promote efficiency in operations and management of State wildlife resources and to provide for continuance of public access to the public lands and waters of the State. Lands held by the Department and considered surplus to Department needs in management and to public needs in the harvest of wildlife or surplus to public needs for access to the wildlife resources were disposed of in accordance with the provisions of State law.

### LAND PURCHASED:

| Name of Site                           | County     | No. of Acres | Consideration        |
|--|------------|--------------|----------------------|
| Magic Reservoir Access                 | Blaine     | 93.00        | \$ 6,500.00          |
| Ferry Butte, Snake R. Access           | Bingham    | 1.21         | 1,230.00             |
| Murtaugh Lake Access                   | Twin Falls | 20.05        | 4,000.00             |
| Twin Lakes Access                      | Kootenai   | 40           | 2,000.00             |
| Hauser Lake                            | Kootenai   | 30.00        | 12,000.00            |
| Three Island Crossing-Snake River      | Elmore     | 2.64         | Floyd A. Wise Gift   |
| Bell Rapids-Snake River                | Gooding    | 3.00         | 5,000.00             |
| Silver Creek Addition*                 | Blaine     | 320.00       | 72,000.00            |
| Boundary Co. Mgmt. Area Addition       | Boundary   | 12.12        | 1,250.00             |
| Boundary Co. Mgmt. Area Addition       | Boundary   | 80.00        | 10,000.00            |
| Fort Boise Management Area             | Payette    | 291.82       | 38,000.00            |
| Killarney Lake                         | Kootenai   | 363.90       | Am. Game Assoc. Gift |
| Medicine Lake Access                   | Kootenai   | 80.00        | 6,000.00             |
| Mormon Reservoir                       | Camas      | 40.00        | 5,000.00             |
| North Lake Management Area**           | Jefferson  | 320.00       | 16,000.00            |
| Marsing Access, Snake River            | Owyhee     | 52.50        | 8,000.00             |
| Teton River Access                     | Teton      | 278.69       | 27,900.00            |
| Horsethief Basin Dam Site              | Valley     | 452.40       | Land Exchange        |
| Boise River Elk and Deer Winter Range  | Ada        | 2,105.20     | 157,780.00           |
| Boise River Elk and Deer Winter Range* | Ada        | 1,011.96     | 75,897.00            |

### EASEMENTS:

|                                  |                |       |          |
|----------------------------------|----------------|-------|----------|
| Ellis-Salmon R. Rd. Right-of-way | Custer & Lemhi | 11.50 | 2,300.00 |
|----------------------------------|----------------|-------|----------|

\*Eligible to participate as Bureau of Outdoor Recreation Project.  
 \*\*Subsequently approved as a Pittman-Robertson Federal Aid Project.

### USE PERMITS:

| Name of Site                  | Agency              | County        | No. of Acres  | Fee      |
|-------------------------------|---------------------|---------------|---------------|----------|
| Running Creek Rch.            |                     |               |               |          |
| Hatch. Channel                | Running Cr. Rch.    | Idaho         | 2.00          |          |
| Blackfoot Reservoir           | B. I. A.            | Caribou       | 5.00          |          |
| Blackfoot Reservoir           | Land Dept.          | Bingham       | 5.00          |          |
| Snowbank Mtn.                 | Boise Nat. Forest   | Valley        | .50           |          |
| Orogrande Hatching Channel    | Nez Perce Nat. For. | Idaho         | 1.00          |          |
| Selway Lodge Hatching Channel | Nez Perce Nat. For. | Idaho         | 1.00          |          |
| Mormon Reservoir              | B. L. M.            | Camas         | ¾ mi. rd. r/w |          |
| Black Canyon, Bear River      | Utah Pwr. & Light   | Caribou       | 0.28          |          |
| Gem State Power Site          | Utah Pwr. & Light   | Bonneville    | 19.70         |          |
| Snake River Access            | Bu. of Reclam.      | Power, Cassia |               |          |
| Little Camas Reservoir        | Land Dept.          | Minidoka      | 986.55        |          |
| Decker Flats                  |                     | Elmore        | 5.00          |          |
| Rearing Pond                  | Land Dept.          | Custer        | 35.05         | \$ 10.00 |
| Minidoka Ponds                | Highway Dept.       | Minidoka      | 92.34         |          |

