

**IDAHO DEPARTMENT OF FISH AND GAME**

**Virgil Moore, Director**

**Project W-170-R-34**

**Progress Report**



**BIG GAME HARVEST SURVEY**

Study IV, Job 1

July 1, 2010 to June 30, 2011

Prepared By:

Bruce Ackerman  
Wildlife Staff Biologist

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Boise, Idaho



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## PROGRESS REPORT SURVEYS AND INVENTORY

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Harvest Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-34</u>		
<b>SUBPROJECT:</b>	<u>8</u>	<b>STUDY NAME:</b>	<u>Hunter Attitude and Game</u>
<b>STUDY:</b>	<u>IV</u>		<u>Harvest Surveys and</u>
<b>JOB:</b>	<u>1</u>		<u>Inventories</u>
<b>PERIOD COVERED:</b> <u>July 1, 2010 to June 30, 2011</u>			

### ABSTRACT

Harvest estimates are made annually for all big game species in Idaho. Harvest of moose, mountain goats, bighorn sheep, black bears, mountain lions, and gray wolves is documented from mandatory carcass checks of all harvested animals. Deer, elk, and pronghorn harvest has been estimated from a mandatory report card from all hunters, with a follow-up telephone survey of a sample of hunters who failed to file the required report. The final figures (Appendix A) are estimates of hunter activity and harvest based on adjustments to the values reported by hunters. Surveys of hunters are also used to estimate hunter participation for most game species and to assess hunter's opinions about current issues about hunting and regulations in Idaho.

### INTRODUCTION

Prior to 1998, a telephone survey was conducted following the fall hunting season for all big game species (mule and white-tailed deer, elk, pronghorn, moose, bighorn sheep, mountain goats, black bears, and mountain lions).

Increasing costs of conducting the telephone harvest survey and budget limitations resulted in moose, mountain goats, and bighorn sheep being eliminated from the telephone harvest survey program in 1996. Black bears and mountain lions were eliminated from the telephone survey program in 1997 to maximize information collected on harvest of deer, elk, and pronghorn (Table 1). Subsequently, minimum 2010 harvest of moose, mountain goats, bighorn sheep, black bear, and mountain lion has been calculated from mandatory harvest check information (Table 2, Appendix A).

#### Deer, Elk, and Pronghorn Antelope

Beginning in 1998, the telephone surveys for deer and elk were changed to a mandatory harvest report. In 2001, hunters were required to file a report about their hunt and harvest success, whether or not they harvested. In 2001, pronghorn were also added to the harvest report. Hunters are required to report the number of days hunted, by weapon and game management unit (GMU), whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points (deer and elk) or horn length (pronghorn).

Results were tabulated for general, controlled, depredation, landowner appreciation and super hunts (586 different controlled hunts in 2010); by 99 game management units (GMUs); by 29 elk management zones; and by harvest weapon (rifle/shotgun, archery, muzzleloader). Starting in 2005, estimates for mule deer and white-tailed deer were estimated separately (tabulating the deer species primarily hunted for, the species harvested, days hunted, and weapon used). Harvest data from all years are stored in a large database.

Since 1998, Systems Consultants, Inc. (SCI) of Fallon, Nevada, had been contracted to receive and process the raw harvest reports for deer, elk, and pronghorn hunters. However in July 2010, we changed to Active Outdoors (Nashville, TN). Active Outdoors already processes all license and tag sales for IDFG, and offered to also process the hunter reports at no additional cost. This resulted in considerable savings, but also required considerable work to reprogram the hunter report forms for the web site and the automated phone system. Later, SCI was contracted in October 2010 just to receive incoming phone calls (24 hours, Oct. 2010 – Feb. 2011) and conduct the outgoing non-compliance phone survey. Data analysis and non-compliance surveys were delayed until late December by programming difficulties.

In 2010, hunters were able to submit their reports via mail, telephone, fax, or internet website. After June 2010, no printed report forms and return envelopes were handed out. Mail and fax responses were gradually phased out. An automated computerized telephone response system was added in August 2010.

In 2010, Active Outdoors processed the raw data and provided it to the Department. The analysis and tabulation were performed by IDFG staff. A random telephone survey of individuals who did not submit a harvest report for 2010 was conducted by SCI in January and February 2011. The reported figures were modified by non-reporting expansion factors to obtain the final harvest figures.

