



STATE OF IDAHO

GYPSY MOTH PROGRAM

SUMMARY REPORT

2020



by Stephani Penske, Erika Eidson, Tom Eckberg, and Lacy Robinson

> Idaho Department of Lands 3284 W. Industrial Loop Coeur d'Alene, Idaho, 83815

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SUMMARY

In 2020, a total of 2751 gypsy moth traps were deployed in Idaho. There were no gypsy moths captured and no delimitation trapping was conducted. There have been no moths trapped in Idaho since the 2016 capture of one male European Gypsy moth in Pocatello, in Bannock County (Figure 1).

INTRODUCTION

The gypsy moth (*Lymantria dispar*) is a destructive defoliator of many deciduous forest and shade trees as well as some conifers. Since the introduction of the European gypsy moth (EGM) into the United States in 1869, it has spread throughout New England and has become established in all or part of about 20 Northeast and Midwest states. Once this pest becomes established, eradication is usually not possible, and this has been the case for EGM. The Asian gypsy moth (AGM) was first discovered in North America in 1991 near the port of Vancouver in British Columbia, Canada. Since that time, AGM have been discovered and presumed eradicated in 9 states; California, Idaho, North Carolina, South Carolina, Georgia, Oregon, Texas, Oklahoma and Washington State. Generally, AGM are introduced by ships moving cargo from overseas, whereas EGM are most often introduced to the west by people moving household items from generally infested areas of the United States.

The State of Idaho has eradicated all introductions of both EGM and AGM. As a result, Idaho has no established gypsy moth populations within the state. The purpose of the Idaho Gypsy Moth Survey Program is to detect new introductions of gypsy moth in a timely manner. This allows for effective eradication treatments that prevent populations from becoming established. Through this program, delimitation and eradication can be achieved with the least expense and lowest risk of environmental impact.

LIFE CYCLE

The gypsy moth goes through four life stages: egg, caterpillar (larva), pupa, and adult. It has one generation per year and overwinters in the egg stage. Each female lays 50-1,000 eggs in one mass, which is covered with velvety golden, or buff-colored hairs from the female's abdomen. The egg mass is about $\frac{3}{4}$ inch wide and $1-\frac{1}{2}$ inches long and is attached to trees, logs, rocks, buildings, and any other outdoor household article.

Caterpillars hatch from eggs in mid-April to mid-June. This is the only damaging life stage. The caterpillars are voracious feeders and can grow to 2" in length. A single caterpillar can eat up to three square feet of leaves in its lifetime. Larger (older) caterpillars have five pairs of blue spots and six pairs of rusty red spots along their backs. They typically feed in the treetops at night but migrate down the trunk to the ground each day for protection from heat and predators.

Once a caterpillar matures, it transforms into a non-feeding stage called the pupa. Mature caterpillars produce a "cocoon" with strands of silk, which is used to attach themselves to vertical surfaces. Then a more rigid chrysalis, or pupal case, forms around the caterpillar as it transforms. The pupa is an immobile stage during which the caterpillar changes into an adult moth. Pupae may gyrate if they are disturbed, but left alone they will appear still as the change occurs. They are dark reddish brown and leathery. Pupa are usually found in crevices on tree trunks or on larger branches. Pupae may also be found buried in leaf litter.

Adult moths begin to emerge in late July and are often present until early October, depending upon location and temperatures. Females have tan bodies from 1" to 2" long. Their wings are cream colored with dark brown zigzag markings. Female EGMs do not fly, whereas the female AGMs are capable of flight. Both EGM and AGM females emit a scent (pheromone) to attract a mate. Scientists have been able to produce this pheromone synthetically and use it to trap male moths. Males are medium sized (approx. 1½ inch wingspan), brownish gray, have feathery antennae and fly in the late afternoon. Adult moths live for about one week, during which time the sexes mate. Females lay eggs during August and early September starting the life cycle over again.

HOSTS

EGM moth caterpillars generally prefer oaks as hosts. However, they have the ability to feed on several hundred species of trees and shrubs including oak, apple, alder, aspen, filbert, willow, birch, and plum. Coniferous species such as Douglas-fir, larch, pine and western hemlock are less desirable, yet are suitable hosts of the EGM (Liebhold *et.al.* 1995). Larch, a valuable timber species in Idaho, is a preferred host of the AGM, which has a broader host range than the EGM.

HISTORY

Surveys to detect the introduction of the gypsy moth have been conducted in Idaho each year since 1974 (Table 1). The first gypsy moth was discovered in 1986 in Sandpoint, Bonner County. The following year numerous additional moths were caught in Sandpoint and Coeur d'Alene. Ground treatments were conducted in 1988 and aggressive aerial spray eradication programs followed in 1989 and 1990 using a naturally occurring bacterium, *Bacillus thuringiensis var. kurstaki* (B.t.k.) as the pesticide (Tisdale and Livingston 1990, Livingston 1990). No gypsy moths have been caught in the treated areas since 1989. Another small infestation (5 moths) was detected near Huetter, ID in 1998. An eradication program was initiated in 1999 consisting of an aerial application of B.t.k to 35 acres surrounding the capture site. No moths were caught in detection or delimit traps in this area in subsequent years. In 2004, a gypsy moth determined to be of the Asian variety (AGM) was caught near Hauser, ID (Lech and Livingston 2004). A 600 acre aerial spray eradication program in Kootenai County, near Hauser, was conducted in 2005 using B.t.k.. European gypsy moths have been caught in various areas throughout the state in the annual detection surveys from 1986 through 2019 (Table 1). However, no eradication programs have occurred since 2004, because there is a low probability of populations becoming established when only a couple moths are detected in a single year.