### LEASED LANDS:

|                               |        |          |        |                     |
|-------------------------------|--------|----------|--------|---------------------|
| Williams Cr. Rd.-Salmon River | B.L.M. | Lemhi    | 8.30   | )                   |
| Am. Falls-Snake River         | B.L.M. | Power    | 127.40 | )                   |
| Wiregrass Reservoir           | B.L.M. | Bannock  | 40.00  | ) \$ 55.25          |
| Twin Lakes Reservoir          | B.L.M. | Franklin | 20.00  | )                   |
| Boise River Access            | B.L.M. | Ada      | 24.55  | )                   |
| <b>Total Expenditure</b>      |        |          |        | <b>\$450,922.25</b> |

### SURPLUS LANDS:

| Name of Site               | County   | No. of Acres | Value       |
|----------------------------|--|--------------|-------------|
| Deary C. O. Site           | Latah  | .52          | \$ 5,100.00 |
| Caldwell Pond              | Canyon   | 40.00        | 9,600.00    |
| Boise River Winter Range   | Boise  | 3.61         | 500.00      |
| Grangeville Refuge         | Idaho  | 20.00        | 2,320.00    |
| Pocatello Elk Refuge       | Power  | 160.00       | 8,000.00    |
| Bonner Lake                | Boundary   | 20.00        | 1,900.00    |
| Billingsley Creek          | Gooding  | 8.31         | 500.00      |
| Valley Co. Game Mgmt. Area | Valley   | 520.00       | exchange    |
| Fernwood Rearing Ponds     | Benewah  | 147.63       | 6,000.00    |
| Farragut                   | Relinquished 2,566.20 acres to State Parks Department through the Offices of the General Services Administration, U. S. Government, and the Governor's Office, State of Idaho. |              |             |

## COLUMBIA RIVER FISHERY DEVELOPMENT PROGRAM

In 1957 the Fish and Game Department participated for the first time in the Columbia River Fishery Development Program. This was a program designed to restore the fishery resource in the Columbia River and its tributaries. Funds were appropriated by Congress in 100 per cent grants in an effort to restore losses caused by dams constructed in the Columbia River. To date, through fiscal year 1966, the Department has received a total of \$2,616,691.42 for fishery development programs, \$361,286.32 for special operational study programs and \$256,446.67 for operation and maintenance of projects constructed with development funds.

The grant allotted for the current biennium for fishery development programs was \$1,265,194.73. The following projects were approved from this allotment:

|        |   |                |
|--------|---|----------------|
| CRP-23 | Revision Fishways, Lewiston Dam .....           | \$ 175,000.00  |
| CRP-24 | Selway Falls Fishway .....                      | 832,408.79     |
| CRP-26 | Screening Irrigation Diversions .....           | 73,751.43      |
| CRP-28 | Screening Irrigation Diversions .....           | 63,024.38      |
| CRP-29 | Investigation Flood Damage .....                | 7,000.00       |
| CRP-31 | Screen Const. & Installation .....              | 88,224.19      |
| CRP-32 | Hatching Channel Repair & Const. ....           | 10,000.00      |
| CRP-35 | Stream Clearance & Minor Falls Correction ..... | 15,785.94      |
|        |   | <hr/>          |
|        |   | \$1,265,194.73 |

The grant allotted for the biennium for operational studies programs was \$95,490.00. The following projects were approved from this allotment:

|             |  |              |
|-------------|--|--------------|
| CRP-OS-1-13 | Introduction & Reintroduction of Salmon & Steelhead in Clw. River Drainage ..... | \$ 31,490.00 |
| CRP-OS-2-13 | Steelhead Reintroduction .....   | 20,000.00    |
| CRP-OS-3-13 | Fall Chinook Introduction .....  | 2,000.00     |
| CRP-OS-4-13 | Silver Salmon Introduction .....   | 2,000.00     |
| CRP-OS-1-14 | Reintroduction Spring & Summer Chinook, Selway/Clearwater River .....            | 23,000.00    |
| CRP-OS-2-14 | Steelhead Reintroduction .....   | 11,000.00    |
| CRP-OS-3-14 | Fall Chinook .....   | 3,000.00     |
| CRP-OS-4-14 | Silver Salmon Introduction .....   | 3,000.00     |
|             |  | <hr/>        |
|             |  | \$ 95,490.00 |