A total of 221,325 tags were purchased by 147,054 hunters for deer, elk, and pronghorn hunts occurring in 2010 (average 1.5 tags per hunter, maximum 6 tags per hunter). Hunters were required to report on their hunting effort and harvest success within 10 days of the end of the hunting season.

One reminder postcard was sent to 99,300 hunters who had not yet filed their reports by mid-November 2010 (one postcard per household). In past years, a reminder letter (90,000 in mid-December 2007 and mid-January 2008) had been sent to hunters who had not yet filed reports. This letter was eliminated in 2008, to reduce costs and obtain results sooner.

A total of 145,803 reports were filed by May 2, 2011 (66% of tags sold). Hunters had filed 118,863 reports themselves (54% filed the required report). Reporting percentages were higher than the previous year. Percentages had been lower in the last few years as a result of reducing the number of reminder mail-outs.

To estimate bias from non-compliance, we attempted to contact a random sample of 40,000 of the remaining hunters by telephone to obtain their harvest reports. These hunters were called in

January and February 2011 and 26,938 missing reports were completed by phone. This sample was larger than in 2009, and four times as large as in 2006. The harvest results from the telephone sample were used to estimate the harvest by hunters who did not file reports.

The number contacted by phone was doubled to compensate for the anticipated lower percent who reported because of reduced mailings and elimination of the printed forms. Goals were to increase the statistical validity of the estimates and complete the project one month earlier. The phone sample was increased considerably over the previous years (40,000 hunters in 2009 and 2010, 32,000 in 2008, 16,000 in 2007, and 8,000 in 2006). This phone survey was done one month earlier in 2008-2009 (Dec./Jan.) than in previous years (Jan./Feb.), to obtain results earlier. Therefore some hunters did not have as much time to report on their own as in past years. However, the 2010 survey was done later, in Jan.-Feb. 2011, because of programming delays in receiving the necessary data from Active Outdoors. A higher percentage was received on-line, 66%, an increasing trend in recent years.

Pronghorns were converted to only controlled hunts in 2009. Pronghorn hunters and those with controlled hunt tags for deer and elk were sampled at a higher rate to increase precision (50% of missing controlled hunt reports and 23% of missing general reports were completed in the phone survey). The results of the telephone non-compliance survey were used to estimate the harvest and participation by hunters who did not file reports. A summary of big game harvest estimates is presented in Table 2.

A final total of 155,484 reports were filed by hunters by April 27, 2010, or during the non-compliance phone survey (68.0% of all permits purchased).

Harvest data from Fall 2010 were analyzed at a general level by March 2011, so that recommendations for changes to big game regulations could be made, and analyzed at a detailed level by May 2011 so that hunters could apply for controlled hunts. The harvest results were placed on the IDFG web site in May 2011. Improvements were made to the process of transferring results to the web site to be integrated with the IDFG Hunt Planner web site for better functionality.

A summary of deer, elk, and pronghorn harvest is presented in Tables 1 and 2 and Appendix A. Estimated harvest and hunter participation for these species are also listed in other Federal Aid about each species. These harvest data are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders.

In Fall 2011, greater emphasis will be placed on all-digital reporting. Paper harvest survey forms were discontinued in June 2010, to save considerable money on data entry, postage, and printing. Hunters are encouraged more and more to file their reports online or by telephone. Online reporting has increased considerably over the last few years. A new application is being developed for hunters to file their reports on a smart phone. The automated computerized telephone response system was eliminated in November 2011, because it was hard to use and not very popular.

## Moose, Bighorn Sheep, Mountain Goats, Black Bears, Mountain Lions, and Gray Wolves

Harvest of moose, bighorn sheep, and mountain goats, black bears, mountain lions, and gray wolves was documented from mandatory carcass checks of all harvested animals (Table 2 and Appendix A). A total of 3,832 carcasses were checked for these species. Number of hunters that participated and days hunted are not calculated for these species. Estimated harvest and hunter participation for these species are also listed in other Federal Aid about each species.

These species were eliminated from the telephone harvest survey program in 1996-1997 to maximize information collected on harvest of deer, elk, and pronghorn. These mortality data are housed in a large database. Other documented causes of mortality are also tracked in this database, such as illegal kills, road kills, and natural mortality. These harvest databases are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders. Harvest estimates are posted on the IDFG website. More detailed information about these species is listed in other Federal Aid reports about each species.