Historic Idaho Gypsy Moth Reports can be requested from the Idaho Department of Lands by contacting the address on the cover of this report or calling 208-769-1525.

Cooperating agencies, with accompanying responsibilities in the Idaho gypsy moth program, include the following:

- ➤ Idaho Department of Lands Overall program coordination and trapping in northern Idaho, except in Forest Service campgrounds.
- > Idaho State Department of Agriculture Trapping in southwestern Idaho and submission of data to the Integrated Plant Health Information System (IPHIS) data library.
- ➤ USDA, APHIS Provides cost share funding, traps, baits, and technical expertise.

- ➤ USDA Forest Service, Region 4 Trapping in southeastern Idaho.
- ➤ USDA Forest Service, Region 1 Trapping in Forest Service campgrounds in northern Idaho.
- ➤ Idaho Department of Transportation Provides monthly reports of vehicle registrations in Idaho from states that are generally infested with gypsy moths.
- ➤ University of Idaho, Moscow Technical assistance.

Table 1 - Gypsy moth trapping history in Idaho.

	NUM	IBER OF	TRAPS	SET	NU		OF MOT	THS	# POS. TRAPS	ACRES TREATED
YEAR	DET. ²	DEL.3	MASS ⁴	TOTAL	DET. ²	DEL.3	MASS ⁴	TOTAL		
1974 ¹	0	0	0	0	0	0	0	0	0	
1975	45	0	0	45	0	0	0	0	0	
1976	254	0	0	254	0	0	0	0	0	
1977	232	0	0	232	0	0	0	0	0	
1978	248	0	0	248	0	0	0	0	0	
1979 ¹	NA	NA	NA	NA	0	0	0	0	0	
1980	121	0	0	121	0	0	0	0	0	
1981	95	0	0	95	0	0	0	0	0	
1982	35	0	0	35	0	0	0	0	0	
1983 ¹	NA	NA	NA	NA	0	0	0	0	0	
1984 ¹	NA	NA	NA	NA	0	0	0	0	0	
1985 ¹	NA	NA	NA	NA	0	0	0	0	0	
1986	208	0	0	208	1	0	0	1	1	
1987	420	0	0	420	35	0	0	35	9	
1988	1558	1457	0	3015	8	414	0	422	210	5 B.t.k.
1989	2248	0	7303	9551	17	0	51	68	54	380 B.t.k.
1990	5640	358	3268	9266	4	2	0	6	3	1055 B.t.k.
1991	4641	121	0	4762	4	0	0	4	4	1000 B.i.K.
1992	4823	130	0	4953	2	1	0	3	3	
1993	4314	115	0	4429	2	0	0	2	1	
1994	4239	96	0	4335	1	2	0	3	3	
1995	4522	136	0	4658	1	0	0	1	1	
1996	4290	117	0	4407	0	0	0	0	0	
1997	5085	20	0	5105	0	0	0	0	0	
1998	4904	0	0	4904	7	0	0	7	3	
1999	4837	155	90	5082	0	0	0	0	0	35 B.t.k.
2000	5398	36	0	5434	0	0	0	0	0	33 D.t.K.
2001	5346	0	0	5346	2	0	0	2	2	
2002	5024	35	0	5059	0	0	0	0	0	
2003	5582	35	0	5617	0 1 4 CM	0	0	0	1 4 6 74	
2004	5875	1441	0	5875	1 AGM	0	0	1	1 AGM	(00 D : 1
2005	4989	1441	0	6430	1	0	0	1	1	600 B.t.k.
2006	5380	1473	0	6853	0	0	0	0	0	
2007	4882	1475	0	6357	2	0	0	2	2	
2008	4157	69	0	4226	3	0	0	3	3	
2009	4972	419	0	5391	1	0	0	1	1	
2010	4373	380	0	4753	1	0	0	1	1	
2011	4511	69	0	4580	0	0	0	0	0	
2012	4227	36	0	4263	0	0	0	0	0	
2013	2349	0	0	2349	1	0	0	1	1	

	NUM	IBER OF	TRAPS	SET	NU	NUMBER OF MOTHS CAUGHT5				ACRES TREATED
YEAR	DET. ²	DEL.3	MASS ⁴	TOTAL	DET. ²	DEL. ³	MASS ⁴	TOTAL		
2014	3749	36	0	3785	0	0	0	0	0	
2015	3951	36	0	3987	3	0	0	3	2	
2016	3846	36	0	3882	1	0	0	1	1	
2017	3682	72	0	3754	0	0	0	0	0	
2018	3713	36	0	3749	0	0	0	0	0	
2019	2749	0	0	2749	0	0	0	0	0	
2020	2751	0	0	2751	0	0	0	0	0	

¹Trapping did occur in Idaho in these years, and no moths were found. Records are incomplete as to the exact number of traps,

2020 PROGRAM

Detection Trapping

Cooperating agencies in the Idaho gypsy moth detection program placed 2,751 detection traps throughout the state (<u>Table 2</u>) in 2020. <u>Figure 2</u> shows approximate trap placements. Pheromone-baited traps were placed on a grid basis at a density of approximately 2-4 traps per square mile. Traps were placed throughout the state in cities, towns, surrounding urban areas, and rural communities in accordance with the pre-determined rotation schedule (see <u>Appendix A</u>). No gypsy moths were captured in detection traps in Idaho in 2020.