The grant allotted for the biennium for operation and maintenance was \$101,707.02. The following projects were approved from this allotment:

|        |   |               |
|--------|---|---------------|
| CRP-27 | Operation & Maint. of Screens .....                 | \$ 44,707.02  |
| CRP-30 | Operation & Maint. of Screens .....                 | 47,000.00     |
| CRP-33 | Operation & Maint. of Screens—Dagger Falls .....    | 5,000.00      |
| CRP-34 | Operation & Maint. of Fish Count—Lewiston Dam ..... | 5,000.00      |
|        |   | <hr/>         |
|        |   | \$ 101,707.02 |

## FEDERAL AID IN FISH AND WILDLIFE RESTORATION

### Wildlife Restoration

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

During the biennium July 1, 1964 to June 30, 1966, Idaho received allocations of Federal funds totaling \$689,282.50.

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

### Federal Aid in Wildlife Restoration Projects Approved July 1, 1964 to June 30, 1966

| Project No.                  | Name of Project  | Estimated Costs |              |              |
|------------------------------|--|-----------------|--------------|--------------|
|                              |  | Federal         | State        | Total        |
| FW 40-C-25                   | Fish and Wildlife Coordination .....                           | \$ 18,834.00    | \$ 6,278.00  | \$ 25,112.00 |
| FW 40-C-26                   | Fish and Wildlife Coordination .....                           | 17,497.50       | 5,832.50     | 23,330.00    |
|                              | Total Coordination .....                                       | \$ 36,331.50    | \$ 12,110.50 | \$ 48,442.00 |
| <b>Development Projects:</b> |  |                 |              |              |
| FW 2-D-12                    | C. J. Strike Wildlife Management Area, Amendmt. Increase ..... | \$ 4,800.00     | \$ 1,600.00  | \$ 6,400.00  |
| FW 2-D-13                    | C. J. Strike Wildlife Management Area                          | 13,050.00       | 4,350.00     | 17,400.00    |
| FW 2-D-14                    | Snake River Wildlife Management Area                           | 19,725.00       | 6,575.00     | 26,300.00    |
| W 36-D-15                    | Hagerman Wildl. Mgmt. Area, Amendmt Increase .....             | 4,275.00        | 1,425.00     | 5,700.00     |
| W 36-D-16                    | Hagerman Wildlife Management Area                              | 9,075.00        | 3,025.00     | 12,100.00    |
| W 55-D-17                    | North Lake Wildl. Mgmt. Area, Amendmt Increase .....           | 5,325.00        | 1,775.00     | 7,100.00     |
| W 55-D-18                    | North Lake Wildlife Management Area                            | 20,475.00       | 6,825.00     | 27,300.00    |
| W 55-D-19                    | North Lake Wildlife Management Area                            | 17,025.00       | 5,675.00     | 22,700.00    |
| W 60-D-13                    | Boundary County Wildl. Mgmt. Area, Amendmt Increase .....      | 1,050.00        | 350.00       | 1,400.00     |
| W 64-D-13                    | Boise River Wildl. Mgmt. Area, Amendmt Increase .....          | 6,120.00        | 2,040.00     | 8,160.00     |
| W 64-D-14                    | Boise River Wildlife Management Area                           | 5,250.00        | 1,750.00     | 7,000.00     |
| W 64-D-15                    | Boise River Wildlife Management Area, Fencing Segment .....    | 9,975.00        | 3,325.00     | 13,300.00    |
| W 64-D-16                    | Boise River Wildlife Management Area                           | 18,000.00       | 6,000.00     | 24,000.00    |
| W 75-D-12                    | Trapping, Tagging and Transplanting .....                      | 11,625.00       | 3,875.00     | 15,500.00    |
| W 75-D-13                    | Trapping, Tagging and Transplanting .....                      | 14,250.00       | 4,750.00     | 19,000.00    |
| W 75-D-14                    | Trapping, Tagging and Transplanting .....                      | 12,525.00       | 4,175.00     | 16,700.00    |
| W 80-D-17                    | Game Habitat Improvement, Amendmt Increase .....               | 15,450.00       | 5,150.00     | 20,600.00    |
| W 80-D-18                    | Game Habitat Improvement .....                                 | 41,250.00       | 13,750.00    | 55,000.00    |
| W 80-D-19                    | Game Habitat Improvement .....                                 | 43,950.00       | 14,650.00    | 58,600.00    |
| W 89-D-14                    | Sand Creek Wildl. Mgmt. Area, Amendmt Increase .....           | 4,800.00        | 1,600.00     | 6,400.00     |
| W 89-D-15                    | Sand Creek Wildlife Management Area                            | 29,250.00       | 9,750.00     | 39,000.00    |
| W 89-D-16                    | Sand Creek Wildl. Mgmt. Area, Amendmt Increase .....           | 3,750.00        | 1,250.00     | 5,000.00     |
| W 116-D-8                    | Market Lake Wildlife Management Area                           | 20,700.00       | 6,900.00     | 27,600.00    |
| W 116-D-9                    | Market Lake Wildl. Mgmt. Area, Amendmt Increase .....          | 9,030.00        | 3,010.00     | 12,040.00    |
| W 116-D-10                   | Market Lake Wildlife Management Area                           | 18,525.00       | 6,175.00     | 24,700.00    |
| W 123-D-6                    | Market Lake Wildlife Management Area                           | 22,500.00       | 7,500.00     | 30,000.00    |
| W 123-D-7                    | Snow Removal .....   | 2,100.00        | 700.00       | 2,800.00     |
| W 123-D-8                    | Snow Removal .....   | 2,925.00        | 975.00       | 3,900.00     |
| W 124-D-6                    | Snow Removal .....   | 2,925.00        | 975.00       | 3,900.00     |
| W 124-D-7                    | Fort Boise Wildl. Mgmt. Area, Amendmt Increase .....           | 6,375.00        | 2,125.00     | 8,500.00     |
| W 124-D-8                    | Fort Boise Wildlife Management Area                            | 15,975.00       | 5,325.00     | 21,300.00    |
| W 126-D-7                    | Fort Boise Wildlife Management Area                            | 23,700.00       | 7,900.00     | 31,600.00    |
|                              | Albeni Falls Wildl. Mgmt. Area, Amendmt Increase .....         | 666.00          | 222.00       | 888.00       |