There was no gray wolf hunting season in 2010-2011.

## Other Hunter Surveys

Additional surveys were conducted in 2010-2011 to monitor hunter participation, harvest, and days hunted, for: sandhill cranes, sage- and sharp-tailed grouse, wild turkeys, snow geese, and upland game (3 species of forest grouse (blue/dusky, ruffed, spruce), pheasants, gray partridge, chukars, quail, cottontails, snowshoe hares). A survey was conducted of falconers who hunt upland game. Detailed information about these species is listed in other Federal Aid reports.

These harvest data are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders.

## Hunter Opinion Surveys

In addition to estimating game harvest statistics, hunter survey questionnaires are also frequently used to ask hunter's opinions about current issues about hunting and regulations in Idaho. These might include the hunter's perception of the quality of hunting, expenditures during hunting, proposed changes in regulations, or the success of various programs. Sometimes stand-alone surveys are used for more in-depth studies of hunter's opinions. These data are valuable in monitoring the quality of the hunting programs.

A stratified-random sample of hunters is typically contacted using a mailed survey questionnaire with a follow-up phone call. Participants are drawn from the list of hunters who purchased hunting licenses and/or specific relevant tags or permits. In some cases, selected hunters may respond through a web-based survey form on the internet.

Topics surveyed in 2010-2011 included:

- Sightings of wolves by deer and elk hunters in Fall 2010 (May 2008-2011);
- Proposed changes in “Non-Biological” hunting regulations, June-July 2010
  - bonus point system, game bird seasons, trapping rules in public areas, etc.;
- Proposed changes in “Non-Biological” hunting regulations, June-July 2011
  - wolf hunting regulations for 2011-2012, the Landowner Appreciation Permit system for big game tags, and trapping hunting regulations;
- Participation in hunting on IDFG’s “Access Yes!” properties.

Deer and elk hunters were surveyed in May 2011 about their wolf sightings while hunting in Fall 2010. Hunters (n=11,835) who had reported hunting deer and elk in 81 specific GMUs were asked about their wolf observations while hunting (live wolf sightings only). The purpose of this survey is to assess the presence of wolf packs in specific drainages, as reported by hunters, as one of several sources of information to assess wolf abundance. This is one part of an occupancy modeling approach to develop an efficient, low-cost monitoring method in the future to assess where wolf packs are located, perhaps without using radio-telemetry in the future. This is the fourth year of a study in collaboration with the University of Montana and the Nez Perce Tribe.

The Internet was used to scope possible changes proposed about Non-Biological Rule changes in June-July 2010 for Commission meetings in July and August 2010. A series of 24 questions were placed on the Internet, to provide opportunity for any interested persons to respond. A total of 8,239 responses were received. Letters were also mailed to 981 landowners enrolled in the LAP Program.

Questions addressed possible changes in the following regulations:

- 1) Support for creating a Bonus Points system for awarding big game species permits, and details of how it would be administered;
- 2) Proposed changes to the Landowner Appreciation Permit system for big game tags, how they are administered, and regulations on their use;
- 3) Proposed changes to Upland Gamebird hunting regulations, such as season dates for hunting forest grouse, quail, chukars, gray partridge, and sage-grouse; pheasant shooting hours on Wildlife Management Areas in southwest Idaho; and rules for shooting from watercraft;
- 4) Proposed changes to other miscellaneous game rules, such as use of sabots and metal-jacketed bullets in muzzleloader hunts; changes to motorized vehicle restrictions in Units 48 and 57; development of standards for trapping in public areas; and development of rules for harvest and sale of rattlesnake skins and rattles.

The Internet was again used to scope proposed changes about Non-Biological Rule changes in June-July 2011 for Commission meetings in July and August 2011.

Questions addressed changes in the following regulations:

- 1) Support for the proposed wolf hunting regulations for 2011-2012 (mailed to 1,000 hunters from Fall 2010, and 2,000 general public, and 24,500 responses were received online);
- 2) Proposed changes to the Landowner Appreciation Permit system for big game tags;

3) Proposed changes to trapping hunting regulations, such as trapping near campgrounds, picnic areas, trailheads, strength of traps, snares, breakaways poundage, species, etc.