Cities and communities where 20 or more move-ins occurred were trapped irrespective of their place in the schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moth or by someone who purchased/brought a vehicle from infested states. This information is derived from vehicle registration information supplied on a monthly basis by the Idaho Department of Transportation. Most infestations are initiated when an egg mass or other life stage of gypsy moth arrives on an outdoor household article brought by someone moving into the area. Between May 2019 and April 2020, there were 6,246 move-ins and vehicle registrations to Idaho from quarantined states in the east. Between May 2018 and April 2019, there were 9,178 move-ins and vehicle registrations to Idaho from quarantined states in the east. While many zones had over 20 move-ins in 2020, these zones were already planned to be trapped this year, so there were no non-scheduled zones trapped in 2020 due to move-ins. Campgrounds, tourist attractions, and other high-risk locations were also trapped.

In 2020, trap density was reduced in various zones in northern Idaho that contained a surplus of traps per square mile. Our objective was to be able to maintain effective statewide coverage in a given year, while adjusting trap density down to protocol levels in certain zones. Due to trap reductions in some zones where there was a surplus of traps per square mile, several off-schedule zones were able to be added to cover more area this year. Rural Moscow (originally due to be trapped in 2022), and parts of Coeur d'Alene West and Osburn (due to be trapped in 2021), were added to the 2020 trapping schedule this year. They were not added due to a high number of move-ins from infested states. In south Idaho, trap exchanges occurred between ISDA and the USFS R4 personnel such that ISDA managed urban trap areas, and USFS personnel managed rural areas, especially within

²Detection.

³Delimitation.

⁴Mass trapping for control at approximately 9 traps/acre.

⁵All moths captured in Idaho have been of the European variety, except as noted in 2004.

National Forests and campgrounds. USFS R4 personnel did not trap the Warren zone in 2020 due to the long travel distance.

<u>Delimitation Trapping</u> – No delimit trapping occurred in 2020.

<u>Mass Trapping</u> – No mass trapping was conducted in Idaho in 2020.

Table 2 – Total number of gypsy moth traps placed, by agency, in Idaho in 2020.

AGENCY	DETECTION	DELIMIT TRAPS	MASS TRAPS	TOTAL
	TRAPS			TRAPS
Idaho Dept. of Lands	1951	0	0	1951
ISDA	640	0	0	640
USFS - Region 4	72	0	0	72
USFS - Region 1	88	0	0	88
TOTALS	2,751	0	0	2,751

2021 PROGRAM

<u>Detection Trapping</u> —For the 2021 trapping season, we will continue the rotating schedule for trap zones to minimize travel costs (<u>Appendix A</u>). Any trap zone with move-ins greater than 20 will be added to the 2021 trapping schedule if not already scheduled for the current trapping year.

<u>Delimitation Trapping</u> – There will be no delimitation trapping conducted in 2021.

Mass Trapping and Eradication - No mass trapping or eradications are proposed for the 2021 season.

Table 3 – Approximated actual costs of the gypsy moth survey and treatment program for calendar year 2020.

AGENCY	cos	ST .			
	\$37,577.00 through ISDA \$22,500.00				
IDL: State Funds to Idaho Department of Lands from Idaho					
State Department of Agriculture	\$37,577.00	Not applicable			
IDL: USDA – APHIS Cooperative Grant to IDL through ISDA	\$22,500.00	u			
IDL: USDA – FS S&PF Forest Health Funds to IDL	\$13,890.00	u			
Idaho State Department of Agriculture	\$10,986.00	"			
US Forest Service- Region 1	\$5,300.00	u			
US Forest Service- Region 4	\$6,000.00	"			
USDA- APHIS Direct Costs for traps and lures	\$2,400.00	ű			
2020 Total	\$98,653.00	\$0			