| Project No.                | Name of Project   | Federal      | State        | Total        |
|----------------------------|---|--------------|--------------|--------------|
| W 128-D-4                  | Carey Lake Wildl. Mgmt. Area, Amendment Increase  | 1,620.00     | 540.00       | 2,160.00     |
| W 128-D-5                  | Carey Lake Wildlife Management Area   | 2,100.00     | 700.00       | 2,800.00     |
| W 130-D-5                  | Statewide Public Hunting Access Sites, Snake River-Walters Ferry Segm. Amendment Increase | 900.00       | 300.00       | 1,200.00     |
| W 135-D-1                  | Panhandle Wildlife Management Areas   | 27,000.00    | 9,000.00     | 36,000.00    |
| W 135-D-2                  | Panhandle Wildl. Mgmt. Area, Boundary Co. Dam Segment                                     | 57,750.00    | 19,250.00    | 77,000.00    |
| W 135-D-3                  | Panhandle Wildlife Management Areas   | 23,700.00    | 7,900.00     | 31,600.00    |
| W 136-D-1                  | Fire Protection   | 1,050.00     | 350.00       | 1,400.00     |
| W 136-D-2                  | Fire Protection   | 1,050.00     | 350.00       | 1,400.00     |
| Total Development Projects |   | \$551,586.00 | \$183,862.00 | \$735,448.00 |