### **ACKNOWLEDGMENTS**

This survey was partially supported by Federal Aid in Wildlife Restoration (W-170-R) Statewide Big Game Harvest Survey. The 2010 raw harvest survey data for deer, elk, and pronghorn were processed by Active Outdoors, Nashville, Tennessee. Telephone services for the deer, elk, and pronghorn surveys were provided by Systems Consultants, Inc., Fallon, Nevada, under contract with the Idaho Department of Fish and Game.

Table 1. Statewide estimates of harvest, number of hunters, and activity for 2010.

Species	Season	Tags sold	Hunters	Harvest	Success (%)	Days hunted
Deer	Any-Weapon	114,989	93,887	32,080	34	552,234
	Archery	<sup>a</sup>	14,180	2,525	18	107,328
	Muzzleloader	<sup>a</sup>	2,298	611	27	10,321
	Controlled	18,171	16,197	9,143	56	83,596
	Total	133,160	119,170	44,360	37	753,479
Elk	Any-Weapon	69,397	44,996	8,098	18	257,833
	Archery	<sup>a</sup>	17,977	2,597	14	151,065
	Muzzleloader	<sup>a</sup>	5,252	1,096	21	23,105
	Controlled	15,372	13,887	5,679	41	76,189
	Total	84,769	76,786	17,470	23	508,191
Pronghorn	Controlled <sup>b</sup>	3,396	2,912	1,453	50	11,351
	(CH-Any-Weapon)		1,229	959	78	3,851
	(CH-Archery)		1,379	346	25	6,381
	(CH-Muzzle)		280	148	53	1,119

<sup>a</sup> Deer and elk general tags are valid for any-weapon, archery, and muzzleloader seasons.

<sup>b</sup> Pronghorn tags were all converted to controlled hunt in 2009, some only for archery hunting.

“Any-weapon” means that any legal weapon can be used during that season, but most hunters used rifles (allows shotgun, handgun, archery, cross-bow, and muzzleloader).

Table 2. Big game harvest history, 1935-2010.

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1935	7,659	1,821	144	8			1	24
1936	7,800	1,917	124	79			4	81
1937	8,795	2,133		133			6	62
1938	11,597	2,298		49			12	61
1939								
1940			400					
1941								
1942	4,952		700					
1943	11,095	2,398		61				23
1944	13,982	2,874	1,470	118				33
1945	21,263	4,392	650	150				59
1946	26,936	5,435	0	233		26	13	125
1947	18,895	6,549	461	406		24	15	67
1948	21,924	5,944	419			27		
1949	22,285	5,395	383			27		
1950	22,578	7,165	539			50		8
1951	33,250	7,492	1,349			28		21
1952	30,454	8,792	1,520	500		71	13	14
1953	47,200	12,600	1,254	500		91	18	21
1954	51,400	12,451	970	2,600		105	13	27
1955	64,074	15,799	822	2,450		108	22	51
1956	71,862	15,910	919	3,124		134	20	61
1957	62,154	13,568	1,001	3,045		91	29	78
1958	71,013	16,450	821	3,709		77	37	59
1959	70,237	13,865	679	2,367	119	59	59	59
1960	75,213	16,545	701	3,373	83	40	62	114
1961	76,001	16,572	579	2,218	164	46		140
1962	66,645	13,653	549	3,951	98	45		144
1963	63,546	14,542	774	2,444	162	52	49	171
1964	67,379	13,835	839	3,419	127	59	35	161
1965	56,438	14,064	977	2,861	108	51	53	214
1966	64,629	14,631	1,219	3,386	156	55	14	161
1967	66,350	13,397	1,286	2,700	109	50	32	127
1968	78,441	17,064	1,294	2,597	164	53	47	161
1969	67,176	12,415	1,472	3,085	143	74	46	168
1970	77,087	14,146	1,551	3,404	114	81	64	151
1971	54,927	11,009	1,465	3,786	303	86	13	137
1972	47,599	9,324	1,486	3,783	70	88	21	152
1973	54,014	12,374	1,237	1,430	87	96	15	128
1974	42,026	8,712	1,301	1,747	112	112	16	121
1975	40,102	8,981	1,314	2,285	142	93	32	102