Figure 1: State of Idaho most recent capture site; 2016 Gypsy Moth Capture Site

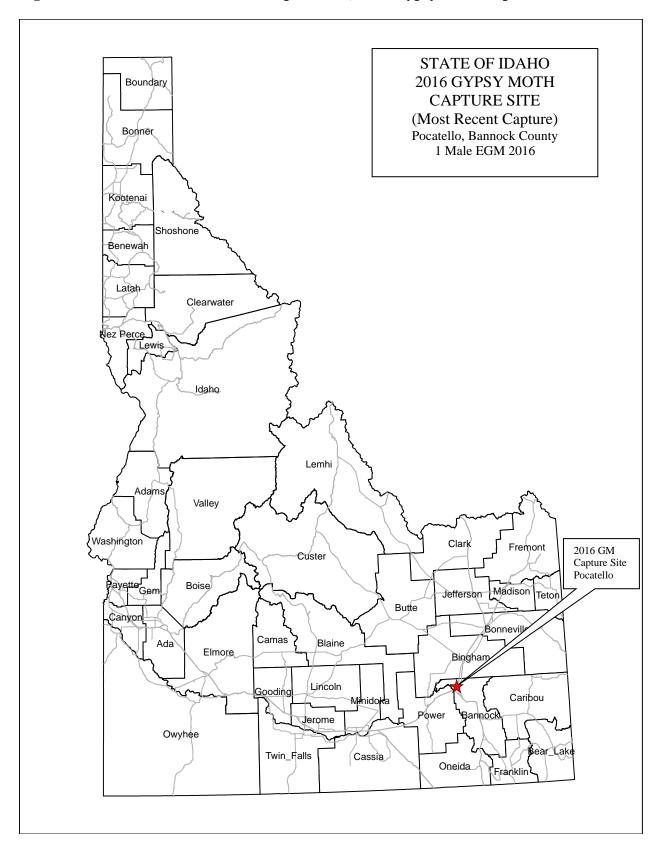
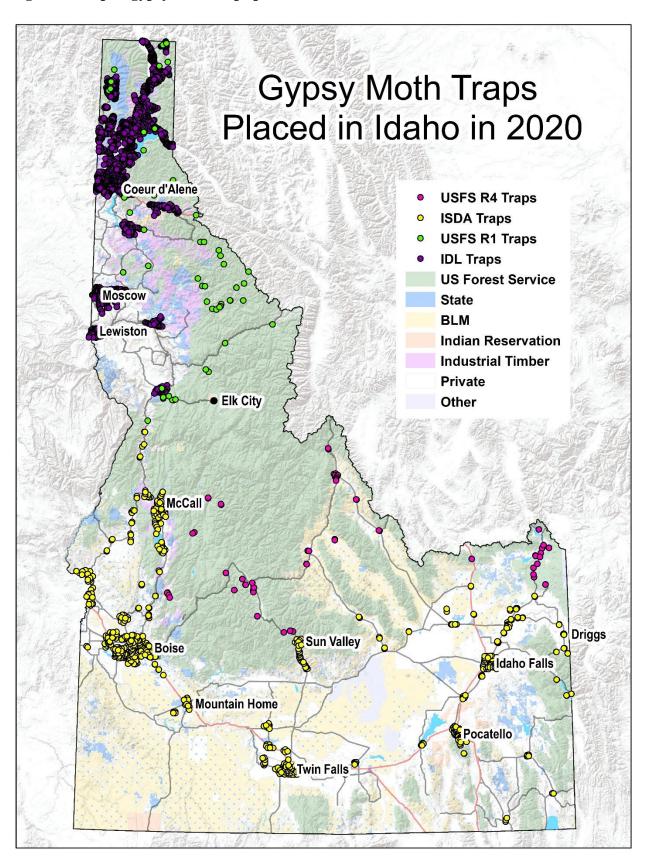


Figure 2: Map of gypsy moth traps placed in Idaho in 2020



REFERENCES

- Lech, Gretchen and Livingston, R. Ladd. 2004. State of Idaho gypsy moth survey trapping program summary report 2004. Report No. IDL 04-2.
- Liebhold, A.M, K.W. Gottschalk, R.M. Muzika, M. E. Montgomery, R. Young, K. O'Day and B. Kelley. 1995. Suitability of North American Tree Species to the Gypsy Moth: A Summary of Field and Laboratory Tests. USDA Forest Service GTR NE-211.
- Livingston, R. Ladd. 1990. State of Idaho, Summary report of 1990 gypsy moth eradication and survey efforts with a brief history of the gypsy moth and related activities from 1974 to 1989. Report No. IDL 90-7.
- Tisdale, Robert and Livingston, R. Ladd. 1990. Gypsy moth eradication program in Idaho 1989 Sandpoint and Coeur d'Alene, Bonner and Kootenai counties. Report No. IDL 90-4.

APPENDIX A

GYPSY MOTH DECISION CRITERIA FOR AREAS TO TRAP

Original decision criteria as to what areas (zones) or cities to conduct detection trapping for gypsy moth in and on what schedule to trap were developed by the Gypsy Moth Technical Advisory Committee in 1989. Revisions have been made in succeeding years. Additional revisions will likely be made when 2020 census data become available. The cities, towns, communities and rural areas of the state are categorized as follows:

Category 1. Detection surveys conducted annually. This category includes larger cities and towns where numerous people or families moving into the area (move-ins) each year cause a substantial risk of gypsy moth infestation and dictate annual detection trapping. Consideration was also given to cities with colleges, industry, a military base, or tourism that would influence the risk of infestation or that otherwise made annual detection trapping advisable.

Category 2. This category includes smaller cities and towns with populations greater than 2000 but which normally have fewer move-ins. Detection trapping will normally be done every second year. Half of category 2 communities are trapped in a given year, and the other half are trapped the following year.

Category 3. This category includes communities and other areas with populations generally less than 2000. Detection trapping is normally done every third year. One third of the category 3 communities are trapped in a given year on a rotational basis.