**Research Projects:**

|                         |   |              |              |              |
|-------------------------|---|--------------|--------------|--------------|
| W 85-R-16               | Big Game Surveys & Investigations, Amendment Increase | \$ 10,500.00 | \$ 3,500.00  | \$ 14,000.00 |
| W 85-R-17               | Big Game Surveys & Investigations                     | 115,125.00   | 38,375.00    | 153,500.00   |
| W 85-R-18               | Big Game Surveys & Investigations                     | 111,975.00   | 37,325.00    | 149,300.00   |
| W 111-R-13              | Rehabilitation & Management of Deer Winter Ranges     | 9,150.00     | 3,050.00     | 12,200.00    |
| W 111-R-14              | Rehabilitation & Management of Deer Winter Ranges     | 9,150.00     | 3,050.00     | 12,200.00    |
| W 125-R-6               | Sage Grouse Investigations                            | 13,005.00    | 4,335.00     | 17,340.00    |
| Total Research Projects |   | \$268,905.00 | \$ 89,635.00 | \$358,540.00 |

**Land Acquisition Projects:**

|           |                 |              |             |              |
|-----------|-----------------|--------------|-------------|--------------|
| W 24-L-11 | North Lake Land | \$ 12,000.00 | \$ 4,000.00 | \$ 16,000.00 |
|-----------|-----------------|--------------|-------------|--------------|

**Summary of Approved Projects**

| Classification            | Federal      | State        | Total          | Percent of Total |
|---------------------------|--------------|--------------|----------------|------------------|
| Coordination              | \$ 36,331.50 | \$ 12,110.50 | \$ 48,442.00   | 4.18%            |
| Development Projects      | 551,586.00   | 183,862.00   | 735,448.00     | 63.49%           |
| Research Projects         | 268,905.00   | 89,635.00    | 358,540.00     | 30.95%           |
| Land Acquisition Projects | 12,000.00    | 4,000.00     | 16,000.00      | 1.38%            |
| Totals                    | \$868,822.50 | \$289,607.50 | \$1,158,430.00 | 100.00%          |

**FISH RESTORATION**

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

During the biennium July 1, 1964 to June 30, 1966, Idaho received allocations of Federal funds totaling \$230,812.95.

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

**Federal Aid in Fish Restoration Projects Approved**

During Biennium July 1, 1964 to June 30, 1966

| Project No.        | Name of Project                      | Estimated Costs |             |              |
|--------------------|--------------------------------------|-----------------|-------------|--------------|
|                    |                                      | Federal         | State       | Total        |
| FW 40-C-25         | Fish and Wildlife Mgmt. Coordination | \$ 6,966.00     | \$ 2,322.00 | \$ 9,288.00  |
| FW 40-C-26         | Fish and Wildlife Mgmt. Coordination | 5,227.50        | 1,742.50    | 6,970.00     |
| Total Coordination |                                      | \$ 12,193.50    | \$ 4,064.50 | \$ 16,258.00 |

**Development Projects:**

|                            |  |              |              |              |
|----------------------------|--|--------------|--------------|--------------|
| F 28-D-3                   | Mountain Lakes   | \$ 13,650.00 | \$ 4,550.00  | \$ 18,200.00 |
| F 45-D-15                  | Statewide Public Fishing Access Sites, Bliss Reservoir-Tauna Gulch Segment | 6,375.00     | 2,125.00     | 8,500.00     |
| F 52-D-1                   | Lemhi River Trapping Facilities  | 13,575.00    | 4,525.00     | 18,100.00    |
| F 54-D-1                   | Horsethief Lake  | 77,625.00    | 25,875.00    | 103,500.00   |
| Total Development Projects |  | \$111,225.00 | \$ 37,075.00 | \$148,300.00 |

