

IDAHO DEPARTMENT OF FISH AND GAME

Virgil Moore, Director

Surveys and Inventories

2012 Statewide Report



BIG GAME HARVEST SURVEY

Study IV, Job 1

July 1, 2011 to June 30, 2012

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STATEWIDE REPORT SURVEYS AND INVENTORY

JOB TITLE: Harvest Surveys

STUDY NAME: Hunter Attitude and Game Harvest Surveys and Inventories

PERIOD COVERED: July 1, 2011 to June 30, 2012

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, since 2001, with a follow-up telephone survey of a sample of hunters who failed to file the required report. The final figures 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, the minimum harvest of moose, mountain goats, bighorn sheep, black bear, mountain lion, and gray wolf 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 (607 different controlled hunts available in 2011); 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 Idaho Fish and Game (Department), 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, continuing to 2013-2014) and to conduct the outgoing non-compliance phone survey.

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 2011-2012, hunters were able to submit their reports via internet, telephone, internet website, or automated phone response.

In 2011, Active Outdoors processed the raw data and provided it to IDFG. The analysis and tabulation were performed by Department staff. A random telephone survey of individuals who did not submit a harvest report for 2011 was conducted by SCI in December 2011 and January 2012. The reported figures were modified by non-reporting expansion factors to obtain the final harvest figures.

A total of 217,780 tags were purchased by 145,319 hunters for deer, elk, and pronghorn hunts occurring in 2011 (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 93,000 hunters who had not yet filed their reports by mid-November 2011 (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.

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 <http://fishandgame.idaho.gov/public/hunt/?getPage=106> or by telephone.

A total of 135,873 completed reports were filed by 6 May, 2012 (63% of tags sold). Hunters had filed 104,683 reports themselves (48% filed the required report). Reporting percentages had been declining in the last few years as a result of reducing the number of reminder mail-outs, and no penalties for non-reporting.

To estimate bias from non-compliance, we attempted to contact a random sample of 50,000 of the remaining hunters by telephone to obtain their harvest reports (increased from 40,000 in 2010). These hunters were called in December 2011 and January 2012 and 31,190 missing reports were completed by phone (14% of required reports). This sample was larger than in 2010, 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 increased to compensate for the anticipated lower percent who reported because of reduced mailings and elimination of the printed forms in 2010. 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 (50,000 in 2011, 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 January-February 2011, because of programming delays in receiving the necessary data from Active Outdoors. The 2011 survey was done in December 2011-January 2012.

Online reporting has increased considerably over the last few years. A higher percentage was received on-line, 70%, an increasing trend in recent years (27% phone, 3% IVR).

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 (47% of missing controlled hunt reports and 24% 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.

Harvest data from Fall 2011 were analyzed at a general level by March 2012, so that recommendations for changes to big game regulations could be made, and analyzed at a detailed level by May 2012 so that hunters could apply for controlled hunts. The harvest results were placed on IDFG web site in May 2012. Improvements were made to the process of transferring results to the web site to be integrated with IDFG Hunt Planner web site for better functionality <http://fishandgame.idaho.gov/ifwis/huntPlanner/>.

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 reports 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.

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

Harvest of moose, bighorn sheep, 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 reports 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 IDFG website. More detailed information about these species is listed in other Federal Aid reports about each species.

Other Hunter Surveys

Additional surveys were conducted to monitor hunter participation in 2011 – number of hunters, number harvested, 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). 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 2011-2012 included:

- Wolf hunting regulations
- Wolf trapper participation
- Trapping rules in public areas, trap specifications
- Landowner Appreciation Permit program for deer and elk
- Elk hunter preferences

Off-Highway Vehicle users and hunters opinions
Sandhill crane and sage-grouse seasons
Waterfowl seasons (split or continuous)
Landowner preferences regarding leasing for turkey and waterfowl outfitting
Various changes to wolf hunting and trapping regulations, bear baiting, etc.

The Internet was 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 July 2011 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, how they are administered, and regulations on their use;
- 3) Proposed changes to trapping hunting regulations, such as trapping near campgrounds, picnic areas, trailheads, strength of traps, snares, breakaways poundage, species, etc.