Category 4. This category includes small isolated towns or communities where limited or non-contiguous host interrupts the natural or unaided spread of the insect. These zones will be trapped only every third year, without regard to move-ins. This Category was combined with Category 3 in 2014.

Category 5. This category was developed for rural communities or areas where little or no risk of introduction exists due to lack of host or limited population. These areas are not trapped unless something occurs that would increase the risk of introduction in a particular year. This also includes delimit sites.

A large percentage of the gypsy moth movement around the nation is brought about by families moving into a community and bringing gypsy moths in various life stages (particularly egg masses) with them, usually on outdoor household articles. For this reason, it was determined by the Technical Advisory Committee that if more than 20 move-ins occurred in a category 1, 2 or 3 zone in a one year period (May- April), that zone would be trapped that year, regardless of where it was in the normal schedule. This additional trapping will not interrupt or alter the regular schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moths. This information is provided to the program by the Idaho Department of Transportation.

The following pages comprise a list of Idaho cities and towns and the category into which they fall

GYPSY MOTH TRAPPING SCHEDULE FOR IDAHO

*This schedule and the number of traps in each zone have been updated over the years. The table below reflects the zones, categories, managing agencies, and approximate number of traps retained in 2020. Zones trapped due to moveins, rather than regularly scheduled trapping, are also included on this schedule. The schedule shows scheduled trap zones for each year, it does not guarantee a given zone was trapped in a given year. To request full historical trapping data, please contact the Idaho Department of Lands.

~ .	~ .			Approx.	2015	2010	2010		Planned
Community	Category	Region	Agency	# of traps	2017	2018	2019	2020	2021
Bonners Ferry	1	1	IDL	35	X	X	X	X	X
Sandpoint	1	1	IDL	199	X	X	X	X	X
Priest River	1	1	IDL	52	X	X	X	X	X
Priest River South	1	1	IDL	55	X	X	X	X	X
Farragut	1	1	IDL	19	X	X	X	X	X
Spirit Lake	1	1	IDL	52		X	X	X	X
Athol	1	1	IDL	56	X	X	X	X	X
Rathdrum	1	1	IDL	84	X	X	X	X	X
Post Falls	1	1	IDL	100	X	X	X	X	X
Coeur D'Alene	1	1	IDL	242	X	X	X	X	X
St. Maries	1	1	IDL	78	X	X	X	X	X
Moscow	1	1	IDL	35	X	X	X	X	X
Orofino	1	1	IDL	67	X	X	X	X	X
Lewiston	1	1	IDL	62	X	X	X	X	X
Elk City	1	1	IDL	5	X	X	X	X	X
Grangeville	1	1	IDL	61	X	X	X	X	X
USFS-R1	1	1	USFS R1	78	X	X	X	X	X
Border	1	1	IDL	6	X	X	X	X	X
Sagle West	1	1	IDL	161	X	X	X	X	X
Sagle East	1	1	IDL	111		X	X	X	X
Kellogg/Pinehurst	2	1	IDL	86		X	X	X	
Wolf Lodge	2	1	IDL	74		X	X	X	
Osburn	2	1	IDL	51	X		X		X
Coeur D'Alene West	2	1	IDL	130	X		X		X
Porthill	3	1	IDL	47	X			X	
Eastport	3	1	IDL	20	X			X	
Moyie Springs	3	1	IDL	63	X		X	X	
Moyie East	3	1	IDL	14	X		X	X	
Bonners South	3	1	IDL	31	X			X	
Naples	3	1	IDL	51	X			X	
Pack River	3	1	IDL	23	X			X	
Elmira	3	1	IDL	33	X			X	
Норе	3	1	IDL	53	X			X	
Clark Fork	3	1	IDL	58	X			X	

Nordman	3	1	IDL	23	X			X	
Coolin	3	1	IDL	63	X			X	
Lamb Creek	3	1	IDL	48	X			X	
Gleason Meadows	3	1	IDL	10	X			X	
McAbee Falls	3	1	IDL	32	X			X	
Four Corners	3	1	IDL	17	X			X	
Wrenco	3	1	IDL	50	X			X	
Laclede	3	1	IDL	26	X			X	
Careywood	3	1	IDL	62	X			X	
Kreiger Creek	3	1	IDL	19	X			X	
Rose Lake	3	1	IDL	86		X			X
Coeur D'Alene									
River	3	1	IDL	54		X			X
Wallace	3	1	IDL	41		X			X
Murray	3	1	IDL	7		X			X
Mica Bay	3	1	IDL	36		X			X
Beauty Bay	3	1	IDL	58		X			X
Rockford Bay	3	1	IDL	54		X			X
Harrison	3	1	IDL	84		X			X
Worley	3	1	IDL	47		X			X
Chatcolet	3	1	IDL	21		X			X
Plummer	3	1	IDL	36		X			X
Benewah	3	1	IDL	29		X			X
Calder	3	1	IDL	9		X			X
Desmet	3	1	IDL	30		X			X
Emida	3	1	IDL	19		X			X
Fernwood	3	1	IDL	46		X			X
Clarkia	3	1	IDL	9		X			X
Deep Creek	3	1	IDL	37		X			X
Potlatch	3	1	IDL	38		X			X
Potlatch South	3	1	IDL	96		X			X
Deary North	3	1	IDL	33			X		
Deary South	3	1	IDL	28			X		
Helmer	3	1	IDL	21			X		
Bovill	3	1	IDL	16			X		
Gold Hill	3	1	IDL	17			X		
Southwick	3	1	IDL	30			X		
Rural Moscow	3	1	IDL	234			X		
Genesee	3	1	IDL	5			X		
Juliaetta	3	1	IDL	19			X		
Kendrick	3	1	IDL	16			X		
Cameron	3	1	IDL	5			X		
Leland	3	1	IDL	10			X		