**Research Projects:**

|                         |  |              |              |              |
|-------------------------|--|--------------|--------------|--------------|
| F 18-R-11               | Statewide Fishing Harvest Survey   | \$ 4,350.00  | \$ 1,450.00  | \$ 5,800.00  |
| F 18-R-12               | Statewide Fishing Harvest Survey   | 4,350.00     | 1,450.00     | 5,800.00     |
| F 18-R-13               | Statewide Fishing Harvest Survey   | 4,350.00     | 1,450.00     | 5,800.00     |
| F 32-R-8                | Tests for Increasing Returns of Hatchery Trout   | 17,550.00    | 5,850.00     | 23,400.00    |
| F 32-R-9                | Tests for Increasing Returns of Hatchery Trout   | 19,500.00    | 6,500.00     | 26,000.00    |
| F 34-R-8                | Water Quality Investigations   | 10,875.00    | 3,625.00     | 14,500.00    |
| F 49-R-4                | Salmon and Steelhead Investigations  | 24,000.00    | 8,000.00     | 32,000.00    |
| F 49-R-4                | Salmon and Steelhead Investigations, Amendment Increase                                  | 3,000.00     | 1,000.00     | 4,000.00     |
| F 49-R-5                | Salmon and Steelhead Investigations  | 49,500.00    | 16,500.00    | 66,000.00    |
| F 51-R-2                | Anderson Ranch Reservoir-S. Fork Boise River Fishery Investigations - Amendment Increase | 2,250.00     | 750.00       | 3,000.00     |
| F 53-R-1                | Lake and Reservoir Investigations  | 28,500.00    | 9,500.00     | 38,000.00    |
| F 53-R-2                | Lake and Reservoir Investigations  | 49,500.00    | 16,500.00    | 66,000.00    |
| Total Research Projects |  | \$217,725.00 | \$ 72,575.00 | \$290,300.00 |

Land Acquisition Projects: None.

**Summary of Approved Projects**

| Classification            | Federal      | State        | Total        | Percent of Total |
|---------------------------|--------------|--------------|--------------|------------------|
| Coordination              | \$ 12,193.50 | \$ 4,064.50  | \$ 16,258.00 | 3.58%            |
| Development Projects      | 111,225.00   | 37,075.00    | 148,300.00   | 32.60%           |
| Research Projects         | 217,725.00   | 72,575.00    | 290,300.00   | 63.82%           |
| Land Acquisition Projects | -0-          | -0-          | -0-          | -0-              |
| Totals                    | \$341,143.50 | \$113,714.50 | \$454,858.00 | 100.00%          |

**Department Inventory**

June 30, 1966

|                                 |                       |
|---------------------------------|-----------------------|
| Highways and Waterways          | \$1,139,474.00        |
| Office Machines and Equipment   | 166,643.00            |
| Field Equipment                 | 53,876.00             |
| Engineering and Precision       | 186,837.00            |
| Hatchery, Farm and Construction | 259,921.00            |
| Household Goods                 | 17,287.00             |
| Lands                           | 2,310,315.00          |
| Buildings                       | 1,537,410.00          |
| <b>Total</b>                    | <b>\$5,671,763.00</b> |

## EXPENDITURES BY DIVISIONS

|                   | Total                  | Admin.                 | Enforc.                | Fish                   | Game                   | I & E                |
|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|
| Salaries & Wages  |                        |                        |                        |                        |                        |                      |
| Expenditures      | \$ 3,312,602.04        | \$ 412,507.96          | \$ 961,216.59          | \$ 1,086,775.85        | \$ 685,924.84          | \$ 166,176.80        |
| Travel            |                        |                        |                        |                        |                        |                      |
| Expenditures      | 193,621.23             | 37,456.23              | 49,640.54              | 68,215.33              | 31,752.64              | 6,556.49             |
| Operating Expense |                        |                        |                        |                        |                        |                      |
| Expenditures      | 2,126,103.92           | 154,380.46             | 333,401.47             | 1,012,881.13           | 509,045.35             | 116,395.51           |
| Capital Outlay    |                        |                        |                        |                        |                        |                      |
| Expenditures      | 2,340,554.05           | 874,119.34*            | 168,937.31             | 967,294.21             | 304,802.27             | 25,400.92            |
| Refunds           |                        |                        |                        |                        |                        |                      |
| Expenditures      | 1,173.30               | 1,173.30               |                        |                        |                        |                      |
| <b>Total</b>      | <b>\$ 7,974,054.54</b> | <b>\$ 1,479,637.29</b> | <b>\$ 1,513,195.91</b> | <b>\$ 3,135,166.52</b> | <b>\$ 1,531,525.10</b> | <b>\$ 314,529.72</b> |

\*Includes \$349,905.02 in new construction for headquarters office.