Table 2 continued

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1976	25,427	4,135	1,380	2,516	123	94	38	103
1977	39,834	6,353	1,250	2,173	160	95	27	117
1978	39,879	7,662	1,345	2,300	167	99	38	106
1979	42,549	6,344	1,430	1,718	31	104	42	79
1980	45,988	8,303	1,498	1,619	97	118	32	47
1981	50,580	9,903	1,837	1,918	198	114	46	65
1982	48,670	12,485	2,112	1,584	189	147	64	32
1983	50,600	12,700	2,400	2,100	167	229	60	41
1984	42,600	15,600	2,070	2,100	400	268	70	52
1985	48,950	15,550	2,190	1,700	170	297	79	38
1986	59,800	15,500	2,540	2,150	250	355	79	56
1987	66,400	16,100	2,600	1,950	300	363	77	70
1988	82,200	20,400	2,800	1,900	550	399	76	62
1989	95,200	22,600	3,500	2,100	340	400	98	79
1990	72,100	21,500	3,180	2,300	350	422	92	76
1991	69,100	24,100	2,950	2,100	171	428	97	85
1992	61,200	26,600	3,150	2,800	330	420	106	67
1993	45,600	20,800	2,470	1,260	450	579	80	66
1994	56,900	28,000	1,835	2,250	450	558	78	69
1995	48,400	22,400	1,540	2,040	700	637	57	44
1996 <sup>a</sup>	50,800	25,600	1,460	1,740	635	583	48	48
1997 <sup>b,c</sup>	38,600	18,500	1,300	1,538	834	638	61	61
1998	39,000	18,750	1,150	1,973	804	612	63	57
1999	43,300	17,500	1,150	1,819	652	775	50	48
2000	45,200	20,200	1,325	1,855	728	774	50	48
2001	53,000	19,500	1,350	1,887	628	918	48	48
2002	44,650	18,400	1,350	2,390	514	870	34	41
2003	43,500	18,400	1,300	2,415	569	933	36	33
2004	46,160	20,800	1,340	2,443	459	928	46	32
2005	54,050	21,470	1,410	2,425	466	835	42	48
2006	51,700	20,040	1,480	2,231	480	811	48	46
2007	54,200	19,100	1,460	2,660	440	847	57	36
2008	43,605	16,017	1,427	2,169	416	794	48	39
2009	42,189	15,813	1,335	2,091	432	781	53	42
2010	44,360	17,470	1,453	2,508	469	767	49	39

All data are from Calendar Year, January 2010 to December 2010, except mountain lion harvest, July 2010 to June 2011. There was no gray wolf hunting season in 2010-2011.

<sup>a</sup> Because of budget shortfalls and increasing costs of conducting the telephone harvest survey, moose, bighorn sheep, and mountain goats were eliminated from the telephone survey in 1996. Harvest figures after 1996 result from mandatory harvest check-in records.

Table 2 continued

<sup>b</sup> Harvest estimates from 1997-2000 do not include pronghorn harvest during the general archery season.

<sup>c</sup> Black bear and mountain lions were dropped from the telephone survey program in 1997 because of budget restrictions. Harvest figures after 1997 result from mandatory harvest check-in records.

APPENDIX A

**Summary of  
2010  
Big Game  
Harvest Estimates**



Species	Estimated			
	Permits	Hunters	Harvest	Days hunted
Deer	133,160	119,170	44,360	753,512
Elk	84,769	76,786	17,470	508,191
Pronghorn	3,396	2,912	1,453	11,351
Black Bear	33,424	--	2,508	--
Mountain Lion	21,574	--	469	--
Gray Wolf	0	--	0	--
Moose	1,015	--	767	--
Bighorn Sheep	85	--	49	--
Mountain Goat	46	--	39	--

All data are from Calendar Year, January 2010 to December 2010, except mountain lion harvest, July 2010 to June 2011. There was no gray wolf hunting season in 2010-2011.