Cavendish	3	1	IDL	9			X		
Elk River	3	1	IDL	7			X		
Ahsahka	3	1	IDL	10			X		
Grangemont	3	1	IDL	13			X		
Headquarters	3	1	IDL	2			X		
Cardiff	3	1	IDL	2			X		
Jaype	3	1	IDL	5			X		
Pierce	3	1	IDL	6			X		
Orofino SE	3	1	IDL	16			X		
Fraser	3	1	IDL	42			X		
Weippe	3	1	IDL	32			X		
Larson	3	1	IDL	6			X		
Harrisburg	3	1	IDL	17			X		
Kamiah North	3	1	IDL	5			X		
Kamiah	3	1	IDL	9			X		
Kamiah East	3	1	IDL	19			X		
Glenwood	3	1	IDL	34			X		
Kooskia	3	1	IDL	4			X		
	3	1	IDL	16			X		
Harris Ridge									
Syringa	3	1	IDL	5			X		
Lowell		1	IDL				X		
Lapwai	3	1	IDL	26			X		
Spalding	3	1	IDL	10			X		
Lenore	3	1	IDL	15			X		
Peck	3	1	IDL	9			X		
Culdesac	3	1	IDL	12			X		
Slickpoo Mission	3	1	IDL	6			X		
Reubens	3	1	IDL	3			X		
Winchester	3	1	IDL	16			X		
Craigmont	3	1	IDL	5			X		
Ferdinand	3	1	IDL	3			X		
Cottonwood	3	1	IDL	15			X		
Stites	3	1	IDL	22			X		
Tahoe Ridge	3	1	IDL	22			X		
Clearwater	3	1	IDL	24			X		
Whitebird	3	1	IDL	8			X		
BURLEY	1	2	ISDA	6	X	X	X	X	X
MOUNTAIN HOME	1	2	ISDA	12	X	X	X	X	X
MOUNTAIN	1			12					
HOME AFB	1	2	ISDA	4	X	X	X	X	X
BUHL	1	2	ISDA	7	X	X	X	X	X
FILER	1	2	ISDA	4	X	X	X	X	X
TWIN FALLS	1	2	ISDA	38	X	X	X	X	X

WENDELL	1	2	ISDA	8	X	X	X	X	X
WEISER	1	2	ISDA	17	X	X	X	X	X
FRUITLAND	1	2	ISDA	7	X	X	X	X	X
PAYETTE	1	2	ISDA	11	X	X	X	X	X
BOISE	1	2	ISDA	64	X	X	X	X	X
CALDWELL	1	2	ISDA	15	X	X	X	X	X
CASCADE	1	2	ISDA	10	X	X	X	X	X
DONNELLY	1	2	ISDA	9	X	X	X	X	X
EAGLE	1	2	ISDA	13	X	X	X	X	X
EMMETT	1	2	ISDA	13	X	X	X	X	X
KUNA	1	2	ISDA	18	X	X	X	X	X
MCCALL	1	2	ISDA	43	X	X	X	X	X
MERIDIAN	1	2	ISDA	25	X	X	X	X	X
MIDDLETON	1	2	ISDA	12	X	X	X	X	X
NAMPA	1	2	ISDA	30	X	X	X	X	X
STAR	1	2	ISDA	6	X	X	X	X	X
JEROME	1	2	ISDA	5	X	X	X	X	X
GOODING	1	2	ISDA	8	X	X	X	X	X
KETCHUM	1	2	ISDA	11	X	X	X	X	X
HAILEY	1	2	ISDA	11	X	X	X	X	11
RUPERT	1	2	ISDA	5	X	X	X	X	X
BELLEVUE	1	2	ISDA	5	X	X	X	X	11
HOMEDALE	2	2	ISDA	7		X	11	X	
HEYBURN	2	2	ISDA	3		X		X	
PARMA	2	2	ISDA	11	X	1	X		
CAMBRIDGE	3	2	ISDA	2	X		1.2	X	
MIDVALE	3	2	ISDA	2	X			X	
BANKS	3	2	ISDA	2	X			X	
GARDENA	3	2	ISDA	2	X			X	
HORSESHOE									
BEND	3	2	ISDA	4	X			X	
NEW MEADOWS	3	2	ISDA	9	X			X	
SWEET	3	2	ISDA	2	X			X	
COUNCIL	3	2	ISDA	2	X			X	
INDIAN VALLEY	3	2	ISDA	2	X			X	
STARKEY	3	2	ISDA	2	X			X	
RIGGINS	3	2	ISDA	2	X			X	
LUCILLE	3	2	ISDA	2	X			X	
MESA	3	2	ISDA	2	X			X	
OLA	3	2	ISDA	2	X			X	
POLLOCK	3	2	ISDA	2	X			X	
SMITH FERRY	3	2	ISDA	2	X			X	X
FRUITVALE	3	2	ISDA	2	X			X	X