## Detail of Cash Receipts Fish and Game Fund No. 6

Biennium Ending June 30, 1966

|                                   | Number           | Amount                 |
|-----------------------------------|------------------|------------------------|
| Resident Hunting and Fishing      | 204,826          | \$ 1,167,508.20        |
| Resident Hunting                  | 127,988          | 364,651.80             |
| Resident Fishing                  | 140,251          | 532,963.80             |
| Salmon-Steelhead Cards            | 53,811           |                        |
| Non-resident Hunting and Fishing  | 14,224           | 1,351,280.00           |
| Non-resident Bird                 | 7,873            | 186,983.75             |
| Non-resident Season Fish          | 23,775           | 338,793.75             |
| Non-resident 5-Day Fish           | 53,159           | 252,505.25             |
| Tourist First-Day Fish            | 118,175          | 224,532.50             |
| Tourist Additional 1-Day Fish     | 72,024           | 68,422.80              |
| Non-resident Non-game             | 1,319            | 6,265.25               |
| Non-resident Deer-Bear            | 3,830            | 90,962.50              |
| Shipping Permits                  | 1,597            | 638.80                 |
| Deer Tags                         | 230,573          | 438,088.70             |
| Elk Tags                          | 112,348          | 320,191.80             |
| Extra Deer Tags                   | 28,324           | 53,815.60              |
| Middle Fork Deer Tags             | 3,624            | 6,885.60               |
| Non-resident Restricted Deer      | 3,166            | 6,015.40               |
| Beaver Tags                       | 10,402           | 4,941.18               |
| Commission Saved                  |                  | 6,348.17               |
| Resident Trapper                  | 1,288            | 6,440.00               |
| Commercial Fish                   | 447              | 4,470.00               |
| Resident Fur Buyer                | 59               | 295.00                 |
| Taxidermist                       | 49               | 500.00                 |
| Private Pond Permit               | 59               | 590.00                 |
| Game Bird Farm Permit             | 17               | 170.00                 |
| Non-resident Trapper              | 3                | 225.00                 |
| Non-resident Fur Buyer            | 5                | 100.00                 |
| Duplicate Licenses                | 4,161            | 4,161.00               |
| Deer Permits                      | 3,436            | 10,308.00              |
| Elk Permits                       | 5,573            | 27,865.00              |
| Moose Permits                     | 179              | 4,475.00               |
| Moose Tags                        | 179              | 1,790.00               |
| Sheep Permits                     | 10               | 250.00                 |
| Sheep Tags                        | 892              | 8,920.00               |
| Goat Permits                      | 387              | 1,935.00               |
| Goat Tags                         | 885              | 8,850.00               |
| Antelope Permits                  | 2,442            | 7,324.00               |
| Antelope Tags                     | 2,573            | 2,573.00               |
| Erroneous License Sales           |                  | 428.80                 |
| R.A.M. (Insuff. Checks)           |                  | 54.15                  |
| <b>Total Licenses and Permits</b> | <b>1,233,933</b> | <b>\$ 5,513,508.80</b> |
| Rentals                           |                  | \$ 34,679.36           |
| Fines and Confiscations           |                  | 30,936.37              |
| Miscellaneous Sales               |                  | 11,528.05              |
| Sale of Capital Assets            |                  | 34,922.91              |
| Insurance Adjustments             |                  | 1,598.22               |
| Refunds                           |                  | 37,055.35              |
| Sales Tax                         |                  | .11                    |
| <b>Total Receipts Fund No. 6</b>  |                  | <b>\$ 5,664,229.17</b> |