Motorized Hunting Rule – Off-Highway Vehicles

In 2012, IDFG contracted with the University of Idaho (UI) to conduct a survey of Idaho hunters and off-highway vehicle enthusiasts. This survey was conducted to better understand their motivations, preferences, and perceptions about hunting and the use of off-highway vehicles (OHV) and all-terrain vehicles (ATV). The questionnaire was designed by UI with input from Department and Idaho Department of Parks and Recreation (IDPR). Participants were asked about their experiences using OHVs while hunting and how they feel about Department restrictions on use of OHVs while hunting in certain areas. The questionnaire was mailed to a random sample of 4,000 Idaho residents from the south half of Idaho, either hunters or OHV owners (May 2012, 2000 adult hunters who purchased hunting license in 2011, from IDFG, and 2000 who bought an OHV permit in 2011, from IDPR). Any interested person could also take the survey online. IDFG provided the list of hunters, mailed out the questionnaires, and entered the data. These results were very important in updating the Motorized Hunting Rule, about use of motorized vehicles while hunting in certain areas and certain seasons.

Elk hunter preferences

In 2012, IDFG contracted with the University of Idaho (UI) to conduct a survey of Idaho elk hunters to better understand their motivation for elk hunting and their elk management preferences. IDFG drew the stratified random sample of 6,160 hunters who purchased general tags in 2011 (May 2012, n=200 resident and 20 nonresident adult hunters in each of 29 elk hunting zones). IDFG designed the survey questionnaire with UI. A total of 2,786 questionnaires were returned (48.5% response rate). The results were analyzed by UI at both statewide and zone levels. For most elk hunters, the social experience of gathering with friends and family was cited as is the most important reason for elk hunting. For others, putting meat on the table or harvesting a mature bull was important. Regardless of the reason for hunting, the

common attribute that defined a quality elk hunting experience centered on being able to hunt elk every year and seeing harvestable elk. These results were very important in developing the new Elk Management Plan, 2014-2024.

Publications or in-house reports resulting from this work.

Statewide Species Management Reports available via
<http://fishandgame.idaho.gov/public/wildlife/?getPage=249>

Statewide Annual Species Progress Reports
<https://collaboration.idfg.idaho.gov/WildlifeTechnicalReports/Forms/AllItems.aspx>

Lukacs, P.M., J.A. Gude, R.E. Russell, and B.B. Ackerman. 2011. Evaluating cost-efficiency and accuracy of hunter harvest survey designs. *Wildlife Society Bulletin* 35(4):430–437

ACKNOWLEDGMENTS

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Table 1. Statewide estimates of harvest, number of hunters, and activity for 2011.

Species	Season	Tags sold	Hunters	Harvest	Success (%)	Days hunted
Deer	Any weapon (rifle)	115,503	95,723	31,441	33	574,079
	Archery	^a	14,493	2,095	14	110,804
	Muzzleloader	^a	2,535	605	24	11,943
	Controlled	16,565	14,660	7,665	52	78,679
	Total	132,068	118,661	41,805	35	775,505
Elk	Any (rifle)	66,653	42,998	6,515	15	264,346
	Archery	^a	17,852	2,520	14	153,617
	Muzzleloader	^a	5,826	830	14	28,147
	Controlled	15,485	14,183	5,290	37	80,054
	Total	82,138	74,595	15,155	20	526,165
Pronghorn ^b	(CH-Any Weapon)		1,170	877	75	3,777
	(CH-Archery)		1,498	333	22	7,290
	(CH-Muzzle)		280	119	42	1,100
	Total	3,574	2,950	1,329	45	12,167

^a Deer and elk general tags are valid for any-weapon, archery, and muzzleloader seasons.

^b 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 (also allows shotgun, handgun, archery, cross-bow, and muzzleloader).

Table 2. Big game harvest history, 1935-2011.

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
1976	25,427	4,135	1,380	2,516	123	94	38	103

Table 2 Continued

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
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 ^a	50,800	25,600	1,460	1,740	635	583	48	48
1997 ^{b,c}	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
2011	41,805	15,155	1,329	2,249	499	701	53	45

All data are from Calendar Year, January 2011 to December 2011, except mountain lion and gray wolf harvest, July 2011 to June 2012.

^a 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

^b Harvest estimates from 1997-2000 do not include pronghorn harvest during the general archery season.

^c 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
2011
Big Game
Harvest Estimates**



Estimated

Species	Permits	Hunters	Harvest	Days hunted
Deer	132,068	118,664	41,805	775,505
Elk	82,138	74,595	15,155	526,165
Pronghorn	3,574	2,950	1,329	12,167
Black Bear	33,008	---	2,249	---
Mountain Lion	22,119	---	449	---
Gray Wolf	32,801	30,246	376	---
Moose	933	---	701	---
Bighorn Sheep	87	---	53	---
Mountain Goat	51	---	45	---

All data are from Calendar Year, January 2011 to December 2011, except mountain lion and gray wolf harvest, July 2011 to June 2012.