TAMARICK	3	2	ISDA	2	X			X	X
BOWMONT	3	2	ISDA	2		X			X
CAREY	3	2	ISDA	2		X			X
FAIRFIELD	3	2	ISDA	2		X			X
GANNETT	3	2	ISDA	2		X			X
GIVENS HOT									
SPRINGS	4	2	ISDA	2	1	X			X
GREENLEAF	3	2	ISDA	2		X			X
LETHA	3	2	ISDA	2		X			X
MARSHING	3	2	ISDA	3		X			X
MELBA	3	2	ISDA	2		X			X
NEW PLYMOUTH	3	2	ISDA	2		X			X
NOTUS	3	2	ISDA	2		X			X
PICABO	3	2	ISDA	2		X			X
ROSWELL	3	2	ISDA	2		X			X
WILDER	3	2	ISDA	4		X			
RICHFIELD	3	2	ISDA	2		X			
HAZELTON	3	2	ISDA	2			X		
BLISS	3	2	ISDA	4			X		
BRUNEAU	3	2	ISDA	2			X		
BRUNEAU HOT SPRINGS	3	2	ISDA	2			X		
CASTLEFORD	3	2	ISDA	2			X		
DIETRICH	3	2	ISDA	2			X		
EDEN	3	2	ISDA	3			X		
GRANDVIEW	3	2	ISDA	2			X		
DECLO	3	2	ISDA	2			X		
OAKLEY	3	2	ISDA	2			X		
PAUL	3	2	ISDA	2			X		
MALTA	3	2	ISDA	2			X		
MINIDOKA	3	2	ISDA	2			X		
ALMO	3	2	ISDA	2			X		
ACEQUIA	3	2	ISDA	2			X		
HAGERMAN	3	2	ISDA	4			X		
HAMMETT	3	2	ISDA	2			X		
HANSEN	3	2	ISDA	5			X		
KING HILL	3	2	ISDA	2			X		
MURPHY	3	2	ISDA	2			X		
MURTAUGH	3	2	ISDA	4			X		
REYNOLDS	3	2	ISDA	2			X		
ROGERSON	3	2	ISDA	2					
SHOSHONE	3	2	ISDA	2					
SILVER CITY	4	2	ISDA	2					

TUTTLE	3	2	ISDA	2					
GLENNS FERRY	3	2	ISDA	2					
Rexburg	1	2	ISDA	8	X	X	X	X	X
Idaho Falls	1	2	ISDA	51	X	X	X	X	X
Pocatello	1	2	ISDA	32	X	X	X	X	X
American Falls	1	2	ISDA	5	X	X	X	X	X
Blackfoot	1	2	ISDA	6	X	X	X	X	X
Soda Springs	1	2	ISDA	4	X	X	X	X	X
Shelley	1	2	ISDA	2	X	X	X	X	X
St. Anthony	1	2	ISDA	3	X	X	X	X	X
Driggs	1	2	ISDA	2	X	X	X	X	X
Rigby	1	2	ISDA	4	X	X	X	X	X
Blackrock	1	2	ISDA	1	X	X	X	X	X
Preston	1	2	ISDA	4	X	X	X	X	X
Victor	1	2	ISDA	2	X	X	X	X	X
Montpelier	2	2	ISDA	2		X		X	
Malad City	2	2	ISDA	4	X		X		X
Teton	3	2	ISDA	2	X			X	
Arco	3	2	ISDA	2	X			X	
Moore	3	2	ISDA	2	X			X	
Mackay	3	2	ISDA	2	X			X	
Monteview	3	2	ISDA	2	X			X	
Terreton	3	2	ISDA	2	X			X	
Hamer	3	2	ISDA	2	X			X	
Dubois	3	2	ISDA	2	X			X	
Tetonia	3	2	ISDA	2	X			X	
Ashton	3	2	ISDA	2	X			X	
Sugar City	3	2	ISDA	2	X			X	
Mud Lake	3	2	ISDA	2	X			X	
Parker	3	2	ISDA	2	X			X	
Thornton	3	2	ISDA	2	X			X	
Newdale	3	2	ISDA	2	X			X	
Howe	3	2	ISDA	2	X			X	
Holbrook	3	2	ISDA	2		X			X
Franklin	3	2	ISDA	2		X			X
Grace	3	2	ISDA	2		X			X
Lava Hot Spring	3	2	ISDA	2		X			X
McCammon	3	2	ISDA	3		X			X
Weston	3	2	ISDA	2		X			X
St. Charles	3	2	ISDA	2		X			X
Ovid	3	2	ISDA	2		X			X
Bern	3	2	ISDA	2		X			X
Bennington	3	2	ISDA	2		X			X