TOTAL FUND OPERATIONS - FUND 6

July 1, 1964 - June 30, 1966

|                           | F & G<br>Sect. 1 | Predator<br>Animal<br>Sect. 2 | Wildlife<br>Restoration<br>Sect. 3 | Fish<br>Restoration<br>Sect. 4 | Columbia<br>River<br>Sect. 5 | Special<br>Study<br>Sect. 6 | Accelerated<br>Pub. Wrks<br>Sect. 7 | Bldg. | Total          | Percent |
|---------------------------|------------------|-------------------------------|------------------------------------|--------------------------------|------------------------------|-----------------------------|-------------------------------------|-------|----------------|---------|
| Beginning Balance         |                  |                               |                                    |                                |                              |                             |                                     |       | \$1,546,223.98 |         |
| Revenue                   |                  |                               |                                    |                                |                              |                             |                                     |       |                |         |
| Licenses                  | 5,513,508.80     |                               | 589,954.99                         | 154,367.60                     | 888,310.50                   | 130,122.67                  | 81,842.43                           |       | 5,513,508.80   | 73.0%   |
| Matching Funds            |                  |                               | 32,386.57                          | 5,223.80                       | 26.40                        | 6,420.25                    |                                     |       | 1,844,597.59   | 24.4%   |
| Others                    | 150,720.37       |                               | 622,340.96                         | 159,591.40                     | 888,336.90                   | 136,542.92                  | 81,842.43                           |       | 1,947,777.39   | 2.6%    |
| Total Revenue             | 5,664,229.17     |                               |                                    |                                |                              |                             |                                     |       | 7,552,883.78   | 100.0%  |
| Department Transfers      |                  |                               |                                    |                                |                              |                             |                                     |       | 9,099,107.76   |         |
| Total Funds Available     |                  |                               |                                    |                                |                              |                             |                                     |       |                |         |
| Disbursements             |                  |                               |                                    |                                |                              |                             |                                     |       |                |         |
| Salaries & Wages          | 2,531,658.86     |                               | 381,274.79                         | 109,140.57                     | 196,251.39                   | 77,418.86                   | 16,857.57                           |       | 3,312,602.04   | 41.5%   |
| Travel                    | 148,231.74       |                               | 13,996.94                          | 5,977.88                       | 17,723.53                    | 4,983.38                    | 2,107.76                            |       | 193,631.23     | 2.4%    |
| Other Expense             | 1,496,605.29     | 50,000.00                     | 271,635.28                         | 61,109.45                      | 161,279.76                   | 52,232.38                   | 93,241.76                           |       | 2,126,103.92   | 26.7%   |
| Capital Outlay            | 1,053,810.66     |                               | 167,839.58                         | 4,877.67                       | 583,952.96                   | 620.56                      | 179,547.60                          |       | 2,340,554.05   | 29.3%   |
| Refunds                   | 1,173.30         |                               |                                    |                                |                              |                             |                                     |       | 1,173.30       | .1%     |
| Total Expense             | 5,231,479.85     | 50,000.00                     | 834,746.59                         | 181,105.57                     | 959,207.64                   | 135,255.18                  | 232,354.69                          |       | 7,974,054.54   | 100.0%  |
| State Transfers           |                  |                               |                                    |                                |                              |                             |                                     |       | 95,866.17      |         |
| Social Security           | 95,866.17        |                               |                                    |                                |                              |                             |                                     |       | 5,750.00       |         |
| Adm. Audit                | 5,750.00         |                               |                                    |                                |                              |                             |                                     |       | 36,699.07      |         |
| Adm. Charges              | 36,699.07        |                               |                                    |                                |                              |                             |                                     |       |                |         |
| Prior Bien. Canc. War.    |                  |                               |                                    |                                |                              |                             |                                     |       | 961.37         |         |
| Transfers                 | 961.37           |                               |                                    |                                |                              |                             |                                     |       | 139,276.61     |         |
| Total Transfers           |                  |                               |                                    |                                |                              |                             |                                     |       | 8,113,331.15   |         |
| Total Disbursements       |                  |                               |                                    |                                |                              |                             |                                     |       | 985,776.61     |         |
| Fund Balance              | 133,012.80       |                               | 14,695.75                          | 2,355.02                       | 2,549.26                     | 1,149.75                    | 738.00                              |       | 154,500.58     |         |
| Outstanding Orders        |                  |                               |                                    |                                |                              |                             |                                     |       |                |         |
| Unencumbered Fund Balance |                  |                               |                                    |                                |                              |                             |                                     |       | \$ 831,276.03  |         |

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Thirty-second Biennial Report

of the

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DEPARTMENT

of the

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