Idaho Department of Fish and Game  
600 South Walnut Street  
P.O. Box 25  
Boise, Idaho 83707

Submitted by:

**Bruce Ackerman**

Bruce Ackerman, Wildlife Staff Biologist / Statistician,  
208-287-2753,  
[bruce.ackerman@idfg.idaho.gov](mailto:bruce.ackerman@idfg.idaho.gov)

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME



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Brad Compton, Asst. Chief  
Federal Aid Coordinator  
Bureau of Wildlife

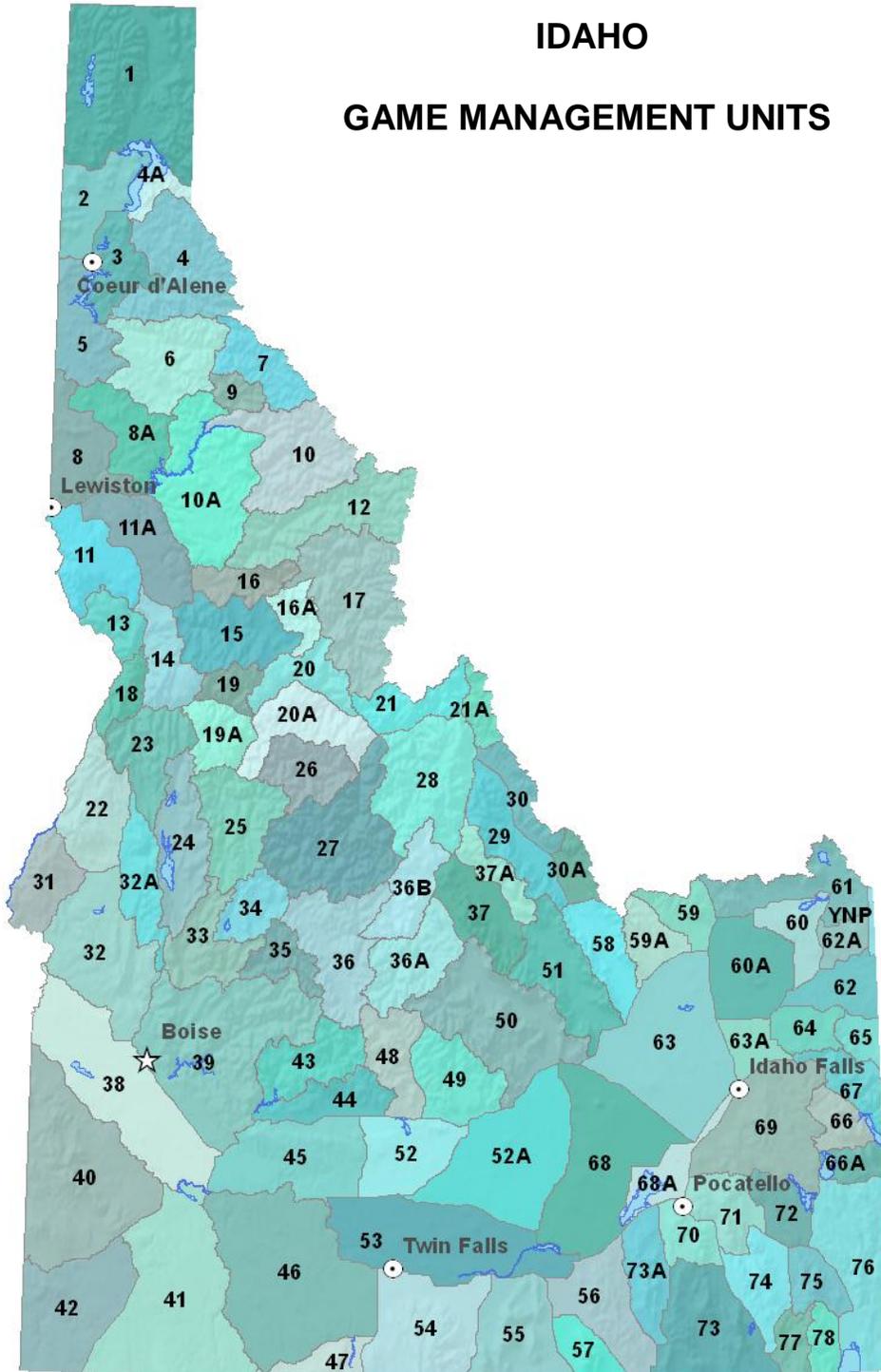


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Jeffrey Gould, Chief  
Bureau of Wildlife

# IDAHO

## GAME MANAGEMENT UNITS



## FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.