Robin	3	2	ISDA			X			X
Bloomington	3	2	ISDA	2		X			X
Dingle	3	2	ISDA	2		X			X
Bailey Creek	3	2	ISDA	2		X			X
China Cap	3	2	ISDA	2		X			X
Banida	3	2	ISDA	2		X			X
Pleasantview	3	2	ISDA	1		X			X
Samaria	3	2	ISDA	2		X			X
Mink Creek	3	2	ISDA	1		X			X
Oxford	3	2	ISDA	2		X			X
Arimo	3	2	ISDA	2		X			X
Downey	3	2	ISDA	2		X			X
Bancroft	3	2	ISDA	2		X			X
Georgetown	3	2	ISDA	2		X			X
Paris	3	2	ISDA	2		X			X
Fish Haven	3	2	ISDA	2		X			X
Clifton	3	2	ISDA	2		X			X
Dayton	3	2	ISDA	2		X			X
Stone	3	2	ISDA	2			X		
Inkom	3	2	ISDA	2			X		
Roberts	3	2	ISDA	2			X		
Menan	3	2	ISDA	2			X		
Rockland	3	2	ISDA	2			X		
Ucon	3	2	ISDA	2			X		
Iona	3	2	ISDA	1			X		
Moreland	3	2	ISDA	2			X		
Fort Hall	3	2	ISDA	2			X		
Ririe	3	2	ISDA	2			X		
Firth	3	2	ISDA	2			X		
Aberdeen	3	2	ISDA	3			X		
Pingree	3	2	ISDA	2			X		
Lewisville	3	2	ISDA	2			X		
Riverside	3	2	ISDA	2			X		
Rockford	3	2	ISDA	1			X		
Springfield	3	2	ISDA	1			X		
Masacre Rock	3	2	ISDA	1			X		
Swan Valley/Irwin	3	2	ISDA	2			X		
Heise	3	2	ISDA	1			X		
Basalt	3	2	ISDA	2			X		
Calamity CG	1	2	ISDA	2	X	X	X	X	X
McCoy CG	1	2	ISDA	2	X	X	X	X	X
Falls CG	1	2	ISDA	2	X	X	X	X	X

Scout Mountain CG	1	2	ISDA	2	X	X	X	X	X
Alpine CG	1	2	ISDA	2	X	X	X	X	X
Mike Harris CG	1	2	ISDA	2	X	X	X	X	X
Pine Creek CG		2	ISDA	2	X	X	X	X	X
	1				Λ	A	Λ	Λ	A
ALBION Bayhorse (BLM)	3	2	ISDA	2					
CG	1	3	USFS R4	2	X	X	X	X	X
Big Springs CG	1	3	USFS R4	2	X	X	X	X	X
Bull Trout CG	1	3	USFS R4	2	X	X	X	X	X
Buttermilk CG	1	3	USFS R4	2	X	X	X	X	X
Easley Hot Springs CG	1	3	USFS R4	2	X	X	X	X	X
Flat Rock CG	1	3	USFS R4	2	X	X	X	X	X
Glacier CG	1	3	USFS R4	2	X	X	X	X	X
Grandjean CG	1	3	USFS R4	2	X	X	X	X	X
Iron Creek CG	1	3	USFS R4	2	X	X	X	X	X
Lower Mesa CG	1	3	USFS R4	2	X	X	X	X	X
Mt. Heyburn CG	1	3	USFS R4	2	X	X	X	X	X
North Fork CG	1	3	USFS R4	2	X	X	X	X	X
Riverside CG	1	3	USFS R4	2	X	X	X	X	X
Smokey Bear CG	1	3	USFS R4	2	X	X	X	X	X
Stanley Lake CG	1	3	USFS R4	2	X	X	X	X	X
Stoddard Creek CG	1	3	USFS R4	2	X	X	X	X	X
Sunny Gulch CG	1	3	USFS R4	2	X	X	X	X	X
Wood River CG	1	3	USFS R4	2	X	X	X	X	X
ATLANTA	3	3	USFS R4	2		X			X
CENTERVILLE	3	3	USFS R4	2		X			X
CHALLIS	3	3	USFS R4	2	X			X	
CROUCH	3	3	USFS R4	2	X			X	
FEATHERVILLE	3	3	USFS R4	3		X			X
GARDEN VALLEY	3	3	USFS R4	2	X			X	
IDAHO CITY	3	3	USFS R4	4		X			X
ISLAND PARK	3	3	USFS R4	6	X			X	
LEADORE	3	3	USFS R4	2	X			X	
LOWMAN	3	3	USFS R4	2		X			X
MAY	3	3	USFS R4	2	X			X	
NORTH FORK	3	3	USFS R4	2	X			X	
PINE	3	3	USFS R4	3		X			X
PIONEERVILLE	3	3	USFS R4	2		X			X
PLACERVILLE	3	3	USFS R4	2		X			
SALMON RIVER	2	3	USFS R4	5	X		X		X
SALMON	1	3	USFS R4	9	X	X	X	X	X
STANLEY	3	3	USFS R4	1	X	_	1	X	

STIBNITE	3	3	USFS R4	2	X		X	X
TENDOY	3	3	USFS R4	2	X		X	
WARM LAKE	3	3	USFS R4	2	X		X	
WARREN	3	3	USFS R4	2	X		X	
YELLOW PINE	3	3	USFS R4	2	X		X	