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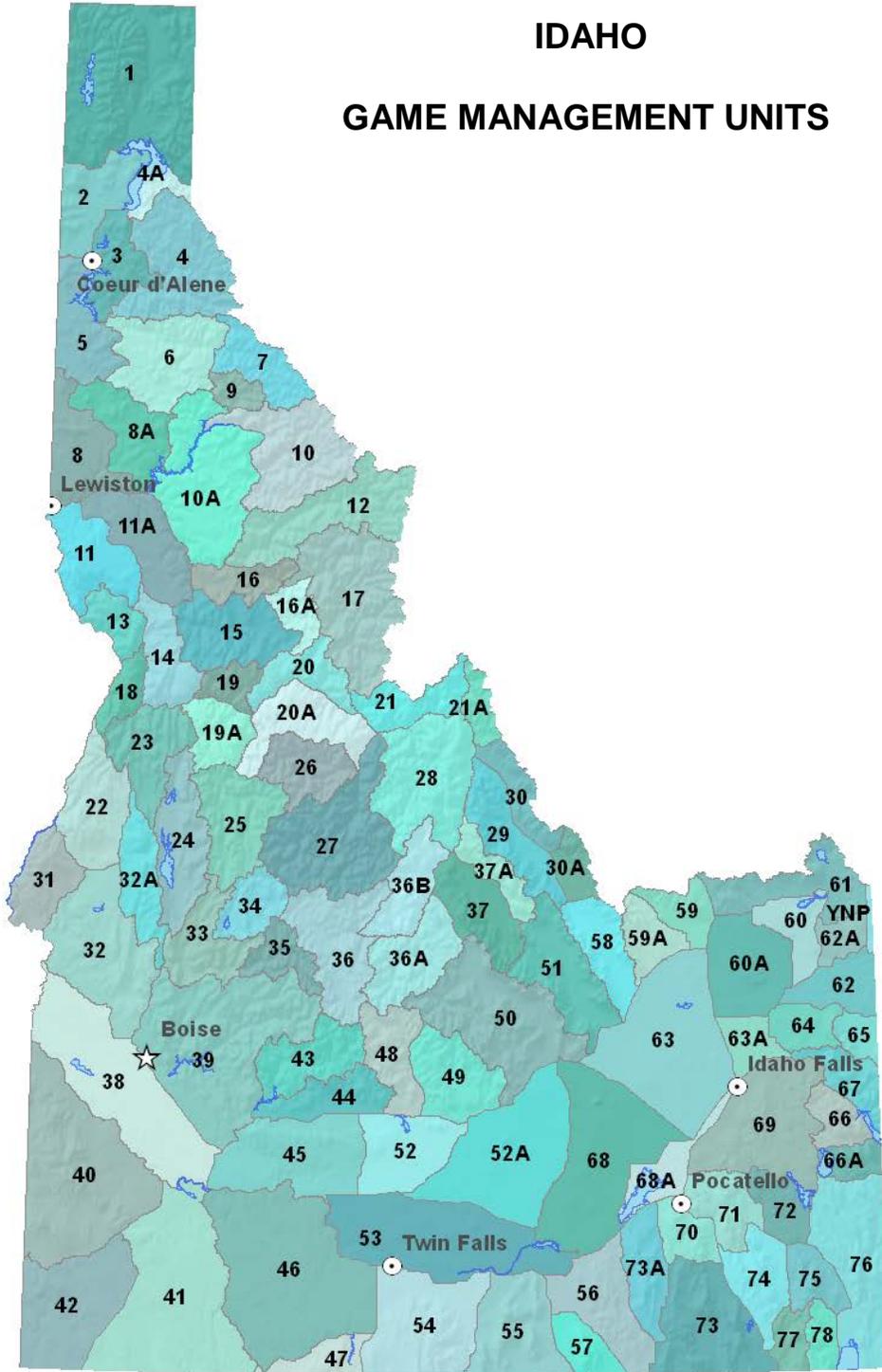
Brad Compton, Asst. Chief
Federal Aid Coordinator
Bureau of Wildlife



Jeffrey Gould, Chief
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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.

